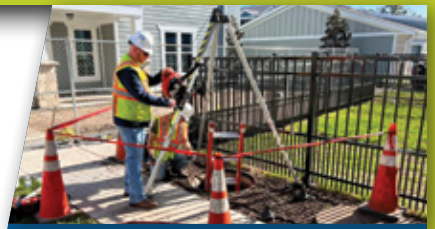


ISSUE  
NUMBER  
EIGHTEEN

# Excavation SAFETY

GUIDE & DIRECTORY™



PIPELINE EDITION



Pipeline Association  
for Public Awareness





## Call or click before you dig

Call 811 or contact your local One Call System

## Respect the marks

Flags, paint or other markers (normally yellow for pipelines)

## Wait the required time

Generally 48 to 72 hours, depending upon state requirements

## Excavate with care

Pothole or hand dig to determine exact location of pipelines

**Click  
Before  
You Dig**



# Pipeline Safety Guidelines

Damage prevention is a shared responsibility. Digging safely begins with a call to your One Call System. Most state laws require this call, and it is normally free. Excavation information is then sent by the One Call System to operators of underground facilities near your excavation. The operators will mark the location of their facilities in accordance with the applicable state requirements. Emergency contact information should be obtained directly from the operator or from nearby pipeline markers.

Pipelines are an essential part of our transportation system. We depend on them every day to transport gas and liquid products to our homes and businesses. Pipeline companies perform ongoing maintenance to ensure the reliability of their systems. Local communities also play a vital role in keeping our Nation's energy infrastructure safe and secure. Individuals who observe any unusual conditions or suspicious activity near a pipeline facility should immediately report these to local law enforcement or the pipeline operator. Following these guidelines will help prevent pipeline emergencies and keep pipelines the safest method for transporting gas and liquid products.

## 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.

## Recognize unsafe conditions

- Pipelines that are: leaking, damaged, insufficiently supported, exposed to high heat, or threatened by natural forces are all unsafe conditions.
- Any damaged or weakened pipeline must always be checked by the pipeline company for remaining strength. Even very minor damages can cause future leaks or ruptures and must be investigated.
- 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 pipeline leak and should be treated as an emergency.

## Respond immediately

- Immediately leave the area while avoiding any action that may cause sparks. Abandon all equipment and get a safe distance away.
- Call 911 and then immediately notify the pipeline company.
- Keep others away until emergency officials arrive. Stay upwind, do not attempt to operate pipeline valves or extinguish any pipeline fires.



## Llame o haga clic antes de cavar

Llame al 811 o contacte su Sistema Una Llamada de su área

## Espere el tiempo necesario

Generalmente 48 a 72 horas conforme a los requisitos estatales

## Respete las señales

Banderas, pintura, u otras señales (normalmente amarillas para los gasoductos y oleoductos)

## Excave con cuidado

Cave a mano para determinar el lugar exacto de los gasoductos y oleoductos



# Guía de Seguridad de Tuberías

La prevención de daños es una responsabilidad compartida. Excavar con cuidado empieza con una llamada a su “One Call System” local. La mayoría de las leyes estatales requieren esta llamada y normalmente es gratis. Información sobre la excavación es enviada por el “One Call System” a los operarios de las instalaciones subterráneas que están cerca de su excavación. Los operarios marcarán el lugar donde tienen sus instalaciones en acuerdo con los requisitos estatales. Información sobre contactos de emergencia puede ser obtenida directamente del operario o de las señales en los gasoductos u oleoductos.

Las tuberías son parte esencial de nuestro sistema de transporte. Dependemos de ellas a diario para transportar productos de gas y líquido a nuestros hogares y negocios. Las compañías de tubería realizan mantenimiento para asegurar la confiabilidad de sus sistemas. Comunidades locales también pueden jugar un papel importante en mantener segura la infraestructura nacional de energía. Individuos que observen cualquiera condición inusual o actividades sospechosas cerca de facilidades de acueductos debe reportarlo inmediatamente a las autoridades locales o al operador del acueducto. Siguiendo las pautas antedichas ayudará a prevenir emergencias de tubería y garantizar que las tuberías son el método más seguro para transportar productos de gas y líquido.

## Conozca los peligros

- Gas natural y otros productos petroléos pueden encenderse y quemar.
- Si expuesta a la piel, serias irritaciones pueden ocurrir.
- Gases escapados pueden desplazar el oxígeno.

## Conozca las condiciones peligrosas

- Condiciones peligrosas son: gasoductos u oleoductos que tienen escapes, están dañados, el soporte es insuficiente, están expuestos a temperatura muy alta, o amenazados por las fuerzas de la naturaleza.
- Cualquier gasoducto u oleoducto dañado o frágil siempre debe ser revisado por la compañía que los dirige para determinar la resistencia restante. Incluso daños menores en los gasoductos u oleoductos tienen que ser investigados porque pueden causar escapes o rupturas en el futuro.
- Indicios de un escape en un gasoducto u oleoducto son: charcos de líquido, tierra soplada, sonido de silbidos, nubes de vapor, olores a gas, burbujas en agua estancada, vegetación completamente seca, y tierra congelada o hielo alrededor de ella. Todos estos indicios deben ser tratados como una emergencia.

## Actúe de inmediato

- Aléjese del área inmediatamente y evite cualquier acción que pueda causar chispas. Abandone todo el equipo y manténgase a una distancia segura.
- Llame al número de emergencia 911 y luego de inmediato notifique a la compañía que dirige el gasoducto u oleoducto.
- No deje que otras personas se acerquen hasta que llegue el personal de emergencia. Manténgase contra el viento y no intente manejar las válvulas ni extinguir incendios en el gasoducto u oleoducto.



**Excavation  
Safety  
Alliance  
Town  
Halls are  
changing the  
conversation  
in damage  
prevention.**

**JOIN an ESA Town Hall  
Today!**



# CONTENTS

2023 EXCAVATION SAFETY GUIDE & DIRECTORY

## PIPELINE EDITION

- 2 Pipeline Safety Guidelines
- 25 Pipeline Location Information
- 26 Pipeline Products & Facilities
- 31 Leak, Hazard, & Emergency Response Information
- 31 Changes to the Law in Your State

## BEFORE YOU DIG

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

- 6 Infrastructure Investments and Jobs Act
- 8 Toolbox Talk: Buried Utility Safety
- 9 Toolbox Talk: Avoiding Crossbores

## LOCATING & MARKING

The importance of accuracy in locating and marking buried facilities.

- 10 Understanding the Marks
- 13 Locate Requests: Covering the Basics
- 14 Subsurface Utility Mapping and Using Wide Array Multi-Frequency
- 16 Getting the Most from GPR Utility Data
- 18 ESA Town Hall: Late Locates – Can improved communications be a “silver bullet”?



**FREE**  
**Excavation Emergencies Poster**

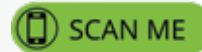
LOOK ON PAGE 29 TO FIND YOUR COMPLIMENTARY PULL-OUT POSTER with complete information on how to recognize and respond to the hazards inherent in utility excavation.

Provided by Pipeline Association for Public Awareness



FEATURING CURRENT PRACTICES AND TECHNOLOGICAL INSIGHTS FROM INDUSTRY EXPERTS!

View a digital version of this guide



## DIGGING SAFELY

Technologies and techniques to stay safe and avoid damage.

- 20 Completing the Safety Puzzle
- 22 NUCA STAR Program
- 24 Colorado 811 and Pipeline Company Partnership: Increasing Excavator Education as an Alternative to Punitive Fines

## WHEN THINGS GO WRONG

What to do in the event of underground damage.

- 32 The Legal Process of a Damage Suit
- 34 Develop an Excavation Safety Culture
- 37 What is the Danger Zone when a Gas Line is Fractured?

## RESOURCE DIRECTORY

A collection of invaluable information and access to resources.

- 38 Pre-Excavation Safety Checklist
- 42 Community Liaison Services
- 42 Enforcement Agencies
- 43 Notification Center and State Law Directory
- 49 Canadian Notification Center and Provincial Law Directory
- 54 Resources for Excavators

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 One Call 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.

The Excavation Safety Guide Pipeline Edition is published annually by: **Pipeline Association for Public Awareness**  
8601 W Cross Dr PMB 302 Unit F5  
Littleton, CO 80123-2200

[www.pipelineawareness.org](http://www.pipelineawareness.org)  
Manufactured and printed in the United States of America. The contents of this publication may not be reproduced by any means, in whole or in part, without the prior consent of Infrastructure Resources, LLC.

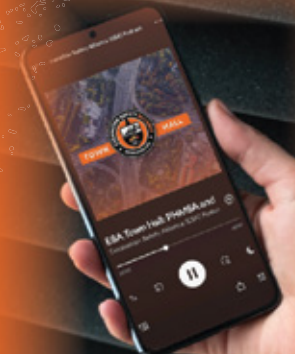
This manual is an informational and educational guide, but it is not intended to provide you with any definitive information regarding legal issues. You need to follow your specific state laws and OSHA rules. If you have any questions on issues raised in this guide, please consult with legal counsel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



Over 1,000 damage prevention and excavation safety professionals attended an ESA Town Hall in 2022.

Not one of them?

Listen to every Town Hall as a podcast, completely free.





In early November of 2021, President Biden signed the Infrastructure Investment and Jobs Act into law. It is bipartisan negotiated \$1.2 trillion of funding designated for infrastructure improvements. Transportation, broadband, and utilities will be receiving the following allocations of these funds.

- \$110 billion for improving roads
- \$73 billion for upgrading electrical infrastructure
- \$66 billion for freight and passenger rail
- \$65 billion for broadband
- \$39 billion for public transit

Children were forced into remote learning, and many adults found themselves working remotely from home. As COVID-19 restrictions were lifting, many employers found their workforce choosing to be hybrid or remote. Unfortunately, many people did not have access to a broadband resource, and many of those who found themselves without an adequate broadband resource. The infrastructure bill is a good thing.

Since there is such a great need for our infrastructure to be repaired, improved, or expanded, what possibly could be the bad or ugly side of the Infrastructure Bill? For us, as contractors and others with boots-on-

Excavation support networks, similar to utility locators, are having a hard time recruiting and retaining employees. Obtaining timely locating of utilities is difficult if the workforce is not available to do the work. Some may say the utility locators just need to increase their compensation to attract more people into the utility locating world. Keep in mind that utilities either have their own locators, or they contract out to a locate partner. If a utility is not willing to increase the wages of their locators, or pay more for their contract locating, then how is it going to be possible to attract the desperately needed locators?



BY GEORGE KEMP, PH.D.  
VP OF SAFETY FOR METRONET

# Infrastructure Investment & Jobs Act

## The Good, The Bad, & The Ugly

There is a consensus that all these infrastructures are in desperate need of repairs, improvements, and expansion. One only needs to search the internet for a report generated by the ASCE detailing the failing reports for each of our infrastructures. Many bridges and roads throughout the USA are in poor condition. Our current electrical grid has had its share of strains on the system, and that is without the capacity needed for the increasing number of electric vehicles that will need access to the grid for charging.

COVID-19 brought awareness to the need for broadband upgrades and expansions.

the-ground, there are number of concerns that need our attention. The broad topics of labor shortages and material/supply shortages are two of the greatest concerns.

The excavation world is already experiencing labor shortages and we are just at the beginning of the Infrastructure Bill being spent over a period of five years. There is a shortage of contractors, and the current contractors are having a hard time finding employees. Once a contractor finds an employee, they must work hard to keep that employee from running to another contractor for slightly better compensation.

We also must remember that locating is a skilled trade and it takes time to develop a new locator to the point where they can be on their own locating complex situations like heavily congested urban areas or heavily congested ROWs.

The infrastructure repairs, improvements, and expansions are also dependent upon a supply chain, which is also having labor issues. Even if you have the manpower and locates needed to do the excavating, there is still the question of whether you will be able to get the supplies you need to complete the job on time. Manufacturing is having a hard time finding people to



fill their workforce needs. Supply chain transportation is experiencing a shortage of truckers. If the materials are available, will they arrive in time for you to complete your project on time. Utility locators have experienced a shortage of paint and other locating materials, and it could continue. Are you going to be able to purchase the vehicles and excavation equipment you need, and if you can, how long will it take?

The Infrastructure Bill has the good, the bad, and the ugly. So, what can we as excavators and others with boots-on-the-ground do to at least minimize the impact of the bad and the ugly on our projects? The first and

The writers of the Infrastructure Bill may not have realized the various stress points and dangerous implications that would result from the implementation of the bill. Think about these points. The bill is distributed over five years. Those receiving the money must place strict deadlines on the excavators to complete the work within the required spending deadlines. The locators with a labor and material shortage must try and accomplish the impossible act of completing locates under a system not set up for today's locating demands.

The race to the last mile is an implication that should also be contemplated for those

forecasting. These three areas are key if we are going to do our best to keep everyone safe and prevent damages to utilities. We need to view others as our partners and not our adversaries. When we don't get what we want, how far do we get and how fast do we get there when we fight against each other? Commit to working through concerns with each other. We are in this together. Build those relationships and commit to finding resolutions that can mutually benefit all sides. Excavators, get to know the boots-on-the-ground workers locating for the utilities. Utility locators, reach out and get to know the excavators working in your area.

Communication is always vital to success in any situation. Communicate early. Communicate often. Don't forget that a key component of successful communication is listening. Excavators, it is important that you forecast as far out as you can for the local utilities and their locators. If you are in a competitive market, Non-Disclosure Agreements can be helpful. It's important to plan to have the locators your workload will require. Utility locators, it is important for you to share your concerns with the excavators as early as possible and commit to finding a mutually agreeable solution. Utility locators, when you see or know in advance that there is a complication like an unlocatable utility line, tell the excavator. Work out a solution that will help the contractor while you find the utility.

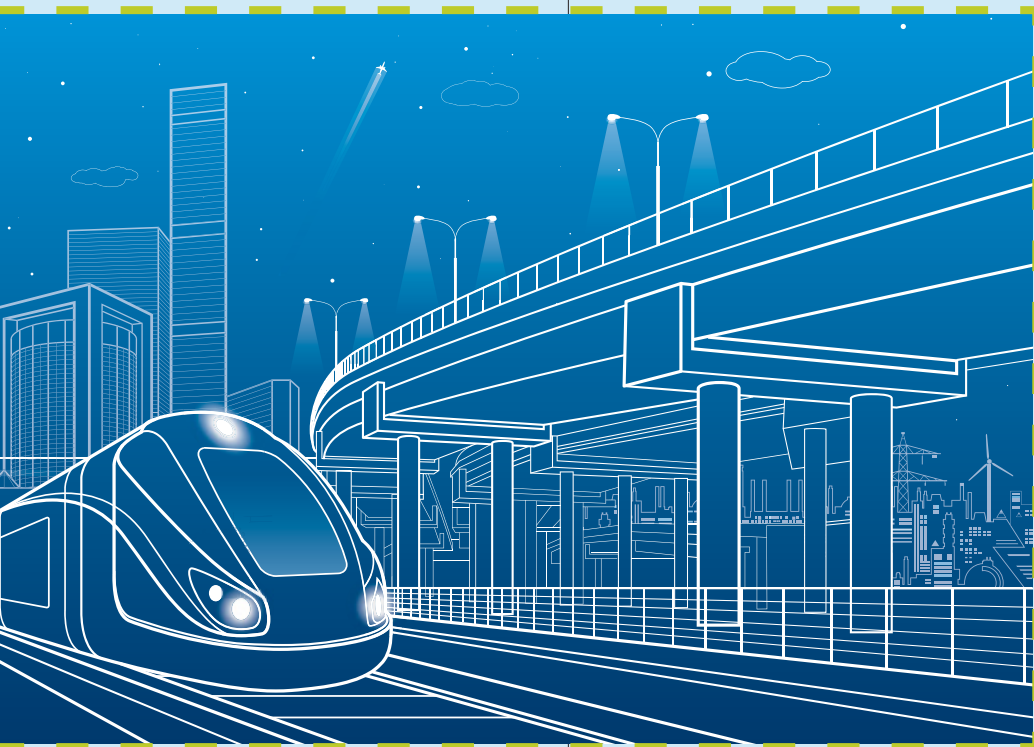
There are so many ways we can work together for all of us to accomplish our goals if we are committed to building these key relationships and working together. Safety and damage prevention must be our priority.

This conversation will continue through both the Excavation Safety Alliance Town Halls and the Global Excavation Safety Conference. ESA Town Halls are virtual open forums for all stakeholders to discuss concerns and present potential solutions to damage prevention and excavation safety. ESA Town Halls are free to attend, open to anyone, and take place the second Thursday of each month at 10:30 AM CST. Future years for the Global Excavation Safety Conference are on the calendar; March 19-21, 2024 in New Orleans, LA and February 24-26, 2025 in Phoenix, AZ. **ESG**

most important thing we all must do is take ownership for our actions and commit to doing what is right. Commit to these three letters, ADM. ADM stands for Advanced Decision Making. I decided many years ago that my character, everyone's safety, and the damage prevention of utilities is not for sale. I took a stand, and nothing is going to change it. We cannot take shortcuts or cheat the system. We all know what these shortcuts or cheating the system are, but we must commit to integrity. Pointing our finger at others who are not committed, will not get us where we need to be. I am committed to doing what is right! You must decide to do what is right, and not waiver from it.

utilities like telecommunications. It is a competitive market for the telecoms. Who is going to get there first and convince the residents and businesses they are the broadband option to choose? Pouring \$1.2 trillion into an infrastructure market over a tight time frame of five years during a time when there is a race among telecoms to get to potential customers is not an environment that encourages safety and damage prevention as a priority.

After you have decided in advance to keep safety and damage prevention first in your work, the next step is to work hard in communicating, building relationships, and





# TOOLBOX TALK

## Buried Utility Safety

### S A F E T Y T I P S



#### Introduction

Excavators and their employees must be alert to possible underground utilities whenever doing dirt work. By following utility safety best practices, companies and crews can avoid injuries and unnecessary damage. Review this document with everyone on your excavation jobsite. Review the need to protect and respect the utility locate marks.

#### SAFETY TIPS

*There are many types of underground facilities that can create danger for excavators and employees.*

- Telephone and cable television lines
- Fiber optic communication lines
- Natural gas and propane lines
- Hazardous liquid and gas pipelines
- Water lines
- Ducts
- Steam lines
- Sewers

*Follow these tips for keeping excavation jobsite workers safe:*

- Identify utility warning markers and any other visible signs of buried utilities.
- Verify all utilities have responded to your locate request
- Photograph the jobsite and locate marks before digging
- Conduct a jobsite walk through and advise members on the crew of underground utility locations
- Protect all utility locate marks to avoid having to stop work to wait for remarks
- Excavate with care
- Hand-dig within the tolerance zone (approximately 2' on either side of the utility, varies by state) to prevent injury and unnecessary damage
- Once exposed, protect utility lines from damage by wrapping and supporting them




#### DON'T GAMBLE WITH SAFETY!

*Striking an underground utility can cause serious injuries, including death. Utility damage can lead to costly fines and local service interruptions.*

- Never enter an unsafe, deep trench without cave-in protection.
- Provide cave-in protection for all employees working in trenches deeper than 5 feet.
- Due to soil conditions, some trenches less than 5' in depth may need shoring or a trench box.
- Provide a ladder on all trenches 4 feet or deeper.
- Inspect trenches for hazards and unsafe conditions often.
- Protect workers from overhead power line hazards.
- Beware moving machinery hazards like blind spots

#### FIND MORE INFO ABOUT TRENCHING AND EXCAVATION SAFETY REQUIREMENTS AT OSHA.GOV

- Trenching and Excavation Safety Requirements: 1926 Subpart P

*These advisory materials have been developed from national standards and sources believed to be reliable, however, no guarantee is made as to the sufficiency of the information contained in the material and the Missouri Common Ground Alliance and the publisher assumes no liability for its use. Advice about specific situations should be obtained from a qualified safety professional. *



# TOOLBOX TALK

## Avoiding Crossbores

### SAFETY TIPS



#### Introduction

Crossbores occur when horizontal directional drilling (HDD) equipment bores a new utility line through an existing utility line. Crossbores are extremely dangerous when they involve hazardous products like propane, natural gas, petroleum liquids, electricity, steam, or water. These products can escape, causing injuries, fires, and explosions. Communications and electrical crossbores can create outages and data interruptions. Reduce your risk by reviewing this document with your crews.

When gas lines are bored through sewers, plumbers will use cleanout augers to clear the blockage. They'll inadvertently cut the crossbored gas line causing leaks that migrate into homes and sewers. Injuries, fires and explosions can result.

#### BE SAFE

##### Safety Tips for Avoiding Crossbores

- Make sure the utility locate request has been submitted and make sure all utilities have responded.
- In city alleys and along roadsides, utility lines can be congested and stacked on top of one another.
- Do a walk-around survey of the work area. Look for manhole lids, sewer cleanouts, etc. Get the best approximate location and depth for all sewer laterals.
- Ask homeowners/property owners about their utility locations. They may have information about private lines that may not be located through the One Call system.
- Communicate! If you're concerned about the possibility of a crossbore, contact the local utility for a face-to-face meeting at the jobsite.
- Respect the marks. It's recommended that crews pothole down and watch the bore head pass the exposed utility.
- Potholing (daylighting) with vacuum excavators or by hand-digging (soft excavation) is very important because the drill crew can visually confirm that utilities in the drill path are not contacted.
- Mark and pothole where utilities cross the bore path, and make sure the hole is deep enough to visually see the

bore head pass by the exposed utility line.

- Use a spotter to visually check for the drill head as it passes potholes, entrance, and exit pits. Your spotter must be authorized to stop the drill operation immediately.
- Calibrate all HDD transmitter/receiver information per equipment owner's manual instructions.
- Backreaming can cause damage. Leave enough room to backream without striking a crossing line.
- The best way to avoid crossbores is by exposing utilities to verify that the drill head has passed by safely

Crossbores are likely when crews are "blind boring" without verifying utility locations and potholing.



Potholing: Excavate everywhere a crossing utility is encountered.



Use care in highly congested areas as the sheer quantity of utilities means a crossbore is very possible.



*These advisory materials have been developed from national standards and sources believed to be reliable, however, no guarantee is made as to the sufficiency of the information contained in the material and the Missouri Common Ground Alliance and the publisher assumes no liability for its use. Advice about specific situations should be obtained from a qualified safety professional. ESG*



# Understanding the Marks: Locating and Marking Practices

TAKEN FROM CGA BEST PRACTICES 18.0

## Operator markings of facilities include the following:

- The appropriate color for their facility type
- Their company identifier (name, initials, or abbreviation) when other companies are using the same color
- The total number of facilities and the width of each facility
- A description of the facility (HP, FO, STL, etc).

## Use paint, flags, stakes, whiskers, or a combination to identify the operator's facility(s) at or near an excavation site.

1. Marks in the appropriate color are approximately 12 in. to 18 in. long and 1 in. wide, spaced approximately 4 ft to 50 ft apart. When marking facilities, the operator considers the type of facility being located, the terrain of the land, the type of excavation being done, and the method required to adequately mark the facilities for the excavator. (Illustration 1)

2. The following marking examples

illustrate how an operator may choose to mark their subsurface installations:

**a. Single Facility Marking:** Used to mark a single facility. This can be done in one of two ways

- placing the marks over the approximate center of the facility. (Illustration 2a1) or
- placing the marks over the approximate outside edges of the facility with a line connecting the two horizontal lines (in the form of an H) to indicate there is only one facility. (Illustration 2a2)

These examples indicate an operator's 12 in. facility. When a facility can be located or toned separately from other facilities of the same type, it is marked as a single facility.

**b. Multiple Facility Marking:** Used to mark multiple facilities of the same type (e.g., electric), where the separation does not allow for a

separate tone for each facility, but the number and width of the facilities is known. Marks are placed over the approximate center of the facilities and indicate the number and width of the facilities. **Example:** four plastic facilities that are 4 in. in diameter (4/4" PLA). (Illustration 2b)

**c. Conduit Marking:** Used for any locatable facility being carried inside conduits or ducts. The marks indicating the outer extremities denote the actual located edges of the facilities being represented. **Example:** four plastic conduits that are 4 in. in diameter (4/4" PLA), and the marks are 16 in. apart, indicating the actual left and right edges of the facilities. (Illustration 2c)

**d. Corridor Marking:** Used to mark multiple facilities of the same type (e.g., electric), bundled or intertwined in the same trench, where the total number of facilities is not readily known (operator has no record on file for the number of facilities). Marks are placed over the approximate center of the facilities and indicate the width of the corridor. The width of the corridor is the distance between the actual located outside edges of the combined facilities. **Example:** a 12 in. corridor (12" CDR). (Illustration 2d)

Illustration 1

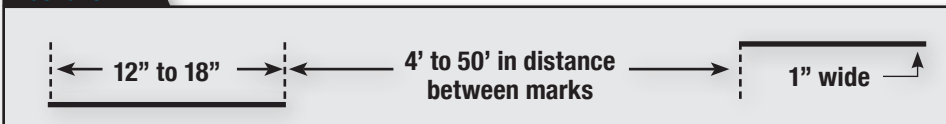


Illustration 2a1

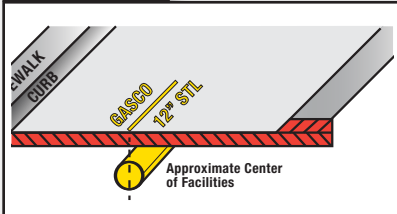


Illustration 2a2

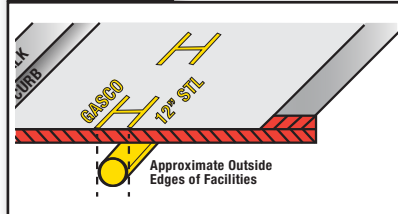


Illustration 2b

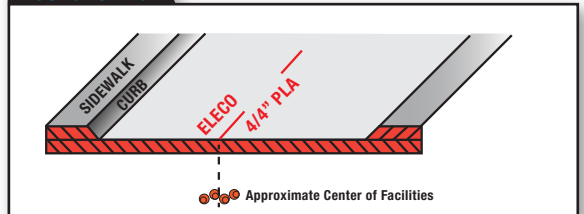


Illustration 2c

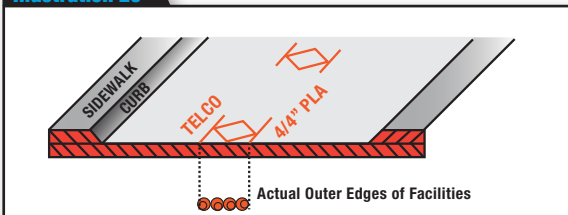
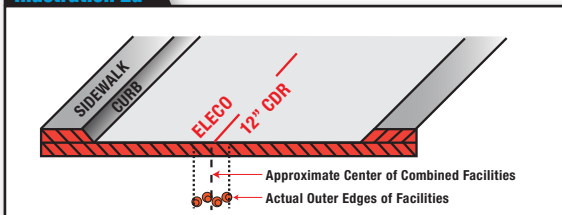
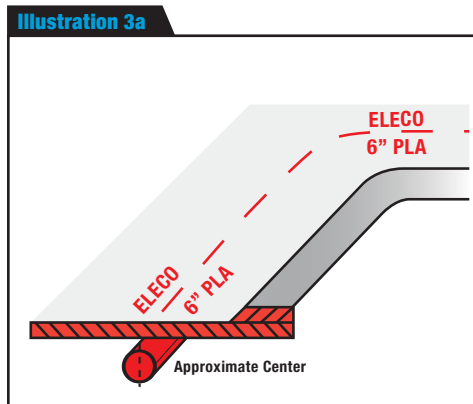


Illustration 2d

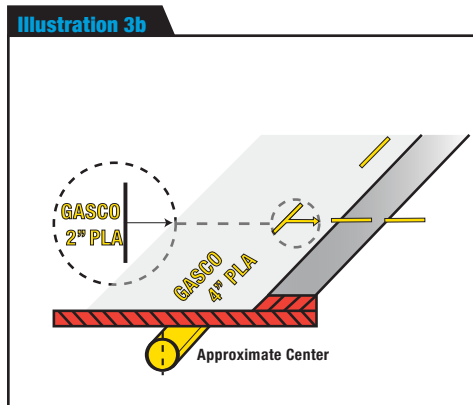


3. Changes in direction and lateral connections are clearly indicated at the point where the change in direction or connection occurs, with an arrow indicating the path of the facility. A radius is indicated with marks describing the arc. When providing offset markings (paint or stakes), show the direction of the facility and distance to the facility from the markings.

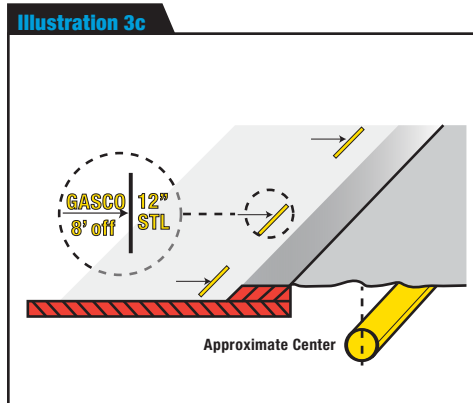
**Example:** radius (Illustration 3a)



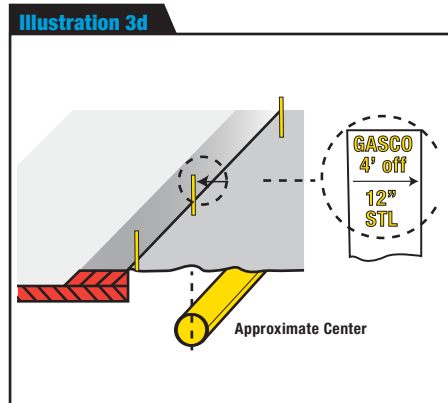
**Example:** lateral connection (Illustration 3b)



**Example:** painted offset (off) (Illustration 3c)



**Example:** staked offset (off) (Illustration 3d)



4. An operator's identifier (name, abbreviation, or initials) is placed at the beginning and at the end of the proposed work. In addition, subsequent operators using the same color mark their company identifier at all points where their facility crosses another operator's facility using the same color. Reduce the separation of excavation marks to a length that can reasonably be seen by the operator's locators when the terrain at an excavation site warrants. **Examples:**

CITYCO    ELECO    TELCO

5. Information regarding the size and composition of the facility is marked at an appropriate frequency. **Examples:** the number of ducts in a multi-duct structure, width of a pipeline, and whether it is steel, plastic, cable, etc.

TELCO    GASCO    WATERCO  
9/4\"/>

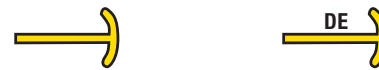
6. Facilities installed in a casing are identified as such. **Examples:** 6 in. plastic in 12 in. steel and fiber optic in 4 in. steel.

GASCO    TELCO  
6\"/>

7. Structures such as vaults, inlets, and lift stations that are physically larger than obvious surface indications are marked so as to define the parameters of the structure. **Example:**



8. Termination points or dead ends are indicated as such. **Example:**



9. When there is "No Conflict" with the excavation, complete one or more of the following:

- Operators of a single type of facility (e.g., TELCO) mark the area "NO" followed by the appropriate company identifier in the matching APWA color code for that facility. **Example:** NO TELCO

- Operators of multiple facilities mark the area "NO" followed by the appropriate company identifier in the matching APWA color code for that facility with a slash and the abbreviation for the type of facility for which there is "No Conflict." **Example:** NO GASCO/G/D illustrates that GASCO has no gas distribution facilities at this excavation site. The following abbreviations are used when appropriate: /G/D (gas distribution); /G/T (gas transmission); /E/D (electric distribution); /E/T (electric transmission).

- Place a clear plastic (translucent) flag that states "No Conflict" in lettering matching the APWA color code of the facility that is not in conflict. Include on the flag the operator's identifier, phone number, a place to write the locate ticket number, and date. Operators of multiple facilities indicate on the flag which facilities are in "No Conflict" with the excavation (see the previous example).

- If it can be determined through maps or records that the proposed excavation is obviously not in conflict with their facility, the locator or operator of the facility may notify the excavator of "No Conflict" by phone, fax, or e-mail, or through the One Call Center, where electronic positive response is used. Operators of multiple facilities indicate a "No Conflict" for each facility (see the previous examples).



## COLOR CODE IDENTIFIERS

WHITE	Proposed Excavation
PINK	Temporary Survey Markings
RED	Electric Power Lines, Cables, Conduit, and Lighting Cables
YELLOW	Gas, Oil, Steam, Petroleum, or Gaseous Materials
ORANGE	Communication, Alarm or Signal Lines, Cables, or Conduit
BLUE	Potable Water
PURPLE	Reclaimed Water, Irrigation, and Slurry Lines
GREEN	Sewers and Drain Lines

## FACILITY IDENTIFIER

CH	Chemical	E	Electric
FO	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

C	Conduit	CDR	Corridor
D	Distribution Facility	DB	Direct Buried
DE	Dead End	JT	Joint Trench
HP	High Pressure	HH	Hand Hole
MH	Manhole	PB	Pull Box
R	Radius	STR	Structure (vaults, junction boxes, inlets, lift stations)
T	Transmission Facility		

## INFRASTRUCTURE MATERIAL

ABS	Acrylonitrile - Butadiene - Styrene	ACP	Asbestos Cement Pipe
CI	Cast Iron	CMC	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

- Place "No Conflict" markings or flags in a location that can be observed by the excavator and/or notify the excavator by phone, fax, or e-mail that there is "No Conflict" with your facilities. When the excavation is delineated by the use of white markings, place "No Conflict" markings or flags in or as near as practicable to the delineated area.

Caution: Allow adequate space for all facility mark-outs.

"No Conflict" indicates that the operator verifying the "No Conflict" has no facilities within the scope of the delineation; or when there is no delineation, there are no facilities within the work area as described on the locate ticket. **Example:**



## Guide for Abbreviation Use

Follow these guidelines when placing abbreviations in the field:

- Place the Company Identifier at the top or at the left of the abbreviations.
- Place the abbreviations in the following order: Company Identifier / Facility Identifier / Underground Construction Descriptions / Infrastructure Material. **Example:** TELCO/TEL/FO/PLA indicates that TELCO has a telecommunication fiber optic line in a single plastic conduit. The use of the abbreviation /TEL is not necessary, because the orange marking would indicate that the facility was a communication line; but its use is optional.
- To omit one or more of the abbreviation types, use the order described above but omit the slash and abbreviation that does not apply. **Example:** to omit /TEL, the result would be TELCO/FO/PLA. **ESG**

# LOCATE REQUESTS: COVERING THE BASICS

\*Originally published in the 2019 Excavation Safety Guide

## 1

### Excavation Site Accuracy

Clearly defining the excavation site is critical when requesting a locate. The precision of this information improves the locator's ability to provide accurate marks in the appropriate space. Describing the dig site eliminates confusion. Driving directions and GPS coordinates can save time for the locator - especially in rural, newly-developed or difficult-to-find areas. Pre-marking the area with white paint or flags ensures an onsite visual for areas that are difficult to describe on the ticket.

## 2

### Non-Members/ Private Utilities

Even if you call your One Call center for every ground disturbance you undertake, you may still have unmarked facilities in your dig site. Laws vary between states and even municipalities on who is required to be a One Call member; and the ownership of many utilities transfer to the property owner at a specific demarcation point. For these facilities, a private utility locator is necessary to indicate their location. A few visual signs of private utilities on a dig site include utility meters, signs, markers, pedestals, hydrants, valve boxes, farm taps, regulators, lighting, or irrigation taps; especially if there is no paint or flags leading to them.

## 3

### Locate Longevity

Each state has different laws governing when the ticket request should be submitted, how long the locate ticket is valid, how soon the work must begin, and what to do if the marks become illegible. It is important to know the law for the state you are working in. Review the One Call Directory beginning on page 27 for the law in your state.

## 4

### Second Requests: Remark/ Refresh Requests, Incomplete Marks, No-Shows

Requests for locates to remark the same location may be required for a variety of reasons. Normally these requests occur because the ticket expired before the project was completed, the initial marks were illegible or incomplete, one or more facility owners did not complete their marking with the required time or the marks were made but need to be refreshed due to activity at the dig site.

## 5

### Emergency Locates

The exact definition of an emergency locate may vary, but this type of ticket is typically only allowed if there is a situation constituting an imminent danger to life, health, or property, or a utility service outage, which requires immediate repair or action. It is a good idea to have a clear understanding of what qualifies in your state as an emergency locate before an emergency occurs.

## 6

### Onsite or Joint Meeting Requests

An onsite meeting is scheduled when the scope of the work may be confusing or extends over a large geographic area. It is also useful when maps, plans, and schedules need to be shared. This type of meeting also allows excavators to discuss the project and any special circumstances with all concerned parties.

Held at the excavation site, or as close as practical, these meetings normally require more advance notice than a standard locate request. For jobs covering a large area, it is normally best to segment your request into reasonable sections. Identifying these sections on a map will facilitate communication between you and the locators, facility

owners, and One Call center. Call centers often need very specific information about your excavation site to request joint meets, so be prepared before you call.

## 7

### Design Notifications

Design notifications are done as a part of the development and preconstruction planning process to accommodate existing utilities and reduce problems during construction. Each state and/or facility owner will likely have specific policies on how these notifications are handled.

## 8

### Tolerance Zone

The tolerance zone is a defined horizontal distance extending from either side of the outer edge of a buried utility. The exact distance of this tolerance zone varies from state to state, ranging from 18 inches to 30 inches on either side of the line or pipe, and is defined within the state's One Call law. To determine the tolerance zone for a given facility, you must know the state's law and the size of the utility. For example, in a state where the defined tolerance zone is 18 inches, the total size of the tolerance zone would be 38 inches for a two-inch pipe: 18 inches on either side of the pipe plus the two-inch diameter of the pipe itself.

CGA Best Practices call for the size of the pipe to be included in the locate marks on the ground, but caution should always be used when excavating within the tolerance zone as these indicators may be missing or incorrect.

Since locating equipment detects the electromagnetic field surrounding a pipe, and not the pipe itself, the science of locating underground facilities is not exact. The tolerance zone, therefore, serves as a warning to an excavator to proceed with care and caution while working in the area. Hand (or sometimes soft) digging is required within the tolerance zone. **ESG**





BY MICHAEL A. TWOHIG

# SUBSURFACE UTILITY MAPPING USING WIDE-ARRAY MULTI-FREQUENCY GPR SYSTEMS: APPLYING MODERN TECHNOLOGY TO IMPROVE A HISTORIC PRACTICE

The streets of Culver City, California, were bustling with construction and pedestrian traffic on June 16, 1976. A public transportation project was underway to widen one of the city’s streets when tragedy struck; a front-end construction material loader hit a high-pressure petroleum line, causing the gas line to rupture and form a wall of fire. The explosion poured more than 16,000 gallons of gasoline over the city streets and onto innocent bystanders. The disaster claimed nine lives and injured 26.

The subsequent investigation into the explosion uncovered the inadequacies and dangerous circumstances under which the excavation was performed. Ultimately, the failure began at the project owner level. Leading up to the petroleum line strike, there were issues with the planning, design, and construction practices. The report concluded that an 18-inch utility

location error caused the explosion. The discrepancy was a mere foot-and-a-half off from what was mapped and depicted on the construction plans; and the depth-of-cover of the pipeline wasn’t communicated to the workers on site.

## Safer Surveying and Damage Prevention

The mistakes made by our predecessors provide us with valuable information about project safety, including what to avoid and how to improve. While One-Call industry best practices and legislation have improved greatly in recent years, the surveying profession continues to be unpredictable. Underground surveying and mapping could benefit from the widespread adoption of modern technology and a defined Standard of Care for all projects. A few states have focused on improving Subsurface Utility Mapping (SUM), including Pennsylvania,

Colorado, and Montana. These states have laws requiring defined Standards of Care for underground mappings, such as the ASCE 38-22, replacing the older ASCE 38-02 guideline.

For boots on the ground, utilizing modern utility locating technology is critical to excavation project safety. While hand-held utility locating devices (EMI Pipe Locators) and small push-cart Ground Penetrating Radar (GPR) systems are the most widely used tools for utility locating professionals, and offer a very good, inexpensive and reliable way to collecting data, they leave workers exposed to the risk of traffic. According to a report based on data from OSHA, almost 40% of pedestrian fatalities in work zones were on-the-clock employees primarily engaged in utility and surveying work. Fortunately, mobile mapping – the technology that can dramatically reduce utility surveyors’ work on

roadways and keep professionals out of harm's way – already exists.

### Advancing Subsurface Utility Mapping Practices: How GPR Systems are Modernizing Data Collection

Today, there are many professionals capable of deploying wide-array GPR systems, like radar tomography, to easily locate, identify, and map underground facilities, tunnels, culverts, chambers, abandoned utilities, buried rails, and voids in busy city streets. Metallic pipelines, as seen in Culver City, are especially easy to locate and map. The wide array platform can map a project the size of Culver City in a single day and add great value to the existing composite utility files utilized by civil designers. If a wide-array system had mapped the streets of Culver City, the location and depth of the lines would have been published in the construction plans alerting contractors and subcontractors of the hidden dangers.

In the current digital world, there's no need to rely on paint and flags when highly reliable subsurface information can be processed and shared on site to augment the One-Call responders' mark outs. The early days of processing GPR data on rolls of paper are over. Today, the process is more user friendly and accessible. For example, the data collected from wide-array, multi-channel systems is accurately positioned by numerous internal and external GPS systems and wheel encoders to help position the data accurately on projects State Plan Coordinate Systems.

In many of today's wide-array systems, ten or more GPR antennas are often less than ten centimeters apart. This provides the high-fidelity required to review complex utility networks. It has become clear that using a pushcart system containing one or two antennas inside a road closure is more time consuming and costly than using a high-speed multi-array system traveling near posted speed limits in open traffic lanes. Additionally, the post-processing software provides more detail as the data can be expanded and viewed in a 3D environment. Thankfully, gone are the days of staring at radargrams on rolls of paper on a job site.

### Mobile Mapping in Action

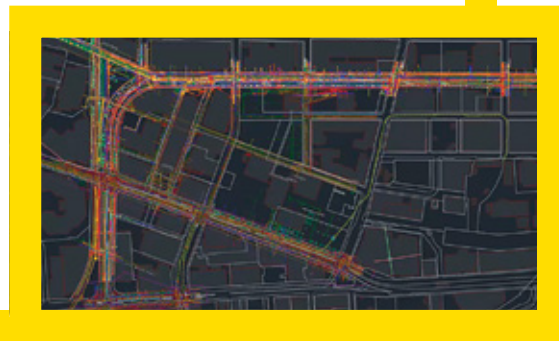
Now, let's take a look at real-life examples of mobile mapping.



**Project Details:** DGT was contracted by a local energy provider to locate above and below ground site conditions on North Washington Street in Boston and City Square in Charlestown.

**Work Completed:** We provided Subsurface Utility Mapping (SUM) utilizing mobile mapping platforms and mobile lidar. Additionally, we provided terrestrial lidar and photogrammetry to map the site conditions.

**Project Outcome:** DGT provided 3D utility locating and mapping to begin the compilation of a master digital utility file that included the above and below site conditions.



**Project Details:** To build a more robust energy grid, a leading energy provider hired DGT to map numerous city streets to help identify the most feasible route for building a new high voltage line. The final streets selected will be used to find the most feasible route to connect new and existing substations to existing power plants.

**Work Completed:** DGT was contracted to provide over 60 miles' worth of ASCE 38-02 Quality Level B, C and D survey data.

**Project Outcome:** Upon completing the Quality Level B survey, which included radar tomography, DGT presented the

findings to the design firm working with the energy provider for more detailed analysis.

**Project Details:** Sunrise Wind, one of the largest offshore wind farms located within the U.S., hired DGT to map the subsurface environment.


**Work Completed:** Utilizing DGT's mobile mapping technology to verify and enhance prior compilations of buried utilities along 17 miles of onshore transmission routes.

**Project Outcome:** Sunrise Wind is expected to begin operating in 2025 and will generate enough clean energy to power over half a million homes.



### The Product of Modern Mapping Technology

As we learned from Culver City, one misstep in the excavation or construction process can prove destructive and fatal. GPR and similar modern mapping methods can efficiently and effectively create a map of what lies beneath, prevent unnecessary damage during subsequent development phases, and create a long-lasting record for future generations to reference.

Ready to learn more about modern mapping technology? Contact DGT. 

*Michael A. Twobig is a Subject Matter Expert in Subsurface Utility Mapping (SUM). Michael has more than 38 years of industry experience across the U.S., Australia, India, and Europe, focusing his talents on integrating traditional utility locating procedures with land survey best practices. As head of SUM at DGT, Michael spearheads the firm's subsurface utility locating, 3D utility mapping, and underground utility damage prevention programs. [mtwobig@dgtassociates.com](mailto:mtwobig@dgtassociates.com)*





## Getting the Most from GPR Utility Data

Ground Penetrating Radar (GPR) is now recognized as an important complementary tool to EMI (Electromagnetic Induction) locators, mostly due to its ability to detect non-metallic utilities such as PVC, plastic, and concrete pipes and fiber optic cables.

GPR works by the transmitting antenna sending a pulse of radio frequency energy into the subsurface and the receiving antenna collecting the signals that reflect from objects that contrast with the properties of the soil, for example, metal, plastic, and concrete (*Figure 1*).



Figure 1

**Figure 1:** GPR works by transmitting pulses of radio frequency signals (yellow waves) into the subsurface and collecting the signals (red waves) that reflect from an object, such as a concrete pipe and return to the surface.

The critical factors for successfully using GPR for utility-locating are:

- 1) The host soil must have low attenuation so the GPR signal can travel as deep as the utilities before getting absorbed. Soils with high attenuation, typically clay-rich soils, can limit penetration to 3 feet or even less in some cases.
- 2) The utility must contrast with the host soil enough to produce a strong reflection. For metallic utilities, this is not an issue

because metal targets provide 100% reflectivity, but for non-metallic utilities, the contrast between the soil and the pipe, and the diameter of the utility become key to producing a reflection strong enough to be detectable with GPR.

When these two factors are met at your survey, using GPR is can be quite easy. A strong hyperbolic reflection in your data is hard to miss (*Figure 2*) and GPR data collected in grids or pseudo-grids (using GPS) and processed into depth slices easily shows the strong

response from a utility (*Figure 3*).

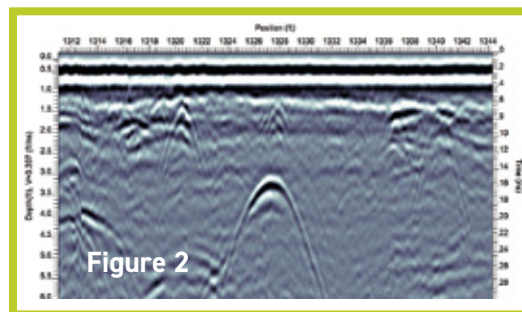


Figure 2

**Figure 2:** When soils have low signal attenuation and the contrast between the target and the soil is large, utilities produce strong hyperbolic responses that are hard to miss in a GPR cross-section image.

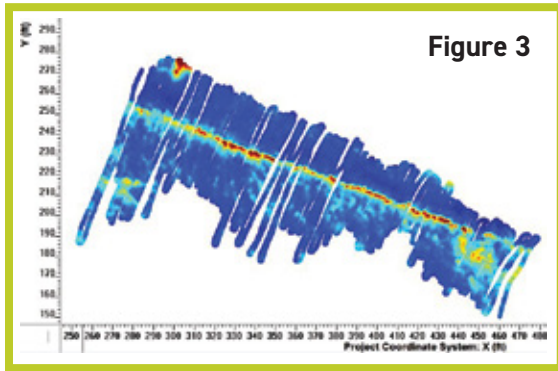
**Figure 3:** Strong hyperbolic responses, such as the one shown in *Figure 1*, show up well in depth slices. Plotting GPR data collected in a grid or a pseudo-grid (as in this example) as depth slices is very effective for mapping the path of a utility.

Understanding GPR data becomes much more challenging when there are many hyperbolic responses in the survey area, varying in depth and strength. How do I go about determining which hyperbolas are utilities and which ones are point targets that are not of interest? Depth slices may provide maps of the stronger hyperbolas, but how do I create maps of the utilities that only generate weak hyperbolas? This article focuses on getting the most out of your GPR utility data in these situations.

### Challenge #1: Too Many Targets

When there are many buried targets present, sorting out the identity of responses from utilities at different depths, oriented in different directions, and separating utilities from other targets (such as rocks, tree roots, etc.) – can be challenging. *Figure 4* shows an example of a complex multi-target GPR cross section.

**Figure 4:** When there are many hyperbolic responses in GPR data, it is challenging to know which ones are from utilities and which ones are from objects of no interest to a utility locator.

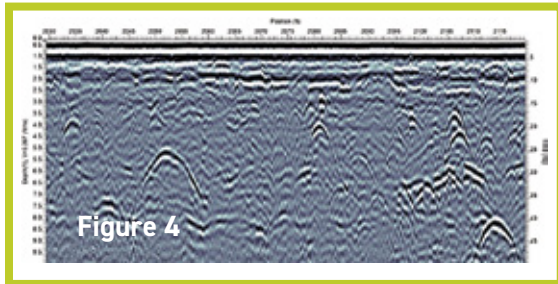


**Figure 3**

Let's look at some strategies to help to get the most from your data in these situations.

### Interpretations & Map Views

The simplest way to make weak hyperbolic targets visible in map view displays is, during data collection, to add color-coded dots (interpretations) on all hyperbolas by touching the GPR data logger screen at the top of the hyperbola (*Figure 6*). Little discrimination is needed – just add an interpretation to every hyperbola visible on the screen. Targets at similar depths with similar character visible on adjacent lines should be given the same color dot to start the process of distinguishing obvious targets from others. Using this methodology, attention should be given to the pattern, direction

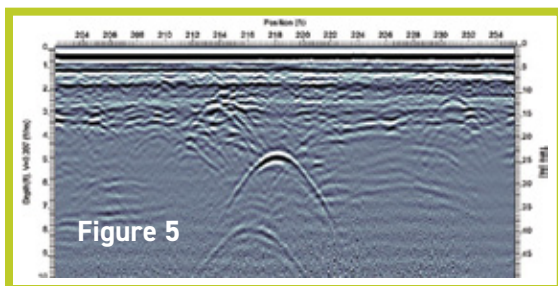


**Figure 4**

and spacing of the GPR data collection path to ensure that the survey area is sufficiently covered - the more times the GPR passes over the top of a target, the greater the likelihood of detecting it.

### Challenge #2: Weak Targets

The strength of a hyperbola is dependent on the depth of the target, the contrast between the target and the soil and the diameter of the target. Larger diameter targets, metal targets and shallow targets generally produce the strongest hyperbolas. Not surprisingly, smaller diameter targets, non-metallic and deep targets produce weaker hyperbolas. In many instances, a desired target may be overlooked if the response is weak, for example, the utility at 8 feet in *Figure 5*.



**Figure 5**

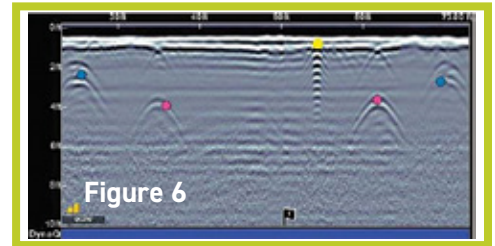
**Figure 5: The weak response from a deeply buried utility such as the one at position 218 feet at a depth of 8 feet, can often be missed if only strong hyperbolic responses are noted.**

Even if weak hyperbolas ARE visible in the GPR cross-section, it is difficult or impossible for them to appear in depth slices because depth slices are maps of GPR signal strength and therefore weak hyperbolas will never appear in them like the utility in the depth slice in *Figure 3*.

**Figure 6: User marks interpretations on the screen while collecting data. (Pink – deep response, Blue – medium, Yellow – shallow).**

When displayed in a map view, the colored interpretations show patterns that are not evident in cross-sectional images alone. In the example in *Figure 7*, right-side, the pink interpretations clearly form a long, linear lines, suggesting that this is a utility, while the yellow targets are randomly spaced around the survey area, suggesting that these are point targets – targets of no interest to utility-locators. Displaying interpretations in a map view is a powerful method for differentiating utilities from localized soil features.

**Figure 7: A map view of the interpretations added to the hyperbolas in Figure 6, showing a linear utility (pink) and point targets (yellow). The depth slice (left) shows part of a linear utility at the bottom, but after adding interpretations**

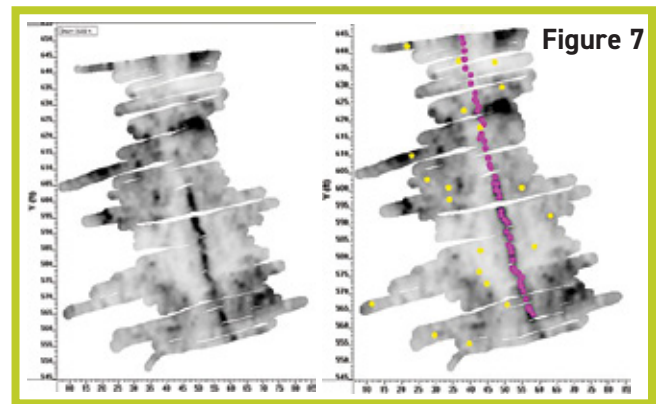


**Figure 6**

**to all hyperbolas, including very weak ones (right), the interpretations reveal the full extent of the utility path.**

### Interpretations overlaid on Depth Slices

Just as color-coded interpretations displayed in a map view of the GPR data reveal the linear patterns from weak utilities that may have been missed, they can do the same thing for depth slices. Combining depth slices and interpretations is especially beneficial in areas with complex utility situations. Some point interpretations will line up, indicating a linear object, probably a utility. Some interpretations will not line up with any others; these are from point targets and are usually not of interest to utility locators.



**Figure 7**

**Figure 7 shows a depth slice with and without color-coded interpretations added. The interpretations reveal the part of a linear utility that may have been missed if the operator was relying on the depth slice image only.**

### Summary

Utility-locators experienced using GPR know that hyperbolas from utilities do not always appear as strong responses. A localized patch of soil with high attenuation can reduce the strength of the hyperbola. Map views and interpretations are two key methods to help unravel complex sites and reveal weak responses from utilities that are often missed. **ESG**



# Town Hall: Late Locates

## CAN IMPROVED COMMUNICATION BE A “SILVER BULLET?”

BY SCOTT LANDES



**Moderator:** Meghan Wade, President & CEO, Georgia 811

**Panelists:**

- Louis Panzer, Executive Director, NC 811
- Bruce Campbell, CEO, MISS DIG 811
- James Moskal, Corporate Counsel, Corby Energy Services
- Kelley Heinz, Damage Prevention / Claims Investigator, ComEd
- Randy Bern, President/Owner, Vanguard Utility Partners Inc.

On April 14, Infrastructure Resources held our first Excavation Safety Alliance (ESA) virtual Town Hall titled **Late Locates: Partnering with Notification Centers**. The goal of our ESA Town Halls is to give everyone in the industry a voice and to provide a forum to work together towards solutions to common problems. The beauty of the ESA virtual Town Halls is that they allow people from all around the world to participate. There are tens of thousands of stakeholders in the damage prevention and excavation safety industry, but only a small percentage are regularly active in industry groups, and even fewer get to attend industry conferences where they get to exchange ideas and learn.

It was great to hear the many great ideas shared. It was also interesting to see that while some ideas were old hat to some people because of the state they were in, the same idea was an exciting new idea to someone else. In this article, I am simply sharing some of the ideas and discussions that took place in this hour-long Town Hall that came in via the chat and the follow-up survey. In order to see the full comments in their context you need to watch the Town Hall and read the Chat log, but this will cover the highlights. All the ideas may not work for everyone, but they will get the wheels rolling. You can watch the entire hour-long Town Hall and read the summarized chat log at [ExcavationSafetyAlliance.com](http://ExcavationSafetyAlliance.com).

Here are the basic statistics:

- Over 300 stakeholders registered
- 93% of survey respondents rated the Town Hall as *absolutely impartial or very impartial*. Only one person rated it as *not at all impartial*.
- 65% of respondents rated the Town Hall as *absolutely worth attending* and not one person said it was *not worth attending*.
- 77% of attendees said they are *very likely* to attend future Town Halls and not one person said they were *not likely* to attend again.
- 69% said they were *very likely* to recommend ESA Town Halls to a peer and another 29% were *likely* to.

This is great news to me because it sounds like everyone, regardless of stakeholder group, is interested in talking about working together to improve the industry. Below are a few of the suggestions for reducing late locates both in the short term and in the long term. In order to cover more ideas, some of these comments are abbreviated. In the digital edition, and on the ESA Town Hall page, you will see expanded suggestions as well as more ideas and comments. ESA will not be recommending solutions, but we will be a place where all stakeholders can go to see solutions that do work for some people as well as new ideas, which you may find can help you.

**Improving Communication:** Many things fall into this category, but it was clear that improving communication and all stakeholders having clear expectations will go a long way to solving most problems:

- **Randy Bern:** We don't get to control the volume, nor do we get to control the start time. So, what we

do on an annual basis is go out and shake the trees and figure out what utilities we are going to be doing, as far as the amount of work. And we also try to talk to the excavators in the field to see what kind of work they're going to do in the coming year. So, from that, then we try to figure out what the staffing is.

- **Bill Kiger:** PA provides “Coordinate PA” with over 16,000 active projects in the four year old system. The 34 regional Utility Coordinating Committees across the state meet to discuss the active projects. PennDOT has their projects in by county for the next 12 years with weighted indications of likelihood and priority code. There are 23,000 registered users.
- **Louis Panzer:** Some of this is a process problem with a disconnect between field and office entering tickets. We have seen some success with addressing process individually to try and bridge the gap, but it is an ongoing challenge
- **Tracy Pursell:** At JULIE in Illinois, we have a group that regularly meets called our Locate Summit group. They are provided a report that recognizes those excavators calling in requests when no work is being performed. Utilities' subs are at the top of this list consistently.

**Improve Map Accuracy:** Facility owners can use accurate maps and shrink the footprint. This reduces the number of tickets which lowers the burden on the system, making it easier for locators to keep up. Operations provide maps and then keep them up to date. Constantly updating the maps will reduce the number of locate request over time. Accurate maps also help the locator save time and improve accuracy. Include abandoned facilities on maps so contractors do not have to stop work and request verification that the facility is no longer in service.

**Electronic White Lining:** Michigan uses electronic white lining which allows the excavator to choose the exact location and tighten up their buffer. They are also working with their members to improve their maps so fewer locate tickets are issued. Per Bruce Campbell, this takes the “steam off the top of the pot” making it easier for locators to keep up.

**Locate Demand Management Tool:** Michigan uses this to allow excavators to enter their planned start date and see the likelihood of an on-time locate. This information may allow them to modify their start date.

**Scope of Work:** James Moskal says that they keep their scope of work as narrow as possible to ensure the locates will be completed on time and that the locates are not requested before they are actually needed. Kelley Heinz says ComEd does the same thing and in addition to spreading out the locate workload, if the scope of work changes during the project, this also ensures the locates are being requested for the correct area.

**Midnight Tickets:** According to Jim Sanders with Johnson Locating Services, their tickets are due at midnight on the due date not 48 hours (or whatever the time is for the specific state) from when the request was logged. This makes it easier for the locators to plan their work knowing they have the full day to complete the request rather than having to jump all over town trying to complete tickets in the order they were requested.

**Longer Ticket Life:** People expressed the belief that a longer ticket life would reduce requests to remark simply because the ticket expired. Per Arch York, in Kansas, they have a 15 day ticket life and about 22% of their ticket volume are renewals. In Georgia, they increased the ticket life from 21 to 30 days. Per Kemp Garcia, Project Manager at Linescape LLC, Washington State did not have a ticket expiration date until 2013, but now tickets have a 45 calendar day life.

**Narrowing Remarking Requests:** Tina Brownlee, a Transportation Specialist at Clayton County, GA, suggested that when you ask for a remark, only ask for the section you need, not the complete ticket.

**"Piggy Back" Tickets:** Kemp Garcia indicted that some states have "Piggy Back" tickets and we are looking at that system to reduce response to tickets. If the general contractor calls in the locate, subs can fall under that ticket as long as they are digging in the same area.

**Permitting Analysis:** Randy Bern (locator) said that CO811 does permitting analysis and uses the information to forecast workloads for the coming year.

**Areas of Continuous Excavation (ACE) Tickets:** Laura Simkus, Call Center Supervisor at Before You Dig, Inc., said that in CT they have an ACE ticket that is used for properties and that excavation is a part of their everyday operations, otherwise their Routine work tickets expire 30 calendar days from issue.

**Uncontrolled Volumes with Unpredictable Spikes:** Up-front information to the locators, both contract locators and facility owner locators, would be a big help on fiber projects. Kelley Heinz (electric utility) mentioned some pilot projects with some large fiber jobs starting at the design phase, and there is a pilot underway in Illinois. Louis Panzer said UCC pre-construction meetings and transparency are possible when large scale work is coming.

**Geospatial Boards:** Brenda V. Reigle, Executive Director, NUCA Pennsylvania, suggested each state have a Geospatial Board that can look at tying in the projects for mapping utilities.


**Mark Once:** James Wingate, Executive Director at Underground Service Alert of Northern California and Nevada (USA North 811), said he heard some buzz about the concept of "mark once" in which the utility operators would mark a ticket only once and the excavator is responsible to maintain and refresh the markings themselves for the duration of the project. Does anyone know if that is being done anywhere? And if yes, is it working? In his opinion, the operators would have to not only mark, but also provide their plans and photos of markings, etc., so the excavator has all of the tools to maintain & refresh accurate markings.

- **Mark Bruce**, Executive VP, Hydromax USA, said that "mark once" would be solved by creating accurate maps that can be served up time and time again, fast and low cost.

- **Tabatha Waugh**, Damage Prevention Specialist at Rogers Communications in Ontario, said that Bell Canada has implemented this here. If the marks cannot be maintained due to the excavation the contractor can request a remark but at a cost to them.
- **James Moskal** indicated that a maintain the marks program has been proposed in Michigan, but has not been implemented yet. The proposal calls for excavators to be vetted to ensure they are qualified/trained to locate facilities and would allow operators to opt into the program. Hopefully, this will be piloted later this year.
- **Bruce Campbell** said maintain the marks may not work for all Industries...we are partnering with ATT and Lumen primarily for the start of the program...Natural Gas and Petro have more concerns about the program, but they are interested.

**Make Locating a Career:** Roy Rogers, Utility Manager at Blount Construction Company, suggests that the industry should work towards making locators an actual career legacy type job with state licensing and certification. Labor crisis has hit contractors as well, but work is not stopping and we have to find a way to bring the labor to us. We are paying higher wages and more incentives.

**Singapore System:** Foo Zhi Rui from Singapore, said Singapore doesn't have an 811 system, or legislation that mandates SUE. Utility detection is the responsibility of the contractor, and typically clients hold contractors liable for any strikes (essentially, lots of fines and kicking the bucket down the road). As a contractor, we are definitely feeling the squeeze on our bottom line in the current situation. This is one of the key reasons why we're looking to SUE and SUM as guidelines/inspiration to flesh out a better system in Singapore. Coupled with adopting technology (GPR and 3D scanning to supplement the current standard of EMI/EML), we're trying to push for a more accurate, and critically, a common (under)ground truth. There's still a lot of groundwork to be done, but the system in America is a great reference of what could be.

Here is a quote from a participant in our first ESA Town Hall which really summarizes the feeling of what we hope the Town Halls will reflect: **"As an excavator company, I would like to see what locators would like us to do that would help them with their work. I have a Locate Spreadsheet for updating, pausing and ending tickets, which I check every day. But can I do more? Keeping everyone safe is a team effort!"** 

*Check out additional ideas and comments, along with future Town Hall Topics and how to register to participate, at [ExcavationSafetyAlliance.com](http://ExcavationSafetyAlliance.com).*





# COMPLETING THE SAFETY PUZZLE

BY WYLIE DAVIDSON



## HOW MANY TIMES

have you done a puzzle in your lifetime? 20? 50? 100? At least a few times I'm sure, and if you have children that number may be even higher!

Regardless of how large or small that puzzle was, you probably started in the same way most do. Many of us start in the same way by creating the borders, finding the edges and corner pieces, and from there we work our way toward completing the image. Often referring to the box top for guidance.

As safety professionals, we often approach our safety programs the same way: start with the basics and then focus on the rest. For many of us, we are at the tipping point. We have the corners and sides in place. We have most of the image figured out with our policies, procedures, guidelines, and our proper gear and equipment. What we are missing are the few last pieces of the puzzle to make it complete. Those missing pieces are what we personally bring to the puzzle: the pieces that define who we are and what is most important.

One of the toughest challenges we face in attempting to create, grow, and sustain a positive safety culture program is getting our employees to buy into the program, to comply and engage. Compliance and engagement are the standards we use to measure how well our safety programs track with employees, but a standard we often find more important is how much an employee wants to comply and engage. So, how do we close the gap between asking them to be safe and them intrinsically wanting to be safe?

It's simple. We need to make safety

personal. We need to help them determine who and what are most important to them. Placing those pieces in their own personal safety puzzle empowers them to create their own safety legacy.

Let's face it, we will all leave a legacy, good or bad. We don't really have a choice in that fact. We do have a choice however in the type of legacy we leave. Making the conscious choice to start creating a positive safety legacy is the first step. A lot of what will create that legacy is formed by our character, how we act and treat others – and our competence, what we bring to the table every day.

your character, and the impact you made on those around you. It's ironic because the dash is so small, but it means so much. He encouraged people to "live your life on the dash" because that's where you do your living, make your impressions, and ultimately where you will leave your legacy for others to follow.

The goal is not to live forever. We all know that's not going to happen. The goal is to create something that will live forever; a legacy for others to follow. Make yours legendary!

So how do we complete the puzzle?

We start by finding the passion to comply and engage. By determining who and what are most important to us and by placing them in our own personal safety puzzle, and by leaving a legacy that others will follow and look up to.

When you're not sure why you should work safely or start to lose focus, take a step back and refer to your own personal puzzle box top for clarification. Everything you need to know about leaving your own safety legacy is right there between the corners and edges. **ESG**

*Wylie Davidson is the founder of Legacy Safety Solutions, a safety and leadership provider with a focus on personal behavior in and away from the workplace. As a motivational speaker and safety culture specialist, his ability to energize*

*audiences while getting them to realign their personal values to better connect with company safety standards has been an effective resource with hundreds of companies and conferences all over the United States, Canada, and Mexico.*

*For more information on how to contact Wylie or read more of his content, please find him at: <https://leavingasafetylegacy.com>*

## TOP 5 Pieces to Your Safety Puzzle Legacy

### 1. Know Your "Why"

What means the most to you? Your family, your quality of life, your future

### 2. Know Your Value

Know your role in what makes up your "why" and the impact you have on them

### 3. Know What You Can Give Back

Identify ways you can share your knowledge and experience with others, both on and off the job

### 4. Unleash the Energy

Put forth the energy to share your knowledge, mentor others, and lead by example

### 5. Constantly Keep Building

Continually build, share, and grow your own legacy

Now, no one likes to discuss dying, especially in a safety magazine. Many may find it counterintuitive, but I recently attended a service for a lifelong friend of mine whose father passed away. At his service the pastor spoke of his life, his accomplishments, and his character. He said it's not the dates on the tombstone that make a difference, but it's the "dash" in between. Your dash represents everything you've done in your life, your accomplishments,



With our members, jobsite safety is paramount. Bluntly put, excavations can injure or kill, so nothing is more important than keeping everyone safe on a worksite.

The National Utility Contractors Association (NUCA) prides itself on its top member benefit: their safety programs offered to members. Safety must be a vital component of every utility construction jobsite and across every employee activity.

The program evaluates a company's safety program in four core areas: Leadership, Records Management, Culture, and Procedures. Under these areas are subsections scored on a point system meeting specific guidelines that a company must meet for each category.

Leadership is extremely important in a company's safety program. Company executives must be involved across the company's safety culture and support its programs and goals. The evaluation also includes

procedures and policies, safety rules and policies, toolbox talks and employee safety training, inspection processes, personal protective equipment procedures, and vehicle and mobile equipment procedures and policies.

Records and Data Management is measured through a company's documentation procedures and their organization. This includes maintaining accurate and current records for OSHA injury and illness, company safety

# NUCA STAR CASTS LIGHT UPON THE EXCAVATION INDUSTRY'S SAFE JOBSITES

BY ROBERT BAYLOR,  
NUCA DIRECTOR OF COMMUNICATIONS



Beginning in 2022, their leadership introduced the NUCA Safety, Training, Awareness, and Recognition (NUCA STAR) program. The NUCA STAR program was developed by the association's Safety Committee to help evaluate, update, and recognize a member company's safety program and practices.

The NUCA STAR program is rapidly becoming a carefully focused analytical tool to aid NUCA member companies in evaluating, updating, and recognizing their company's safety program and practices. Members who volunteer to participate should see lower incident rates and accidents on their jobsites and in their company facilities.

The program allows every company in the American utility construction industry to measure the effectiveness of their safety program against industry benchmarks and recognize how their program could be improved. The NUCA STAR program categories of Bronze, Silver, Gold and Platinum allow companies to review their processes and evaluate their safety program's strengths and potential areas of improvements.



carefully examining the company existing safety mission statement, safety procedures, safety training and allocated resources, and individual employee safety evaluations and performance reviews.

Culture is measured through analyzing employees' engagement in safety awareness, a company's substance abuse and awareness program, leadership safety meetings, new hire orientations and training, and the company's safety program goals and reviews.

The Procedures category includes questions about a company's accident and incident investigation process, incident response



training, equipment inspections, incident investigations, and overall company safety recordkeeping policies.

The NUCA STAR program is available year-round for members and non-members to use. Submissions for the program can be made at any time during the year.

Once a company's application is submitted to NUCA STAR with all supporting documentation, the NUCA STAR Review Board will



have 10 business days to evaluate the application. The Review Board will consist of four members of the NUCA Safety Committee. Since the program started, several industry safety programs have been evaluated. Two have been awarded the top Platinum Level status. One of them is Petticoat-Schmitt

Club to further the association's educational and training programs. A detailed outline of the NUCA STAR program is available online, along with the application.

"NUCA STAR has the promise to deliver an improved safety envelope for both each

NUCA member and the entire utility construction industry," said Flowers. "NUCA members can promote for bids and labor needs their company's safety culture through NUCA

training programs coming in 2023 to help the industry keep their employees safe in the trenches. NUCA will put a stronger focus on our Train-the-Trainer program, seeking to host a class in each of the five NUCA regions. The idea behind this expansion is to train as many Competent Person and Confined Space Instructors for the industry. This would allow members more flexibility in training more "boots on the ground" employees. NUCA also will be offering in 2023 a Project Management Course. This will be a 4-day course and is designed for more senior leadership personal. NUCA is also in the early stages of implementing an Apprenticeship Program that will hopefully be available in late 2023 to early 2024.

OSHA reported that in the first six months of 2022, 22 workers have fallen victim to the deadly hazards present in trenching and excavation work – surpassing the 15 fatalities reported for all of 2021. NUCA supported OSHA's actions in early July for increased safety regulation enforcement at excavation sites.

NUCA and the utility construction industry members seek out every measure possible to reduce risks on our jobsites, which we all know can be a dangerous place to work if someone is unaware of its hazards.

"Time and time again, evidence shows that the key to significantly reducing the risks

associated with our industry is employee training and reinforcement through safety events and program evaluations," concluded Flowers. "NUCA STAR can be the detailed checklist a company needs to appraise if it seeks to install a culture of safety into their workplace."

Non-members have access to NUCA STAR. However, with a NUCA membership a company gains additional access to NUCA's elite educational program, technical assistance, and training programs to ensure that they are protecting their most important investment – their employees. **ES&S**

*More information about NUCA STAR can be found at [nuca.com/nucastar](http://nuca.com/nucastar).*



Civil Contractors of Jacksonville, Fla. "Congratulations to Petticoat-Schmitt," said Mike Flowers, NUCA's director of safety, education, and training. "Their safety program is a shining example of a company that puts an emphasis on jobsite safety. Their leadership's strong leadership commitment and support ensures that their employees make it home safely when the working day is through."

Their company leadership found the program to be very helpful for their existing procedures. "Benchmarking ourselves against our NUCA partners and raising awareness for better practices in the industry are qualities that make NUCA's safety programs great," remarked Kirk Blomgren, safety VP at Petticoat-Schmitt.

There is no fee to participate in the NUCA STAR program, but members can make a donation to the NUCA Safety Ambassador

STAR's standardized industry rating system. Making jobsite safety a top priority will attract and retain employees who see that the company recognizes the importance of a safe working environment."

NUCA's safety programs also include the annual Trench Safety Stand Down, which saw in the June 2022 event 23,007 employees participating in a training event held by 345 companies on 1,978 jobsites across the nation. The association's safety program includes company crew leader training opportunities, as well as an ongoing Train-the-Trainer program for advanced industry safety professionals.

NUCA also has several new safety and



# COLORADO 811 AND PIPELINE COMPANY PARTNERSHIP:

## *Increasing Excavator Education as an Alternative to Punitive Fines*

On May 25, 2018, Colorado Senate Bill 18-167 went into effect. This new legislation improved safety measures by establishing the Underground Damage Prevention Safety Commission (UDPSC) which, among other things, is charged with, “reviewing complaints of alleged violations and ordering appropriate remedial action/penalties.” Eight months after UDPSC started complaint hearings, Colorado 811 Damage Prevention Liaisons, identified an opportunity to partner with pipeline companies and reduce the volume of complaints that would be heard by the UDPSC.

When an excavator violates the Colorado One Call Law, this partnership program allows gas and pipeline companies to refer the excavator to Colorado 811 for training in lieu of filing complaints with UDPSC. The pipeline company informs Colorado 811’s Damage Prevention Department of the infraction, and also contacts the excavator, notifying them that a Colorado 811 Damage Prevention Liaison will reach out to schedule a presentation. Within a week of receiving incident information from the pipeline company, the Liaison contacts the excavator to schedule a presentation when it is the least disruptive to their schedule. Liaisons can also meet with excavators on the jobsite or make other accommodations to provide training as efficiently as possible.

### What to expect from the presentations.

- **The training is not a punishment for excavators.** These trainings are intended to increase excavator awareness about the Colorado One Call Law to avoid future violations.
- **The Liaisons will pick an appropriate presentation to cover in the training.**



This presentation is based on the excavator company’s needs. Whether the company is completely unfamiliar with the 811 process or just needs a refresh or update on legislative changes to the Colorado One Call Law, the Liaison is equipped with the knowledge to meet the excavator’s needs.

- **The pipeline company may or may not attend the presentation.** The pipeline company is always invited to attend the training.
- **A representative of the excavation company starts the meeting by explaining the events which prompted the presentation.** This will highlight the events that triggered the violation and include what occurred, what process failures ensued, what correct measures were taken, and what could be learned from this event.
- **Excavator input.** Before Colorado 811 starts their presentation, they want to hear some of the excavator’s frustrations with

the 811 process. The Liaisons want the excavator to know they have been heard.

- **“You don’t know what you don’t know, until you do know!”** Colorado 811’s objective for these presentations is to change attitudes and behavior through education. These presentations open communication between the excavator and Colorado 811. Colorado 811 seeks to serve excavators as a judgement-free resource. Damage Prevention Liaison, Todd Griffith, summarized this point by saying, “Our job is to make sure you know the Colorado One Call Law. If you can’t remember or have a question, call us. We want to hear from you. That is our job, to support all our stakeholders.”

- **Excavators are free to ask questions at any point during the presentation.** The Liaisons are there to answer any questions that the excavator may have.

- **Opportunities to learn more.** After the presentation, Colorado 811 offers the excavators the opportunity to identify areas of improvement which will help the excavator become more efficient in their operations. Colorado 811 offers many free services to their Colorado stakeholders that excavators can utilize.

Since the introduction of this partnership, Colorado 811 has worked with Atmos Energy, Black Hills Energy, Colorado Springs Utilities, Magellan Midstream, NU Star Energy, and Summit Utilities. To date, Colorado 811 Liaisons have given over 300 presentations with a reach of nearly 2,500 excavators. It is estimated 95% of excavators who violated the Colorado One Call Law have opted for the training which has resulted in a significant reduction of repeat violators.

*If you are interested in learning more about the program, please contact Todd Griffith by emailing [tgriffeth@co811.org](mailto:tgriffeth@co811.org).*

# Pipeline Location Information

## PIPELINE MARKERS

Pipelines are buried in areas called rights-of-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:



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 pipeline 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](http://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](http://www.pipelinesnearby.org)

## MARCADORES DE TUBERÍA

Las tuberías son enterradas en áreas llamadas derecho de paso (ROW por sus siglas en inglés). 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 agua.

Las tuberías de **Transmisión** mueven productos y gas natural líquidos refinados desde refineras 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](http://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](http://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 non-toxic 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 Liquefied 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 the petroleum industry. Under normal conditions, carbon dioxide is stable, inert and nontoxic. However, it can act as an asphyxiant.

**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 like gasoline and will easily mix 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 non-toxic, but can act as an asphyxiant.

**"SOUR" CRUDE OIL AND "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 (H<sub>2</sub>S) 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. **ESG**



# DIRECTORICES PARA REACCIONAR EN EMERGENCIAS

**Click**  
Before  
You Dig

PÓSTER DE SEGURIDAD PROVEIDO POR PIPELINE ASSOCIATION FOR PUBLIC AWARENESS

## 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 órganos 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 PELIGROSAS

- 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. Esto 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 también 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.



# EXCAVATION EMERGENCIES



# SAFETY POSTERS

**Click  
Before  
You Dig**

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

1. Turn off equipment, if it can be done safely.
2. Abandon all equipment and get a safe distance away.
3. Avoid open flames or anything that might start a fire. Do not start motor vehicles or electrical equipment. Remove 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.
6. Do 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

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

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

### WATER/SEWER

1. Evacuate the area immediately and keep people out. Leaking water can fill a trench quickly making escape extremely difficult.
2. Do not close valves in order to stop flooding. Closing the wrong valve may affect fire flows and/or possible containment of potable systems.
3. Be careful of damaged high-pressure water lines because even the slightest scratch or vibration can cause pipelines to break.
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.
7. 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.
2. 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.*

The above information is intended for educational purposes only. Infrastructure Resources, LLC and Pipeline Association for Public Awareness assume no liability for any individual's use of or reliance upon the above information. While every effort is made to provide accurate and reliable information, Infrastructure Resources, LLC and Pipeline Association for Public Awareness do not guarantee or warrant that the information is complete, accurate or up-to-date.



**CONDICIONES DE EMERGENCIA** que afectan las instalaciones subterráneas incluyen: escapes, rupturas, explosiones, 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 propiedad y el medio ambiente. Cada situación es diferente y debe ser evaluada individualmente según las circunstancias. A continuación se dan directrices generales de emergencia para reaccionar ante varias emergencias/situaciones donde hay daños que afectan las instalaciones subterráneas.

## REACCIONE INMEDIATAMENTE

### GAS NATURAL Y LÍQUIDOS DERIVADOS DEL PETRÓLEO

1. Apague el equipo, si lo puede hacer con seguridad.
2. Abandone todo el equipo y aléjese a una distancia segura.
3. Evite llamas abiertas o cualquier cosa que pueda prender fuego. No arranque vehículos de motor o equipo eléctrico. Retire todas las fuentes de ignición (cigarillos, 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.
9. Inmediatamente póngase en contacto con a la compañía que opera los gasoductos/oleoductos para reportar las condiciones.

### ELECTRICIDAD

1. 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 quedararse 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.)
4. Inmediatamente póngase en contacto con la compañía que opera las instalaciones para reportar la emergencia

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

### ACUEDUCTO/ALCANTARILLADO

1. 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 difícil.
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.
3. 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.
5. Evite contacto con aguas residuales. No camine o trabaje alrededor de aguas residuales.
6. 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 ÓPTICA/COMUNICACIÓN

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

## NUNCA ENTIERRE EQUIPO DAÑADO

*Nunca entierre equipo dañado como cables eléctricos, 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.*

The above information is intended for educational purposes only. Infrastructure Resources, LLC and Pipeline Association for Public Awareness assume no liability for any individual's use of or reliance upon or above information. While every effort is made to provide accurate and reliable information, Infrastructure Resources, LLC and Pipeline Association for Public Awareness do not guarantee or warrant that the information is complete, accurate or up-to-date.

# LEAK, HAZARD & EMERGENCY RESPONSE INFORMATION

## INDICATIONS OF A LEAK

- 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
- SMELL** – an odor like petroleum liquids or gasoline
- SMELL** – an irritating and pungent odor

## HAZARDS OF A RELEASE

- 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
- 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
- Alert others to evacuate the area and keep people away
- 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

	NATURAL GAS	PETROLEUM GAS	PETROLEUM LIQUIDS	ANHYDROUS AMMONIA	CARBON DIOXIDE	ETHANOL	HYDROGEN GAS	SOUR CRUDE OIL (H <sub>2</sub> S)	SOUR GAS (H <sub>2</sub> S)
			●		●		●		
	●		●						
	●	●				●		●	
	●	●		●	●	●		●	
		●	●				●		
	●	●		●		●		●	
	●	●	●		●	●	●	●	
	●	●		●		●		●	
	●	●		●	●	●		●	
	●	●		●		●		●	
	1	1					●	●	
		●	●		●		●		
			●				●	●	
	●	●	●		●	●	●	●	
	●	●		●	●	●		●	
		●	●	●	●	●	●	●	
		●	●	●	●	●		●	
				●			●	●	
			●				●	●	
	●	●	●		●	●	●	●	
	●	●			●	●		●	
	●	●	●		●	●	●	●	
	1	1		●		●			
	●					●			
	●	●	●		●	●	●	●	
	●	●	●		●	●	●	●	
	●	●	●	2	2	●	●	2	
	●	●	●	2	2	●	●	2	
	●	●	●	●	●	●	●	●	
	●	●	●	●	●	●	●	●	
	●	●	●	●	●	●	●	●	
	●	●	●	●	●	●	●	●	
	●	●	●	●	●	●	●	●	
	●	●	●	2	2		2	2	

**Note (1)** Most 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.  
**Note (2)** Sheltering in place is an alternative to evacuation when the products are toxic or the risk of fire is very low.



BY ANJU SURESH, HINSHAW & CULBERTSON LLP

# The Legal Process of a Damage Suit



Even the best excavation business can cause damage at some point during its operation. While it won't eliminate the pit that develops in your stomach upon learning that you or your company are the subject of a lawsuit involving a damage incident, knowledge of the litigation process will hopefully move you past the fear of the unknown and directly into addressing (and hopefully resolving) a damage claim.

### Summons and Complaint

A damages lawsuit, like any other lawsuit, begins with the service of a Summons and Complaint. The person or company making the claim (the "plaintiff") must have the Summons and Complaint served on each individual or business from whom the plaintiff seeks payment or other relief (the "defendants").

The Complaint outlines the facts of the alleged incident and resulting damages

should document any conversations notifying your insurer about the Complaint with written confirmation, if that is required by the terms of your policy. If you have any doubt as to which policy might cover the claims asserted in the Complaint, contact your insurer(s) and let them sort it out. The insurance company will review the Complaint, determine if you have insurance coverage for the claim, and, if you do, will usually hire an attorney for you to evaluate the claim and defend through litigation, if necessary. Be sure to inform the insurance company of your response deadline during each conversation you have with them so that all evaluations are undertaken in a timely manner.

### Consult an attorney

If you don't have insurance, or if your insurance doesn't provide coverage for the particular claim made in the Complaint, your next call should be to a qualified litigation

information, documents, and (sometimes) testimony regarding the incident facts. And then there are those claims that require the entire litigation process, through discovery, mediation, and even trial, before a resolution can be reached.

Many Complaints are resolved through alternative dispute resolution (ADR) programs such as mediation or arbitration. Mediation is a process where the parties meet with a mutually selected impartial and neutral person who assists them in the negotiation of their differences. Arbitration, on the other hand, is a procedure in which a dispute is submitted, by agreement of the parties, to one or more arbitrators who make a binding decision on the dispute. Your attorney will determine whether ADR is mandatory or voluntary. Some local and State courts require parties to participate in ADR, such as mandatory mediation programs. Mediation

“Simply put, the best thing you can do to protect your business when faced with a lawsuit involving a damage incident is to seek immediate assistance from your insurer and attorney when the Complaint reaches your doorstep”.

and identifies the legal basis for plaintiff's damages claim. The Summons specifies the deadline by which a defendant must file a formal response to the Complaint.

Once a defendant receives a copy of the plaintiff's Complaint, there are a few simple steps that should be taken each and every time to ensure the lawsuit is appropriately handled. It is quite important to keep in mind that these steps must be taken quickly, because often a defendant must file its formal response by the deadline identified in the Summons, which can be as little as twenty days after receiving the Complaint in some States. Failing to meet the deadline can result in a judgment for the plaintiff in the full amount of all payment demanded.

### Consult your insurance companies

With a Complaint in hand, your first call should be to your insurance company. You

attorney. Gather and provide the attorney all documents and information you have relating to the case. The attorney will review the allegations in the Complaint, discuss your understanding of the history behind the incident, evaluate any relevant contract provisions between you and the plaintiff that may impact certain procedural aspects of the lawsuit, and will advise you on the next recommended steps.

### Resolving the Lawsuit

It is at this point in the process where each damage suit takes its own path. Some Complaints can be settled quickly and informally, needing only a few phone calls between your attorney and the attorney for the plaintiff. Other matters may take some more time and be resolved either informally between lawyers or more formally through a mediation, after the preliminary stages of litigation and the exchange of

and arbitration may also be mandatory if there is an agreement between you and the plaintiff that includes a provision requiring mediation or arbitration of plaintiff's damages claims.

Simply put, the best thing you can do to protect your business when faced with a lawsuit involving a damage incident is to seek immediate assistance from your insurer and attorney when the Complaint reaches your doorstep. They can guide you through the litigation process and keep you apprised every step of the way so that you can do what you do best - focus on your business. **ESG**

---

*Anju Suresh is a Partner with the national law firm of Hinshaw & Culbertson, LLP. She can be reached by phone at 612-333-3434 or by email at asuresh@hinshawlaw.com*





# DEVELOP AN EXCAVATION

Laws and rules on underground workplace safety have been around since the 1980s. So have different versions of OSHA's National Emphasis Programs on Trenching and Excavations. These typically short-term emphasis programs are now over 37 years old and are not going away. Still, cave-ins happen and there are serious consequences for the health and safety of impacted employees. 2022 has not been a good year when it comes to trench collapses, even with the laws and programs. Why does soil collapse still happen? If the rules have always been there, then it just might be the chosen behavior of those with the responsibility of enforcing their company policies to follow the rules. Our industry needs to get better. We should all consider some changes that may help reform our safety culture. What might that culture look like?

An excellent safety culture might include:

- **A company safety policy, written:** Make sure to have a thorough, written policy that outlines the responsibilities and practices to be followed. A company policy cannot allow activity outside of the law. Know what the laws are and that the law requires the employer to designate a properly trained

competent person to be on the job, to make the right decisions to protect employees exposed to excavation hazards.

- **Effective and ongoing safety training:** Every employer is required to provide his employees with workplaces free from recognized hazards, and must comply with all rules found in the excavation standard. Each employee is to follow those rules. Ensure that the training that your employees need comes from a knowledgeable source that can clearly, and accurately, communicate what the safety regulations are. Reinforce the training at every opportunity.

- **A clear, demonstrated commitment to safety:** Eliminate double standards, and show that safety rules are not to be selectively enforced. A rule for an employee is a rule for the CEO. When bidding on underground work, build the protective systems needed into the projected costs. This sets clear expectations that there is a commitment to a plan for the protection of the employee.

- **Accountability:** A robust safety culture may include repercussions for non-compliance. First offenses for minor issues will carry a different consequence than a violation of significance. To look past the absence of a protective system in a trench sends a signal that the decision not to protect employees is acceptable. Ensure that you have a properly trained competent person to know what the laws require, and give that person the authority to eliminate any observed hazards.

- **Encourage worker involvement:** Involving all team members in the creation and implementation of a safety program can go a long way toward the buy-in and participation of the safety practices.

- **Stop-work authority:** Give workers the authority and responsibility to stop work if a task or situation presents danger to themselves or others. A competent person may not always be on a trench job at all time. Train all of your employees on the hazards





# SAFETY CULTURE BY JOE WISE & BRUCE MAGEE

of underground work, and empower them to stop any activity that does not conform to the training they have had. This will help instill a touch of ownership, and a teamwork approach to their sense of responsibility in your safety culture.

## The right protective equipment.

Having the right protective system in place is critical, but do we all know what is right, and when it is required? A protective system is required at all times when an excavation is 5' or greater in depth; there is also a requirement for a protective system at shallower depths if the competent person observes the potential for a cave-in.

There are four types of OSHA-compliant protective solutions available – sloping, benching, shoring and shielding – and it is imperative that contractors know what questions to ask and how to choose the most effective system for a particular jobsite.

Understanding the soil is the first step to selecting the proper protective system. The competent person will have to determine many things, including whether the soil is cohesive or granular. Other questions to answer will include whether water is present, or whether the site subject to unique surcharges or vibrations. Water, surcharges and vibrations will have an adverse effect on the way the soil behaves.

The competent person is required to identify existing and predictable hazards,

and must be authorized to take corrective measures to eliminate them. This person must have training in, and be knowledgeable of, soils, acceptable protective system options, and the requirements of the standard. If the competent person recognizes that there is a cave-in hazard, and there is a deficiency in the protective system, then they have a duty to discontinue work and correct that issue.

## Team and subcontractor alignment

Working with subcontractors is commonplace. Keep in mind that their behaviors in trenches and excavations could affect the safety of all workers and teams onsite. Subcontractors perform work for, at the pleasure of, and in the place of, the general contractor. It is not okay to look past safety infractions on their end. To dismiss an infraction on the part of a sub will also send that double standard message to your people, and will undermine the development of your safety culture.

To help ensure your subs are aligned with trench and excavation safety, here are some considerations:

- Make sure every subcontractor on your jobsite understands and complies with relevant safety rules and regulations. Set expectations that all rules and laws will be followed.

- Each employer is required to provide their own competent person, and their employees are required to follow all safety rules. It is smart to be knowledgeable about what your sub is supposed to be doing, but make sure each employer has their own competent person.

- Meet with the subcontractor prior to excavation work to ensure that proper consideration has been given to pending excavation work.

## Misunderstandings around excavation safety protective systems

At times, it is helpful to get advice and guidance from seasoned field specialist. In the case of trench and excavation work, make sure that the source is knowledgeable of the law. When it comes to underground work, there are a number of mistaken beliefs that are repeated. Know that repeating them never makes them right.

It is common to hear that the only time an engineer's approval in excavation work is required is when the trench is 20' or more in depth – and that is not correct, in that that is not the only time. An engineer's approval is required when the excavation is greater than 5' and the contractor is using something other than the OSHA-supplied charts, or is deviating from the OSHA charts. Let's break this down.



OSHA tried to make things simple, and gave engineered data and charts for sloping/benching systems, timber systems, and aluminum hydraulic systems, for anyone to use, provided that the user did not deviate from the plans and charts. OSHA stipulated that the depth limits of the various methods would be 20', and that all other restrictions found in these OSHA appendices are followed. However, if there were a deviation from any limitation, then written approval from a PE would be required. Even at less than 20'.

What is the “something other than the OSHA-supplied charts” mentioned previously? These things could be vertical shores,

consider this – if you deviate from the manufacturer’s tab data, you need specific approval from a PE. What type of deviation do we mean? Placing a road plate across the end of a trench box, or using a system with a greater-than-allowed surcharge (from the spoil pile, construction equipment, or other sources), are examples of deviations often taken, not allowed by the manufacturer’s tabulated data, requiring written approval from a PE. This deviation must be approved by a PE, even if the depth of the excavation is less than 20'.

How about things that are manufactured by a company for distribution that does not have the manufacturer’s tabulated data? Road plates, beams, and corrugated interlocking

supports, these would be instances requiring the written approval of a PE. The PE assesses the soil at the site, surcharges in adjacent areas, and other factors, and from that determine how these individual parts can be used together to build a protective system. This analysis is required at any depth, not just greater than 20'.

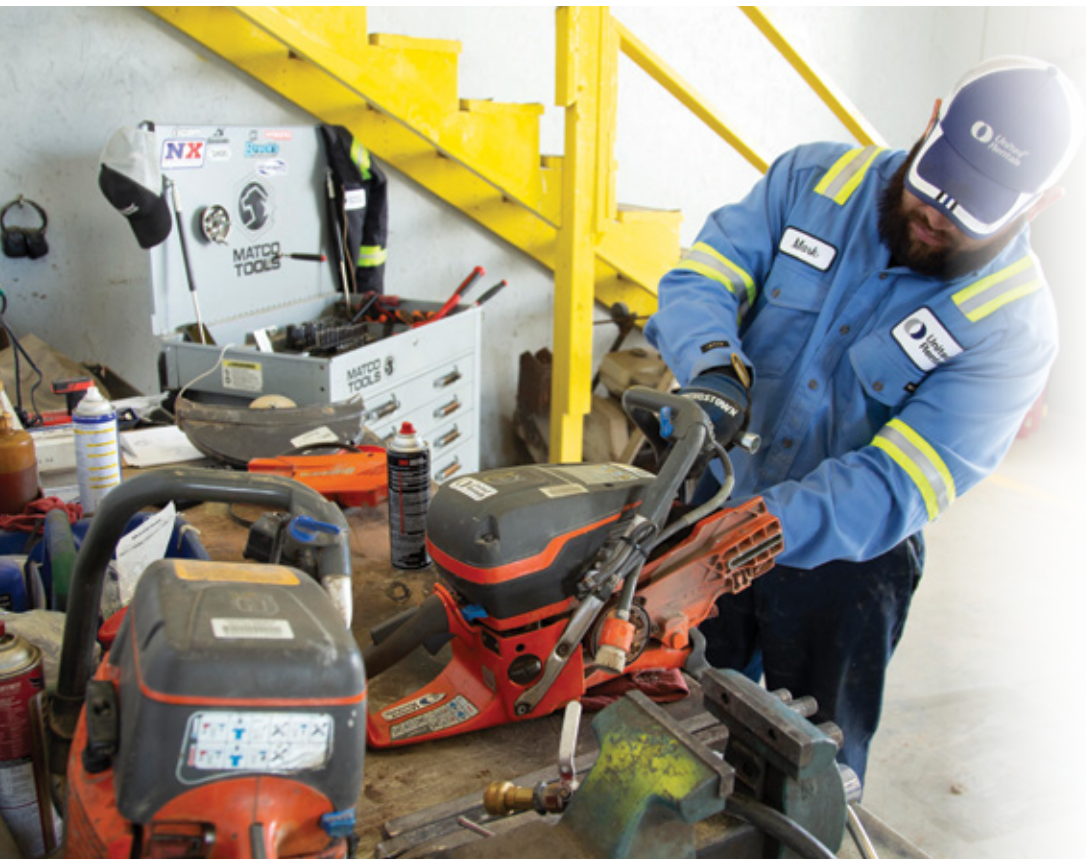
### Safety as a Core Value: Invest in Safety, Invest in Your Employees

Safety should not be a priority, because priorities will change. Make safety a core value. A core value is principle that cannot be changed by external influence. A safety culture will not happen with the stroke of a pen. Instead, an enduring safety culture will develop when all employees see that safety is non-negotiable, no matter who you are in an organization.

Invest in quality products for employees. Whether it is training or equipment, there are varying levels of quality – get your team the best. This will send a powerful message, that there is a serious effort to deliver the essential knowledge, and gear, to do the job right.

Training should not just be for the field employees. Estimators need to be trained in what is required and when it is needed, so the bid can be properly completed. Construction managers need to know the “why” behind the requests from their staff so that they can support their superintendents. All levels of management need to know why the investments are required; otherwise, they might conclude the investment is unnecessary.

“Too often, employers doing this type of underground work think a trench collapse won’t happen to them,” said Joe Wise at United Rentals. “But it can happen, it has happened, and it will continue to happen until employers commit to safety as a core value, employee training, and necessary equipment to keep workers safe. Employers with a thriving safety culture have a far greater chance for going home each night and avoiding these unnecessary trench accidents.” **ESG**



trench boxes, or other things manufactured by a company for distribution. These manufactured things often come with the manufacturer’s tabulated data. This data, approved by a registered professional engineer, provides generic engineering for generic work, typically with limitations or restrictions on surcharges, groundwater, depth limits, width limits, placing plates behind boxes, and so on. The manufacturer’s tab data will describe how the assembled parts will work as a system. Now,

or overlapping steel sheeting are common examples of these things. To be sure, there is data on these things that reflect the structural strength properties, but be aware that there is no generic tabulated data for any of these that give the stand-alone guidance that the manufacturer’s tabulated data offers to create a protective system. If you were to want a cantilevered wall that could be built with beam and plate, or a cantilevered sheeting wall, or even a braced sheeting pit with welded beam



# Q:

## What is the “Danger Zone” when a Gas Line is Fractured?

# A:

By David Heldenbrand, Bison Engineering, Inc.

Data has been collected that shows that a Danger Zone exists after a gas line has been fractured. While it is challenging to determine the severity of a fractured gas line leak before the leak is located, data has shown that very few fires or explosions occur past a 50-foot radius from a significant gas leak.

This information can be highly beneficial to operators, construction workers, HDD crews, fire departments, and any other first responders. Buildings or structures within this radius are more likely to be subjected to a fire or explosion than buildings located farther away. Safety and evacuation decisions can be prioritized quickly and confidently with this information.

There are a number of factors that have been theorized to cause a building to explode from a gas leak, but examination of the data from hundreds of NTSB reports and other studies have shown that fires and explosions, even from a major leak, more than 50 feet from a building are rare. Obviously, the closer the leak is to a building, the more likely the


building is to be affected. Structures closer than 50 feet are more likely to be affected, but buildings farther than 50 feet are less likely to be affected.

Bison Engineering, Inc. has studied these issues for more than 30 years. Many people have theorized numerous issues and causes, but little data has actually been sorted and compared until now. Damage prevention to all underground utilities is very important, but serious consequences can result when a gas line is impacted. Reducing risk exposure to people and structures is of utmost importance. Collecting and utilizing the correct information is critical.

It is interesting to note that distribution pipeline pressure and the distance from the leak to the affected structure is relatively independent of the initial pipeline pressure within the range of distribution line pressures. It is also interesting that data that has been collected shows that relating soil type and the distance from a leak to a structure fire or explosion is, similarly, not proportional.

The furthest recorded distance from a gas line damaged by a contractor to an explosion is 240 feet. In that case, all the utilities were laid in the same ditch and were backfilled with fractured shale all the way to the foundation of the houses. The explosion occurred an hour after the gas line was damaged. Most incidents do not involve new backfill or loose backfill, however. Most incidents involve fully compacted, non-select backfill.

It has also been documented that natural gas has caused explosions and fires both uphill and downhill from pipeline damage from a significant leak. There are numerous examples of gas from fractured gas lines causing fires and explosions where the gas is coming from a source uphill from the explosion.

Extensive research has been conducted on this subject and the research has revealed some interesting facts. You can learn more by visiting [www.bisonengineering.com](http://www.bisonengineering.com). 





Scan to download  
a PDF version of  
this checklist

SCAN ME



Pipeline Association  
for Public Awareness



# Pre-Excavation Checklist Before **EVERY** Excavation

## 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
- Contact 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, fiber optic)

## ONSITE

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

### Visual Inspection of Jobsite: Permanent markers:

- 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
  - Farm taps

- Pipeline valves
- Cable pedestals
- Electric cables
- Water valves
- Telephone closures
- Look for evidence of trench lines from previous excavation
- Look for cleared pipeline ROWs
- Talk with the property owner or general contractor to identify potential private facilities that may not be marked:
  - Lighting
  - Outbuildings
  - Pools/Spas
  - Irrigation
  - Sewer laterals
  - Propane tanks
  - Communications lines

### Document of 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° at varying distances for perspective
  - 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

## 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
- Representatives for all critical facilities are present
- 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

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 situation and may not be inclusive of all pre-excavation activities required of your situation. Consult your company's appropriate management before implementation. Excavation Safety Guide and Excavation Safety Magazine, its employees and agents accept no liability and disclaim all responsibility for the consequences of acting, or refraining from acting, in reliance of the information contained in this document or for any decision based on it, or for any consequential, special, incidental or punitive damage to any person or entity for any matter relating to the contents of this document.

# CHANGES TO THE LAWS IN YOUR STATE

## SUMMARY OF DAMAGE PREVENTION LAWS

JENNIFER REAMS, UNDERGROUND TECHNICAL ADVISOR  
INFRASTRUCTURE COMPLIANCE CONCEPTS | JREAMS.ICC@GMAIL.COM

As states start to form various types of enforcement for their damage prevention laws, recognizing changes to these laws are becoming a little more complicated. Due to this, it is recommended that you stay involved with your state one call, review state codes, administrative codes, enforcement authority rule making decisions, state resolutions, and (of course) “Changes to the Laws in Your State” article that is produced yearly.

### ALABAMA

**Important implementation dates to remember from previous legislation: 01/01/2022-** All underground facility owners must be members of the state one call.

<http://www.al811.com/>

### CALIFORNIA

**Important implementation dates to remember from previous legislation: On and after 01/01/2022 -** The board shall be within the Office of Energy Infrastructure Safety within the Natural Resources Agency. Also, if damage occurs due to noncompliance of excavator, excavator shall be liable to operator for costs and expenses related to damage. However, exemptions exist for operators who are not members of a regional notification center.

**On or after 01/01/2023 -** All new subsurface installations shall be mapped using a geographic information system and maintained as permanent records of the operator. The exceptions for this obligation are “oil and gas flowlines 3 inches or less in diameter that are located within the administrative boundaries of an oil field.”

**Senate Bill 297 Signed 10/8/2021-** The bill prescribes a civil penalty of up to \$100,000.00 to be imposed on an operator or excavator, who knowingly and willfully violates provisions relating to excavations and subsurface installations and damages a gas or hazardous liquid pipeline subsurface installation in a way that results in the escape of any flammable, toxic, or corrosive gas or liquid.

**Click  
Before  
You Dig.com**

### COLORADO

**Important implementation dates to remember from previous legislation:**

**Effective 03/01/2022 -** Any person who willfully or maliciously removes a marking used by an owner or operator to mark the location of any underground facility, except in the ordinary course of excavation is committing a “petty offense” instead of a Class 2 Misdemeanor.

**Effective 06/01/2022-** Modifies the one call exemption for county employees performing maintenance in the right of way. The one call must be made, for both routine and emergency excavations, if the excavation will include the following:” (a) lowering the existing grade or elevation of the road or any adjacent shoulder or designed and constructed elevation of any adjacent ditch flowline or (b) Disturb more than six inches in depth as it is conducted.”

**Effective 06/01/2022 -** If excavation will extend beyond thirty-day period, excavator will notify the notification association at least two business days, not including the day of actual notice, before the end of the thirty-day period.

<http://colorado811.org/>



**Know what's below.  
Call before you dig.**



# CHANGES TO THE LAWS IN YOUR STATE!

## CONNECTICUT

**HB 05255 Passed 05/17/2022 Effective 07/01/2022** - This bill impacts excavation taking place on state highways as follows: (a) Modifies to add utility company to the group that are required to obtain written permission of the commissioner for excavation, (b) Any excavation, obstruction or substruction made without permit shall be removed within 30 days from commissioner notification, (c) If utility company fails to comply, the commission may order this removal at the expense of the utility company, (d) Increased fines of violation to no less than two thousand dollars and no more than five thousand dollars for each offense. (Special note: an offense is “per day” and continuous days are new offenses for “each” day in violation.)

**SB 00094 Passed 05/10/2022-** This bill adds a provision for an immediate life-threatening hazard resulting from a willful violation of dig law. The utility commissioners shall immediately notify violator of hazard. Upon receipt of this notification, the violator shall promptly abate the hazard. If the hazard is not abated within a reasonable time, the commissioners shall have the authority to cease operations until the hazard is abated.

<https://portal.ct.gov/dot>

## GEORGIA

**HB 1372 Passed 05/02/2022 Effective 09/01/2022-** Georgia made substantial changes to the damage prevention law with the passing of this bill. First, the damage prevention law is renamed to Georgia Underground Facility Protection Act.

Next, several added/modified/deleted definitions are as follows: Betterments (meaning any upgrading of the underground facility being repaired made solely for the benefit and at the election of the facility owner and not attributable to damage), Business Day (modified to exclude particular days associated with Christmas Eve), Effective Date (meaning the calendar day on which blasting or excavating is anticipated to begin as indicated by the excavator in the locate request), Emergency 9-1-1- call, Deletion of Emergency Notice, Modification of excavation to include defined exemptions for: (a) Farming activities, (b) Milling (not to exceed a depth of 12” or less), and (c) Routine Road maintenance (under particular conditions), Notice Period (the period of time during which the designation of underground facilities or sewer laterals is supposed to occur), Public Safety Answering Point (means the public safety agency which receives incoming 9-1-1 calls and dispatches appropriate public safety agencies to respond to such calls), deletion of the term Service Area, and utility facility is renamed Underground Utility Facility.

One new definition that needs special note is Appropriate Notice, as it eliminates the 48-hour rule. First, Appropriate Notice is associated with an effective date provided by the excavator (see definition above). Second, the minimal “wait time” (under most circumstances) is two business days not including the day of the call.

Other notable changes are as follows: (a) New timeline for marking requirements in that underground utilities shall identify and locate their facilities prior to 7:00 a.m. of the “effective date”, (b) Positive response shall be given no later than midnight of the business day prior to the “effective” date, (c) the one call (UPC) shall also have the ability to declare extraordinary circumstances on behalf of any or all operators if the one call (UPC) is unable to transmit locate requests, (d) The adoption of the recommendations from the HDD consortium (5/2001) reference is eliminated, (e) Excavator shall call 911 upon damaging underground facilities lines that fall under 49 C.F.R part 192, 193 and 195 (Natural Gas and Hazardous Liquids), (f) On and after July 1, 2023, the Department of Transportation shall participate in and cooperate with the UPC for purposes of receiving locate requests in the Department of Transportation’s right of way, (g) Provision to provide guidance for excavations that are effected by an underground facility declaring extraordinary circumstances, (h) Damage investigation shall be initiated by the next business day following the repair and repair invoicing timelines (repair invoices shall be sent to the excavator within 90 days of completion of the repair), (i) Prohibits underground facilities from seeking damages under particular circumstances, and (j) The requirement to locate traffic control devices and traffic management systems shall be enforceable on January 1, 2024.

<https://www.georgia811.com/>

## ILLINOIS (Chicago Only)

**Amendment of Municipal Code 10-20-150 (11/07/2022)-** This Amendment is specific to the required permitting for excavation/construction work within the public right of way. First, allows the permittee to include at most one subcontractor per discipline on the permit. Further allows the permittee to petition the Commissioner of Transportation to allow more than one subcontractor. Finally grants Commissioner of Transportation to promulgate rules to implement and enforce amendment.

<https://ipi.cityofchicago.org/Digger>

## LOUISIANA

**HB 581 Passed 05/17/22 Effective 08/01/2022-** Modifications are as follows: (a) The definition for emergency to include an unplanned utility outage that requires immediate attention, (b) Adds Martin Luther King day to the list of approved one call observed holidays, (c) Allows for electronic notification, (d) Changes emergency notification language to “two hours from the discovery of the need for an emergency excavation”, (e) Clarifies that underground facilities shall respond to an emergency notice as soon as practicable, and (f) That the emergency notification ticket is valid for as long as the emergency exists.

**HB 69 Passed 06/01/2021; Effective 01/02/2022-** This bill adds the requirements for white lining and positive response.

<https://www.louisiana811.com/>

# CHANGES TO THE LAWS IN **YOUR STATE!**

## MARYLAND

**SB 464/HB 350 Passed 04/12/2022-** This bill allows the modification of penalties associated with the lack of one call notification prior to excavation as follows: Authority may require participation in damage prevention training; or implement mitigation practices; or other similar measures.

**SB 789/HB 994 Passed 05/16/2022-** This bill modifies obligations surrounding excavation notification requirements as follows: (a) Person making excavation notification shall provide a work start date that is not sooner than 3 business days after the ticket is initiated and not later than 12 business days after the ticket is initiated. (This extends the 2-business day notification to 3 business day notification), (b) Excavation notification shall include type and extent of work performed. (c) A ticket is valid 12 business days after the selected start date, (d) Obligations for locating of facilities within 2 business days of receiving ticket is modified to add “or” correspond with the work start date provided in the excavation notification.

<https://www.missutility.net/maryland/>

## OHIO

**HB 430- Signed 06/01/22; Effective 09/23/22-** This bill modifies obligations for designers and interstate natural gas and hazardous liquid facility owners when construction projects will take place within 660' of centerline of any interstate natural gas and hazardous liquids facilities.

First, interstate facility owners shall provide to designers: (a) Written notice of any special notification requirements, (b) The location and description of any right-of-way associated with the pipeline as well as pipeline location information (such as providing documents reflecting the actual location of the pipeline, marking facilities on design drawings, and providing maps), (c) Contact information for the primary contact person for the project area.

In regards to the design authority, added obligations to include in the plans and specifications for the construction project all of the following: (a) Any special notification requirements; (b) The name and contact information of the primary contact person for each pipeline operator who has provided notice; (c) Notice stating that the public authority has utilized reasonable means to contact the pipeline operator to verify the location of the pipeline and pipeline right-of-way; (d) Notice that the public authority has reviewed, or has attempted to review, preliminary information about the public improvement with the pipeline operator and incorporated the requested adjustments into the plans. Notice to the protection service in accordance is deemed to have utilized reasonable means to contact the operator of the pipeline.

[www.oups.org](http://www.oups.org)

## SOUTH DAKOTA

**SB 40 Passed 02/24/2022-** This bill adds a provision as follows: Any person who operates an intrastate biogas gathering line shall prior to operation provide written notice of the location and existence of the biogas gathering line to the South Dakota One Call.

<https://sdgc.southdakota811.com/geocall/portal>

## VIRGINIA

**20VAC5-309. Rules for Enforcement of the Underground Utility Damage Prevention Act (amending 20VAC5-309-150) Effective 01/01/2022.**

The amendments allow for a qualified contractor, in addition to the excavator, to complete the post-excavation video inspection for trenchless excavation across gravity fed sewer mains and combination storm and sanitary sewer system utility lines.

<http://register.dls.virginia.gov/details.aspx?id=9970>

## WEST VIRGINIA

**SB 597 Passed 03/04/2022 -** This bill amends/adds exemptions to the definition of excavation for routine maintenance of paved public roads or highways that meet the following criteria: All work that is confined to the traveled portion of the paved public way and does not exceed a depth greater than 12 inches measured from the top of the paved road surface. (Previously, this exemption was only for municipal employees). <https://wv811.com/>

## WYOMING

**SB 86 Passed 03/22/2022-** This bill added provisions for emergency excavation during wildfires.

## 2023 BILLS INTRODUCED

**Illinois HB 1190 Introduced 1/17/2023**

**Indiana HB 1258 Introduced 1/17/2023**

**Mississippi SB 2102 Introduced 1/9/2023**

**Mississippi HB 1044 Introduced 1/16/2023**

**Nebraska LB 122 Introduced 1/13/2023**

**North Dakota HB 1064 Introduced 1/18/2023**

**Oklahoma SB 497 Profile -Expected Introduction 2/6/2023**

**Tennessee SB 0067 Introduced 12/29/2022**

**Virginia HB 2132 Introduced 1/10/2023**



# 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**

**Karen Lynch:** karen.lynch@dot.gov • Phone: (202) 366-6855

**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

**Arthur Buff:** arthur.buff@dot.gov • Phone: (404) 226-6153

**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.

**Bill Lowry:** bill.lowry@dot.gov • Phone: (713) 272-2845

**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: (720) 963-3175


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

# ENFORCEMENT AGENCIES

Enforcement of the damage prevention laws in your state can be a bit confusing to navigate. Questions such as: who is enforced, who enforces it, and what is enforceable are frequent throughout the US. To help you with your navigation below we have categorized states in accordance with enforcement venues. Please note some states have more than one avenue of enforcement and may appear more than once in the list below. Changes are highlighted in yellow. The Pipeline Hazardous Materials Safety Administration also has compiled extensive documentation for each state, which can be found at the following link:

<https://primis.phmsa.dot.gov/comm/DamagePreventionSummary.htm?nocache=6529>

- **Public Utilities Commission:** Alaska, Arizona, California, Connecticut, Delaware, Georgia, Hawaii, Illinois- Illinois Commerce Commission, Indiana- Indiana Utility Regulatory Commission, Kansas, Kentucky, Maine, Massachusetts, Michigan, Minnesota, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oregon, Pennsylvania, Rhode Island, Tennessee, Utah, Vermont, Virginia, West Virginia, Wisconsin
- **Attorney General:** Arkansas, District of Columbia, Iowa, Nevada, South Carolina, Texas, Utah, Nebraska, Wyoming
- **Relevant County Court:** Alabama, Alaska, Arkansas, New Mexico,
- **Division of Safety:** Washington
- **Division of Occupational and Professional Licenses:** Idaho
- **Standalone Damage Prevention Boards/ Committees/Authorities:** Alabama, Colorado (Under the Department of Labor and Employment), Maryland, Mississippi, Puerto Rico, North Carolina, Idaho
- **Railroad Commission:** Texas
- **Department of Labor:** Montana
- **Department of Natural Resources:** Louisiana; California
- **State One Call:** North Dakota, South Dakota, Wyoming
- **Law Enforcement:** Florida
- **Federal Office of Pipeline Safety:** Maine (may defer), Alaska
- **Department of Consumer and Regulatory Affairs:** District of Columbia
- **Corporation Commission:** Oklahoma 

<b>Notification Center and State Law Directory</b> Always consult the Notification Center for the state you're working in as information and state specific laws are subject to change. Guidelines are for informational purposes only. Infrastructure Resources, LLC does everything we can to ensure this is accurate as of our publication date, and accepts no responsibility for missing or incorrect information.  You can reach your local One Call center in the U.S. by dialing 811. 	TICKETS			STATE LAWS & PROVISIONS								NOTIFICATION EXEMPTIONS				NOTIFICATIONS ACCEPTED				Tolerance Zone (either side of the utility plus the width of the utility)				
	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	
<b>ALABAMA / Alabama 811 / 800-292-8525</b>																								
<b>Website:</b> al811.com <b>Hours:</b> 24 hours, 7 days <b>Advance Notice:</b> 2 full working days (not including day of notification) <b>Marks Valid:</b> 20 working days <b>Law Link:</b> al811.com/law	N	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	N	Y	Y	12" *	Y	Y	Y	N	N	18"	
<i>*Agricultural purposes only</i>																								
<b>ALASKA / Alaska Dig Line, Inc. / 800-478-3121 or 907-278-3121</b>																								
<b>Website:</b> 811ak.com <b>Hours:</b> 8:00 AM - 5:00 PM, M-F/Emergency 24/7 <b>Advance Notice:</b> 2-10 business days based on location <b>Marks Valid:</b> 15-20 business days based on location <b>Law Link:</b> 811ak.com/faq	N	Y	Y	Y	Y	Y	N	N	N	N	Y	N	N	N	Y	N	Y	Y	Y	N	Y	24"*		
<i>*24-30" based on proposed depth of dig</i>																								
<b>ARIZONA / Arizona 811 / 800-782-5348</b>																								
<b>Website:</b> arizona811.com <b>Hours:</b> 6:00 AM - 5:00 PM, M-F <b>Advance Notice:</b> 2 full working days(excludes weekends and holidays) <b>Marks Valid:</b> 15 working days <b>Law Link:</b> 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"	
<b>ARKANSAS / Arkansas 811 / 800-482-8998</b>																								
<b>Website:</b> arkansas811.com <b>Hours:</b> 24 hours, 7 days <b>Advance Notice:</b> 2 to 10 working days <b>Marks Valid:</b> 20 working days <b>Law Link:</b> arkonecall.com/statelaw/statelaw.aspx	N	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	N	N	N	N	N	Y	Y	N	Y	18"		
<b>CALIFORNIA</b>																								
<b>Underground Service Alert of Northern CA &amp; NV USA North 811 / 800-642-2444</b> <b>Website:</b> usanorth811.org <b>Hours:</b> 24 x 7 <b>Advance Notice:</b> 2 working days, not including the day of notification <b>Marks Valid:</b> 28 days <b>Law Link:</b> usanorth811.org (Quick Links / Law & Excavation Manual)	N	Y	Y	N	Y	Y	Y*	Y	Y	Y	Y	Y	N	Y	N	N	N	Y	N	Y	N	Y	24"	
<b>Underground Service Alert of Southern California / 800-422-4133</b> <b>Website:</b> digalert.org <b>Hours:</b> 6:00 AM - 7:00 PM, M-F <b>Advance Notice:</b> 2 working days to 14 calendar days not including date of notice <b>Marks Valid:</b> 28 days <b>Law Link:</b> https://leginfo.ca.gov/faces/codes_displayText.xhtml?lawCode=GOV&division=5.&title=1.&part=&chapter=3.1.&article=2	N	Y	Y	N	Y	Y	Y*	Y	Y	Y	Y	Y	N	Y	N	N	N	Y	N	Y	N	Y	24"	
<i>*DOT and non-pressurized sewer lines, storm drains and drain lines exempt</i>																								
<b>COLORADO / Colorado 811 / 800-922-1987</b>																								
<b>Website:</b> co811.org • <b>Hours:</b> 24 hours <b>Advance Notice:</b> 2 days, not to include the day of notice <b>Marks Valid:</b> 30 days <b>Law Link:</b> colorado811.org/one-call-legislation/	N	Y	Y	Y	Y	Y	Y*	N	N	Y	N	Y	N	N	N	Y	Y	Y	Y	N	Y	18"		
<i>* DOT exempt</i>																								
<b>CONNECTICUT / Call Before You Dig / 800-922-4455</b>																								
<b>Website:</b> www.cbyd.com <b>Hours:</b> 7:00 AM - 5:00 PM, M-F; Emergencies 24 Hours <b>Advance Notice:</b> 2 full working days up to 30 calendar days (excludes weekends, holidays and the day of notification) <b>Marks Valid:</b> 30 days <b>Law Link:</b> 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"	
<b>DELAWARE / Miss Utility of Delmarva / 800-282-8555</b>																								
<b>Website:</b> missutility.net/delaware <b>Hours:</b> 24 hours, 7 days <b>Advance Notice:</b> 2 full business days <b>Marks Valid:</b> must start within 10 calendar days, no expiration as long as marks still visible and scope does not change. <b>Law Link:</b> 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"	
<b>FLORIDA / Sunshine 811 / 800-432-4770</b>																								
<b>Website:</b> sunshine811.com <b>Hours:</b> 7:00 AM - 6:00 PM <b>Advance Notice:</b> 2 full business days (10 if dig site is underwater) <b>Marks Valid:</b> 30 days <b>Law Link:</b> sunshine811.com/law	N	Y	N	Y	Y	Y	Y	N	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.

IR makes every attempt to verify information. Please report any updates and law changes to [Karin@IR-SavingLives.com](mailto:Karin@IR-SavingLives.com)



You can reach your local One Call center in the U.S. by dialing 811.

Know what's below. Call before you dig.

TICKETS			STATE LAWS & PROVISIONS										NOTIFICATION EXEMPTIONS				NOTIFICATIONS ACCEPTED					Tolerance Zone (either side of the utility plus the width of the utility)
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	

### 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/

N	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	N*	N	N	N**	N	Y	Y	Y	Y	Y	18"
* Routine road maintenance ** Farming activities																						

### HAWAII / Hawaii One Call Center / 866-423-7287 / Tickets Fax: 877-695-2466

**Website:** callbeforeyoudig.org  
**Hours:** 24 hours, 7 days  
**Advance Notice:** 5 working days, not to exceed 28 calendar days  
**Marks Valid:** 28 calendar days  
**Law Link:** callbeforeyoudig.org/law.htm

Y	Y	N	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:** 21 Days  
**Law Link:** https://legislature.idaho.gov/statutesrules/idstat/title55/T55CH22/

N	Y	N	N	Y	Y	Y	N	Y	N	Y	Y	N	15"	N	Y	15"	Y	Y	Y	Y	Y	24"
---	---	---	---	---	---	---	---	---	---	---	---	---	-----	---	---	-----	---	---	---	---	---	-----

**BONNER/BOUNDARY One Call / 800-626-4950**  
**Website:** passwordinc.com  
**Hours:** 24 hours, 7 days  
**Advance Notice:** 2 business days  
**Marks Valid:** 21 days  
**Law Link:** legislature.idaho.gov/statutesrules/idstat/Title55/T55CH22/

N	Y	N	N	Y	Y	Y	N	Y	N	Y	Y	N	15"	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:** 21 days  
**Law Link:** legislature.idaho.gov/statutesrules/idstat/Title55/T55CH22/

N	Y	N	N	Y	Y	Y	N	Y	N	Y	Y	N	15"	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:** 21 days  
**Law Link:** legislature.idaho.gov/statutesrules/idstat/Title55/T55CH22/

N	Y	Y	N	Y	Y	Y	N	Y	N	Y	Y	N	15"	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	Y*	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

N	Y	N	N	Y	Y	Y	Y	Y*	Y	Y	Y	N	N	Y	Y	N	Y	N	Y	N	N	18"
*When possible																						

### 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	N	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

N	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	N	N	N	Y*	N	Y	Y	Y	N	Y	18"	
* Normal farm operations less than fifteen inches																						

## Call or Click Before You Dig

Whether you're planning a home improvement job, planting a tree, or installing a fence or desk, visit [ClickBeforeYouDig.com](http://ClickBeforeYouDig.com) to safely identify buried utility lines.



Call or Click Before You Dig Whether you're planning a home improvement job, planting a tree, or installing a fence or desk, visit <a href="http://ClickBeforeYouDig.com">ClickBeforeYouDig.com</a> to safely identify buried utility lines. 	TICKETS			STATE LAWS & PROVISIONS								NOTIFICATION EXEMPTIONS				NOTIFICATIONS ACCEPTED				Tolerance Zone (either side of the utility plus the width of the utility)				
	FAX	Online	Mobile	Statewide Coverage	Civil Penalties	Emergency Clause	Mandatory Membership	Excavator Permits Issued	Mandatory Remarks	Positive Response	Hand Dig Clause	Damage Reporting	DOT	Homeowner	Railroad	Agriculture	Depth	Damage	Design		Emergency	Overhead	Large Projects	
<b>KANSAS / Kansas 811 / 800-344-7233</b> Website: <a href="http://kansas811.com">kansas811.com</a> Hours: 24 hours, 7 days Advance Notice: 2 full working days(not including day of notice) Marks Valid: 15 calendar days Law Link: <a href="http://kansasoneline.com/static/pdf/KUUDPA_04.03.2010.pdf">kansasoneline.com/static/pdf/KUUDPA_04.03.2010.pdf</a>	N	Y	Y	Y	Y	Y	Y	N	N	Y	N	N	N	Y*	Y	Y	N	N	Y	Y	N	N	24"	
*Homeowner retains responsibility for any damages due to digging																								
<b>KENTUCKY / Kentucky 811 / 800-752-6007</b> Website: <a href="http://kentucky811.org">kentucky811.org</a> Hours: 24 hours/7 days Advance Notice: 2 working days Marks Valid: 21 calendar days Law Link: <a href="http://kentucky811.org/the-dig-law">kentucky811.org/the-dig-law</a>	N	Y	N	Y	Y	Y	N	N	N	Y	Y	Y	N	N	Y	Y	N	Y	Y	Y	N	Y	24"	
<b>LOUISIANA / Louisiana 811 / 800-272-3020</b> Website: <a href="http://louisiana811.com">louisiana811.com</a> Hours: 7:00 AM - 6:00 PM, Emergency Locates 24/7 Advance Notice: 2 Business Days Marks Valid: 20 Days/30 Days for Forestry Law Link: <a href="http://louisiana811.com/index.php/dig-law">louisiana811.com/index.php/dig-law</a>	N	Y	Y	Y	Y	Y	N	N	Y	Y	N	N	N	Y	N	Y	N	Y	Y	Y	N	N	18"	
<b>MAINE / Dig Safe System, Inc. / 888-344-7233</b> Website: <a href="http://digsafe.com">digsafe.com</a> Hours: 24 hours, 7 days Advance Notice: 72 hours(excluding weekends and holidays) Marks Valid: 60 days; must start within 30 days Law Link: <a href="http://www.digsafe.com/laws_rules.php">http://www.digsafe.com/laws_rules.php</a>	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	Y	N	Y	N	Y	N	Y	18"	
<b>MARYLAND / Miss Utility (Western Shore) / 800-257-7777</b> Website: <a href="http://www.missutility.net">www.missutility.net</a> Hours: 24 hours, 7 days Advance Notice: 2 full business days Marks Valid: 12 business days Law Link: <a href="http://www.missutility.net/maryland/">www.missutility.net/maryland/</a>	N	Y	Y	Y	Y	Y	Y	N	N	Y	Y	N	N	Y*	N	N	N	N	Y	Y	N	N	18"	
*Hand dig only up to a depth of 6". Mechanized equipment must call.																								
<b>Miss Utility of Delmarva (Eastern Shore) / 800-441-8355</b> Website: <a href="http://missutilitydelmarva.com">missutilitydelmarva.com</a> Hours: 24 hours, 7 days Advance Notice: 2 full business days Marks Valid: 12 business days Law Link: <a href="http://www.missutility.net/maryland/">www.missutility.net/maryland/</a>	N	Y	Y	Y	Y	Y	Y	N	N	Y	N	Y	N	Y	N	N	N	N	Y	Y	N	N	18"	
<b>MASSACHUSETTS / Dig Safe System, Inc. / 888-344-7233</b> Website: <a href="http://digsafe.com">digsafe.com</a> Hours: 24 hours, 7 days Advance Notice: 72 hours(excluding weekends and holidays) Marks Valid: 30 days Law Link: <a href="http://digsafe.com/laws_rules.php">digsafe.com/laws_rules.php</a>	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	Y	N	Y	N	Y	N	Y	18"	
<b>MICHIGAN / Miss Dig System, Inc. / 800-482-7171</b> Website: <a href="http://missdig811.org">missdig811.org</a> Hours: 24 hours Advance Notice: 3 business days(excluding weekends and holidays) Marks Valid: 3 weeks to 6 months Law Link: <a href="http://missdig811.org/education/public-act-174.html">missdig811.org/education/public-act-174.html</a>	N	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y	N	N	N	N	N	Y	Y	Y	Y	18"	
<b>MINNESOTA / Gopher State One Call / 800-252-1166 or 651-454-0002</b> Website: <a href="http://gopherstateonecall.org">gopherstateonecall.org</a> Hours: 24 hours Advance Notice: 48 hours(excluding weekends and holidays) Marks Valid: 14 days Law Link: <a href="http://revisor.leg.state.mn.us/statutes/?id=216D">revisor.leg.state.mn.us/statutes/?id=216D</a>	N	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	N	N	Y	N	N	Y	Y	N	Y	24"		
<b>MISSISSIPPI / Mississippi 811, Inc. / 800-227-6477 / Tickets Fax: 601-362-7533</b> Website: <a href="http://ms811.org">ms811.org</a> Hours: 24 hours, 7 days Advance Notice: 2 working days Marks Valid: 14 working days Law Link: <a href="http://ms1call.org/One-Call-law">ms1call.org/One-Call-law</a>	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	N	Y	Y	24"	12"	Y	Y	Y	N	Y	18"	
*Less than 16"																								
<b>MISSOURI / Missouri One Call System / 800-344-7483 / Tickets Fax: 573-635-8402</b> Website: <a href="http://mo1call.com">mo1call.com</a> Hours: 24 hours, 7 days Advance Notice: 2 working days, not counting day of request Marks Valid: As long as visible Law Link: <a href="http://mo1call.com/manual_law.php">mo1call.com/manual_law.php</a>	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	N	N	Y	Y*	N	Y	Y	Y	N	N	24"	



## Notification Center and State Law Directory

Did you know many states offer online training for excavators? Check your local Notification Centers website for more information.



You can reach your local One Call center in the U.S. by dialing 811.

Know what's below. Call before you dig.

TICKETS			STATE LAWS & PROVISIONS										NOTIFICATION EXEMPTIONS				NOTIFICATIONS ACCEPTED				Tolerance Zone (either side of the utility plus the width of the utility)
FAX	Online	Mobile	Statewide Coverage	Civil Penalties	Emergency Clause	Mandatory Membership	Excavator Permits Issued	Mandatory P remarks	Positive Response	Hand Dig Clause	Damage Reporting	DOT	Homeowner	Railroad	Agriculture	Depth	Damage	Design	Emergency	Overhead	

### MONTANA

**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	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	N	Y*	N	Y	Y	Y	Y	Y	N	N	18"
*Only under certain circumstances																						

### 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: digsafesystem.com

Hours: 24 hours, 7 days

Advance Notice: 72 hours(excluding weekends and holidays)

Marks Valid: 30 days

Law Link: digsafesystem.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 / Tickets Fax: 800-705-4559

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 / 800-321-2537 / Tickets Fax: 800-727-8809

Website: nm811.org

Hours: 7:00 AM - 5:00 PM, M-F / Emergencies & Damages: 24 hours

Advance Notice: 2 working days

Marks Valid: 15 Days

Law Link: nm811.org/new-mexico-811-law/

Y	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. / 800-632-4949

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"
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	-----

Notification Center and State Law Directory	TICKETS			STATE LAWS & PROVISIONS										NOTIFICATION EXEMPTIONS				NOTIFICATIONS ACCEPTED				Tolerance Zone (either side of the utility plus the width of the utility)	
	FAX	Online	Mobile	Statewide Coverage	Civil Penalties	Emergency Clause	Mandatory Membership	Excavator Permits Issued	Mandatory P remarks	Positive Response	Hand Dig Clause	Damage Reporting	DOT	Homeowner	Railroad	Agriculture	Depth	Damage	Design	Emergency	Overhead		Large Projects
<b>North Dakota / North Dakota One Call / 800-795-0555</b> 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"
<b>OHIO</b> 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"
<b>OKLAHOMA / Okie811 / 800-522-6543</b> Website: okie811.org Hours: 24 hours, 7 days Advance Notice: 48 hours excluding date of notification, week-ends and legal holidays Marks Valid: 14 calendar days Law Link: okie811.org/thelaw	N	Y	Y	Y	N	Y	Y	N	N	Y	Y	Y	Y	N	N	N	N	Y	Y	Y	N	Y	24"
<b>OREGON / Oregon Utility Notification Center / 800-332-2344 / Tickets Fax: 503-293-0826</b> Website: digsafelyoregon.com Hours: 24 hours, 7 days Advance Notice: 2 Full Business Days Marks Valid: 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"
<b>PENNSYLVANIA / Pennsylvania One Call System, Inc. / 800-242-1776</b> 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	N	Y	Y	Y	Y	Y	Y**	N	Y	Y	Y	Y	N*	N	N	Y	N	Y	Y	Y	N	Y***	18"
* PennDot minor routine maintenance exempt if without 24" depth from highest spot in ROW ** Municipal Roads - minor routine maintenance if within 18" depth from highest point in ROW *** Exemptions include PennDOT within state road DOT, Stripper Well Lines in Class 1 areas **** Large projects accepted online only																							
<b>RHODE ISLAND / Dig Safe System, Inc. / 888-344-7233</b> Website: digsafe.com Hours: 24 hours, 7 days Advance Notice: 72 hours(excluding 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"
<b>SOUTH CAROLINA / South Carolina 811 / 888-721-7877</b> 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"
<b>SOUTH DAKOTA / South Dakota 811 Center / 800-781-7474</b> Website: sc811.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	N	Y	Y	Y	Y	Y	Y	N	Y	N	Y	Y*	N	N	N	N	N**	Y	Y	Y	N	Y	18"
* Damage reporting required. All damage must be reported to the facility operator, or if the operator is unknown, to South Dakota 811 Center. ** For agricultural tilling and road and ditch maintenance to a depth of 18" only; homeowners have a 12" depth exception for tilling of soil and gardening																							
<b>TENNESSEE / Tennessee 811 / 800-351-1111</b> 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: tn.gov/content/dam/tn/publicutility/documents/uudeb/65-31-101etseq10-28-2016.pdf	N	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	N	Y	N	N	Y	Y	Y	N	N	24"



# RESOURCE DIRECTORY

## Call or Click Before You Dig

Whether you're planning a home improvement job, planting a tree, or installing a fence or desk, visit [ClickBeforeYouDig.com](http://ClickBeforeYouDig.com) to safely identify buried utility lines.



You can reach your local One Call center in the U.S. by dialing 811.

Know what's below. Call before you dig.

TICKETS			STATE LAWS & PROVISIONS										NOTIFICATION EXEMPTIONS				NOTIFICATIONS ACCEPTED				Tolerance Zone (either side of the utility plus the width of the utility)
FAX	Online	Mobile	Statewide Coverage	Civil Penalties	Emergency Clause	Mandatory Membership	Excavator Permits Issued	Mandatory Remarks	Positive Response	Hand Dig Clause	Damage Reporting	DOT	Homeowner	Railroad	Agriculture	Depth	Damage	Design	Emergency	Overhead	

### TEXAS / Texas811 / 800-344-8377

**Website:** [texas811.org](http://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](http://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](http://bluestakes.org)  
**Hours:** 7:00 AM - 5:00 PM, M-F  
**Advance Notice:** 2 business days, 48 hours notice  
**Marks Valid:** 14 calendar day  
**Law Link:** [le.utah.gov/xcode/Title54/Chapter8A/54-8a.html](http://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	Y	N	N	N	24"
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	-----

### VERMONT / Dig Safe System, Inc. / 888-344-7233

**Website:** [digsafe.com](http://digsafe.com)  
**Hours:** 24 hours, 7 days  
**Advance Notice:** 48 hours(excluding weekends and holidays)  
**Marks Valid:** 30 days  
**Law Link:** [digsafe.com/laws\\_rules.php](http://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](http://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](http://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](http://digsafewa.com)  
**Northwest Utility Notification Center (NUNC)**  
**Website:** [digsafewa.com](http://digsafewa.com)  
**Inland Empire Utility Coordinating Council (IEUCC)**  
**Website:** [digsafewa.com](http://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/](http://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	25"
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	-----

### WASHINGTON D.C. / District One Call / 800-257-7777

**Website:** [missutility.net](http://missutility.net)  
**Hours:** 24 hours, 7 days  
**Advance Notice:** 2 business day  
**Marks Valid:** 15 business days  
**Law Link:** [apps.leg.wa.gov/rcw/default.aspx?cite=19.122&full=true](http://apps.leg.wa.gov/rcw/default.aspx?cite=19.122&full=true)

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](http://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](http://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](http://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](http://docs.legis.wisconsin.gov/statutes/statutes/182/0175)

N	Y	Y	Y	Y	Y	Y	N	N	N	Y	N	N	N	N	N	Y	Y	Y	Y	Y	Y	18"
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	-----

Notification Center and State Law Directory	TICKETS			STATE LAWS & PROVISIONS							NOTIFICATION EXEMPTIONS				NOTIFICATIONS ACCEPTED				Tolerance Zone (either side of the utility plus the width of the utility)		
	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

HELP US STAY UP TO DATE. IR makes every attempt to verify information. Please report any updates and law changes to [Karin@IR-SavingLives.com](mailto:Karin@IR-SavingLives.com)



**WYOMING / One Call of Wyoming / 800-849-2476 / Tickets Fax: 800-217-3719**

<b>Website:</b> onecallofwyoming.com <b>Hours:</b> 24 hours <b>Advance Notice:</b> 2 full business days <b>Marks Valid:</b> 14 business days <b>Law Link:</b> onecallofwyoming.com/wp-content/uploads/2019/08/2019_Wyoming_Law.pdf	N	Y	N	Y	Y	Y	Y	N	Y	Y	Y	Y	N	N	N	Y	N	Y	Y	Y	N	N	24"
--	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	-----

**GULFSAFE / Covers state and federal waters in the Gulf of Mexico, the Florida Straits and Atlantic Coast / 888-910-4853 (GULF)**

<b>Website:</b> gulfsafe.org <b>Hours:</b> 24 hours <b>Advance Notice:</b> 7 working days <b>Marks Valid:</b> Not Applicable <b>Law Link:</b> Not Applicable	N	Y	N	N	N	N	N	Y	N	N	N	N	Y	N/A	N/A	N/A	N/A	Y	Y	Y	N/A	N	N/A
--	---	---	---	---	---	---	---	---	---	---	---	---	---	-----	-----	-----	-----	---	---	---	-----	---	-----

Canadian One Call and Provincial Law Directory	TICKETS			PROVINCIAL LAWS & PROVISIONS							NOTIFICATION EXEMPTIONS				NOTIFICATIONS ACCEPTED				Tolerance Zone (either side of the utility plus the width of the utility)		
	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



**ALBERTA / Utility Safety Partners / 800-242-3447**

<b>Website:</b> utilitiesafety.ca <b>Hours:</b> 8:00 AM - 4:30 PM, M-F (Emergency or Online: 24/7) <b>Advance Notice:</b> 3 full working days <b>Marks Valid:</b> up to 30 days, determined by member	N	Y	Y	Y	N	N	N	N	N	Y	Y	Y	N	N	N	N	*	Y	Y	Y	Y	Y	1m (39")
--	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	----------

\* 300 mm (12") hand tools only

**BRITISH COLUMBIA / BC 1 Call / 800-474-6886**

<b>Website:</b> bc1c.ca <b>Hours:</b> 24 hours / 7 days <b>Advance Notice:</b> 3 working days excluding Saturdays, Sundays & holidays <b>Marks Valid:</b> 30 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 / 800-940-3447**

<b>Website:</b> ClickBeforeYouDigMB.com <b>Hours:</b> 8:00 AM - 5:00 PM <b>Advance Notice:</b> 3 full working days excluding weekends and holidays <b>Marks Valid:</b> 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**

<b>Website:</b> OntarioOneCall.ca <b>Hours:</b> 24 hours, 365 days <b>Advance Notice:</b> 5 working days <b>Marks Valid:</b> Minimum 60 days <b>Law Link:</b> 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
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	--------

**ATLANTIC PROVINCES / Info-Excavation / 800-663-9228**

<b>New Brunswick, Nova Scotia, Newfoundland &amp; Labrador, Prince Edward Island, Quebec</b> <b>Website:</b> info-ex.com <b>Hours:</b> 24 hours/7 days <b>Advance Notice:</b> 72 hours (3 working days) <b>Marks Valid:</b> 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**

<b>Website:</b> sask1stcall.com <b>Hours:</b> 8:00 AM - 4:30 PM, M-F (Emergency 24/7) <b>Advance Notice:</b> 3 full working days <b>Marks Valid:</b> 30 days	N	Y	Y	Y	N	N	N	N	N	Y	N	N	N	N	N	N	N	Y	Y	Y	N	Y	VARIES
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	--------



# PIPELINE OPERATOR CONTACT DIRECTORY

Company	EMERGENCY	NON-EMERGENCY	WEB ADDRESS
ADM	(563) 242-1121	(563) 241-4615	<a href="http://www.adm.com">www.adm.com</a>
Aera Energy, LLC	(800) 247-5977	(661) 448-7280	<a href="http://www.aeraenergy.com">www.aeraenergy.com</a>
Alliance Pipeline L.P.	(800) 884-8811	(713) 627-5986	<a href="http://www.alliancepipeline.com">www.alliancepipeline.com</a>
Alliant Energy - IPL	(319) 365-8040	(800) 255-4268	<a href="http://www.alliantenergy.com">www.alliantenergy.com</a>
Alliant Energy - WPL	(800) 758-1576	(800) 255-4268	<a href="http://www.alliantenergy.com">www.alliantenergy.com</a>
Amplify Energy Corp.	(307) 328-2348	(307) 392-2363	<a href="http://www.amplifyenergy.com/">www.amplifyenergy.com/</a>
Arrow Pipeline, LLC	(866) 234-7473	(701) 675-8602	<a href="http://www.crestwoodlp.com">www.crestwoodlp.com</a>
Atmos Energy Corporation	(866) 322-8667	(888) 286-6700	<a href="http://www.atmosenergy.com">www.atmosenergy.com</a>
Aux Sable Midstream	(701) 628-9380	(701) 628-9393	<a href="http://www.auxsable.com">www.auxsable.com</a>
Avista Utilities	(800) 227-9187	(800) 227-9187	<a href="http://www.myavista.com">www.myavista.com</a>
Basin Electric Power Cooperative	(800) 339-5616	(701) 557-5895	<a href="http://www.basinelectric.com">www.basinelectric.com</a>
Bayou Midstream	(888) 489-2747	(346) 249-3200	<a href="http://www.bayoumidstream.com">www.bayoumidstream.com</a>
Belle Fourche Pipeline Co	(866) 305-3741	(701) 575-2205	<a href="http://www.truecos.com">www.truecos.com</a>
Black Hills Colorado IPP, LLC	(719) 696-3220	(719) 696-3209	<a href="http://www.blackhillsenergy.com">www.blackhillsenergy.com</a>
Black Hills Energy	(800) 694-8989	(303) 566-3509	<a href="http://www.blackhillsenergy.com">www.blackhillsenergy.com</a>
Black Hills Energy - IA Gas	(800) 694-8989	(888) 890-5554	<a href="http://www.blackhillsenergy.com">www.blackhillsenergy.com</a>
Black Hills Power dba Black Hills Energy	(307) 757-3010	(307) 757-3010	<a href="http://www.blackhillspower.com">www.blackhillspower.com</a>
Bridger Pipeline LLC	(866) 305-3741	(701) 575-2205	<a href="http://www.truecos.com">www.truecos.com</a>
Bridger Swan Ranch, LLC	(307) 634-5305	(307) 634-5305	<a href="http://www.granitepeakindustries.com">www.granitepeakindustries.com</a>
Butte Pipe Line Company	(866) 305-3741	(701) 575-2205	<a href="http://www.truecos.com">www.truecos.com</a>
Caliber Midstream Partners, LP	(866) 535-2522	(303) 628-1410	<a href="http://www.calibermidstream.com">www.calibermidstream.com</a>
California Natural Resources Group	(888) 664-4435	(805) 477-9805	<a href="http://www.calnrg.com">www.calnrg.com</a>
California Resources Central Valley	(661) 763-6911	(661) 763-6363	<a href="http://www.crc.com">www.crc.com</a>
California Resources Elk Hills, LLC	(661) 763-6911	(661) 763-6363	<a href="http://www.crc.com">www.crc.com</a>
Calumet Montana Refining, LLC	(406) 761-4100	(406) 454-9887	<a href="http://www.montanarefining.com">www.montanarefining.com</a>
Carbon California	(805) 531-3712	(805) 794-8593	<a href="http://www.carbonenergycorp.com">www.carbonenergycorp.com</a>
Cascade Natural Gas	(888) 522-1130	(888) 522-1130	<a href="http://www.cngc.com">www.cngc.com</a>
Cedar Falls Utilities	(319) 268-6999	(319) 268-5280	<a href="http://www.cfu.net">www.cfu.net</a>
Genex Pipeline, LLC	(800) 421-4122	(406) 628-5443	<a href="http://www.chspipelines.com">www.chspipelines.com</a>
Central Iowa Power Cooperative	(641) 782-5518	(641) 782-2158	<a href="http://www.cipco.net">www.cipco.net</a>
Central Valley Gas Storage	(855) 303-2847	(530) 439-2607	<a href="http://www.cvgasstorage.com">www.cvgasstorage.com</a>
Chevron Midstream Services, LLC	(800) 762-3404	(801) 698-9434	<a href="http://www.chevron.com">www.chevron.com</a>
Chevron Pipe Line Company	(800) 762-3404	(801) 975-2324	<a href="http://www.chevron.com">www.chevron.com</a>
Cheyenne Rail Hub, LLC	(307) 634-5305	(307) 634-5305	<a href="http://www.granitepeakindustries.com">www.granitepeakindustries.com</a>
CHS Inc. Terminals	(800) 421-4122	(855) 424-7747	<a href="http://www.chspipelines.com">www.chspipelines.com</a>
CHS MRI Pipelines	(844) 721-6611	(855) 424-7747	<a href="http://www.chspipelines.com">www.chspipelines.com</a>
CHS MRI Terminal	(844) 721-6611	(855) 424-7747	<a href="http://www.chspipelines.com">www.chspipelines.com</a>
City of Blanding	(435) 678-2916	(435) 678-2791	<a href="http://www.blanding-ut.gov">www.blanding-ut.gov</a>
City of Ellensburg	(509) 925-8534	(509) 962-7124	<a href="http://www.ci.ellensburg.wa.us">www.ci.ellensburg.wa.us</a>
City of Fort Morgan	(970) 867-4350	(970) 542-3910	<a href="http://www.cityoffortmorgan.com">www.cityoffortmorgan.com</a>
City of Lake City, Natural Gas Dept.	(386) 758-5405	(386) 758-5405	<a href="http://www.lcfla.com">www.lcfla.com</a>
City of Sioux Falls	(605) 941-2351	(605) 261-2980	<a href="http://www.siouxfalls.org">www.siouxfalls.org</a>
City of Walsenburg	(719) 738-1044	(719) 890-0049	<a href="http://www.cityofwalsenburg.com">www.cityofwalsenburg.com</a>
City of Waukeg	(515) 249-1212	(515) 978-7920	<a href="http://www.waukeg.org">www.waukeg.org</a>
Cobra Oil & Gas Corporation	(517) 563-8381	(989) 345-7903	<a href="http://www.cobraogc.com">www.cobraogc.com</a>
Colorado 811	(800) 922-1987	(303) 232-1991	<a href="http://www.colorado811.org">www.colorado811.org</a>
Colorado Interstate Gas - MT, UT and Western WY	(877) 712-2288	(800) 276-9927	<a href="http://www.kindermorgan.com">www.kindermorgan.com</a>
Colorado Interstate Gas - Western CO	(877) 712-2288	(800) 276-9927	<a href="http://www.kindermorgan.com">www.kindermorgan.com</a>
Colorado Natural Gas	(800) 883-3181	(800) 720-8193	<a href="http://www.coloradonaturalgas.com">www.coloradonaturalgas.com</a>
Colorado Springs Utilities	(719) 448-4800	(719) 448-4800	<a href="http://www.csu.org">www.csu.org</a>
ConocoPhillips - UT	(281) 293-1000	(435) 613-2905	<a href="http://www.conocophillips.com">www.conocophillips.com</a>
Contango Resources - Midwest	(307) 437-9500	(307) 437-9500	<a href="http://www.contango.com">www.contango.com</a>
Contango Resources - Monell	(307) 437-9500	(307) 437-9500	<a href="http://www.contango.com">www.contango.com</a>
Continuum Midstream, LLC	(877) 587-0026	(806) 278-8266	<a href="http://www.conocophillips.com">www.conocophillips.com</a>
Cowboy Midstream LLC	(307) 337-1412	(307) 337-1412	<a href="http://www.cowboymidstreamllc.com">www.cowboymidstreamllc.com</a>
CPN Pipeline Company	(877) 432-5555	(707) 374-1505	<a href="http://www.calpine.com">www.calpine.com</a>
Crestwood Dakota Pipeline, LLC	(866) 234-7473	(701) 859-5001	<a href="http://www.crestwoodlp.com">www.crestwoodlp.com</a>
Crooks Municipal Utilities	(605) 359-2371	(605) 543-5238	<a href="http://www.cityofcrooks.net">www.cityofcrooks.net</a>
Dakota Access, LLC - ND	(800) 753-5531	(701) 495-6639	<a href="http://www.energytransfer.com">www.energytransfer.com</a>
Dakota Access, LLC - SD	(800) 753-5531	(713) 375-1652	<a href="http://www.energytransfer.com">www.energytransfer.com</a>
Dakota Gasification Company	(866) 747-3546	(701) 880-1129	<a href="http://www.dakotagas.com/Gas_Pipeline">www.dakotagas.com/Gas_Pipeline</a>
Dakota Natural Gas LLC	(888) 933-9743	(507) 209-2100	<a href="http://www.dakotaturalgas.com">www.dakotaturalgas.com</a>
Denbury Onshore, LLC	(888) 651-7647	(972) 673-2000	<a href="http://www.denbury.com">www.denbury.com</a>
Dick Brown Technical Services	(888) 764-5147	(707) 249-8333	<a href="http://www.dbts.com">www.dbts.com</a>
Divide Creek Gathering LLC	(844) 663-0191	(281) 664-6839	<a href="http://www.sginterests.com">www.sginterests.com</a>

• If you would like any additional information from a pipeline member, call or visit the links above.

COMPAÑÍA	EMERGENCIA	NO EMERGENCIA	DIRECCIÓN DE INTERNET
Dominion Energy Idaho	(800) 767-1689	(801) 324-5000	<a href="http://www.dominionenergy.com">www.dominionenergy.com</a>
Dominion Energy Utah	(800) 767-1689	(801) 324-5000	<a href="http://www.dominionenergy.com">www.dominionenergy.com</a>
Dominion Energy Wyoming	(800) 767-1689	(801) 324-5000	<a href="http://www.dominionenergy.com">www.dominionenergy.com</a>
E&B Natural Resources - Kern	(661) 392-7575	(661) 387-8500	<a href="http://www.ebresources.com">www.ebresources.com</a>
E&B Natural Resources - LA - HBOC	(310) 286-9114	(661) 387-8500	<a href="http://www.ebresources.com">www.ebresources.com</a>
E&B Natural Resources - LA - Murphy	(800) 926-6370	(661) 387-8500	<a href="http://www.ebresources.com">www.ebresources.com</a>
E&B Natural Resources - LA - Packard	(424) 702-1017	(661) 387-8500	<a href="http://www.ebresources.com">www.ebresources.com</a>
E&B Natural Resources - LA - San Vicente	(424) 702-1018	(661) 387-8500	<a href="http://www.ebresources.com">www.ebresources.com</a>
East Cheyenne Gas Storage	(888) 763-3690	(303) 763-2950	<a href="http://www.tallgrassenergy.com">www.tallgrassenergy.com</a>
El Paso Natural Gas - CO and NM	(800) 334-8047	(713) 420-5433	<a href="http://www.kindermorgan.com">www.kindermorgan.com</a>
Elk Hills Power, LLC	(661) 763-6911	(661) 763-6363	<a href="http://www.crc.com">www.crc.com</a>
Enable Bakken Crude Services	(701) 842-6916	(800) 829-9922	<a href="http://www.enablemidstream.com">www.enablemidstream.com</a>
Enbridge - Express Pipeline	(800) 794-3827	(800) 700-8666	<a href="http://www.enbridge.com">www.enbridge.com</a>
Enbridge Energy	(800) 858-5253	(715) 394-1451	<a href="http://www.enbridgeus.com">www.enbridgeus.com</a>
Enbridge Pipelines (North Dakota) LLC	(800) 858-5253	(701) 857-0800	<a href="http://www.enbridge.com">www.enbridge.com</a>
Energy Operations Management Inc	(877) 723-3344	(916) 859-4700	<a href="http://www.enablemidstream.com">www.enablemidstream.com</a>
Energy Operations Management Nevada LLC	(877) 723-3344	(916) 859-4700	<a href="http://www.enbridge.com">www.enbridge.com</a>
Energy West Montana	(800) 570-5688	(406) 791-7500	<a href="http://www.egas.net">www.egas.net</a>
Enterprise - Jonah Gas Gathering	(800) 203-1347	(307) 360-6552	<a href="http://www.enterpriseproducts.com">www.enterpriseproducts.com</a>
Enterprise - Mid America Pipeline - CO, UT, WY	(888) 883-6308	(970) 263-3015	<a href="http://www.enterpriseproducts.com">www.enterpriseproducts.com</a>
Enterprise Products - CO	(800) 546-3482	(713) 381-2802	<a href="http://www.enterpriseproducts.com">www.enterpriseproducts.com</a>
Enterprise Products - Piceance Gas Gathering	(888) 883-6308	(888) 806-8152	<a href="http://www.enterpriseproducts.com">www.enterpriseproducts.com</a>
EOG Resources - CO and WY	(307) 266-7406	(970) 895-2247	<a href="http://www.eogresources.com">www.eogresources.com</a>
EOG Resources - ND	(866) 994-4775	(701) 628-1635	<a href="http://www.eogresources.com">www.eogresources.com</a>
EOG Resources - OK	(800) 225-8314	(405) 246-3100	<a href="http://www.eogresources.com">www.eogresources.com</a>
Everline	(661) 742-2599	(661) 742-2599	<a href="http://www.bkrenewablefuels.com">www.bkrenewablefuels.com</a>
ExxonMobil Pipeline Company - MT	(800) 537-5200	(406) 657-5400	<a href="http://www.exxonmobil.com">www.exxonmobil.com</a>
ExxonMobil Production	(307) 276-6000	(307) 276-6238	<a href="http://www.exxonmobil.com">www.exxonmobil.com</a>
Fountain Valley Power LLC	(303) 594-2655	(303) 922-0630	<a href="http://www.southwestgen.com">www.southwestgen.com</a>
Freeport-McMoRan Oil & Gas	(805) 739-9111	(805) 934-8288	<a href="http://www.fcx.com">www.fcx.com</a>
Front Range Pipeline, LLC	(800) 421-4122	(406) 628-5443	<a href="http://www.chspipelines.com">www.chspipelines.com</a>
Frontier Field Services	(800) 503-5545	(575) 676-3528	<a href="http://www.durangomidstream.com">www.durangomidstream.com</a>
Garretson Natural Gas	(605) 594-6723	(605) 594-6723	<a href="http://www.garretsonsd.com">www.garretsonsd.com</a>
Genesis Alkali LLC	(307) 875-8150	(307) 872-2131	<a href="http://www.alkali.tronox.com">www.alkali.tronox.com</a>
Georgia-Pacific - Camas Paper	(360) 834-8414	(360) 834-3021	<a href="http://www.gp.com">www.gp.com</a>
Grayson Mill Energy LLC	(833) 463-6749	(832) 271-8050	<a href="http://www.graysonmillenergy.com">www.graysonmillenergy.com</a>
Great Plains Natural Gas Company	(877) 267-4764	(701) 222-7655	<a href="http://www.gpng.com">www.gpng.com</a>
Grove Municipal Service Authority	(918) 801-5404	(918) 786-6107	<a href="http://www.cityofgrove.com">www.cityofgrove.com</a>
Harlan Municipal Utilities	(712) 755-5182	(712) 733-0026	<a href="http://www.harlannt.com">www.harlannt.com</a>
Havre Pipeline Company LLC	(406) 357-2233	(406) 357-3643	<a href="http://www.gp.com">www.gp.com</a>
Hawaii Electric Light Co.	(808) 969-0413	(808) 969-6999	<a href="http://www.hawaiielectriclight.com">www.hawaiielectriclight.com</a>
Hawaii Gas	(808) 526-0066	(808) 535-5933	<a href="http://www.hawaiiigas.com">www.hawaiiigas.com</a>
Hawaiian Electric Company, Inc	(808) 543-7685	(808) 548-7311	<a href="http://www.hawaiianelectric.com">www.hawaiianelectric.com</a>
Hess Corporation	(800) 406-1697	(701) 664-6200	<a href="http://www.hess.com">www.hess.com</a>
Hildale - Colorado City Gas Department	(435) 467-1160	(435) 874-1160	
Holly Energy Partners	(877) 748-4464	(214) 954-3998	<a href="http://www.hollyenergy.com">www.hollyenergy.com</a>
Humboldt Municipal Gas Utility	(888) 320-1490	(605) 661-5268	<a href="http://www.humboldtmsd.com">www.humboldtmsd.com</a>
Intermountain Gas Company	(877) 777-7442	(877) 777-7442	<a href="http://www.intgas.com">www.intgas.com</a>
Island Energy Services	(808) 682-4711	(808) 682-2227	<a href="http://www.islandenergyservices.com">www.islandenergyservices.com</a>
Jackalope Gas Gathering Services, LLC	(866) 234-7473	(817) 339-5570	<a href="http://www.crestwoodlp.com">www.crestwoodlp.com</a>
Jayhawk Pipeline	(888) 542-9575	(855) 424-7747	<a href="http://www.chspipelines.com">www.chspipelines.com</a>
KB Pipeline	(800) 433-0252	(800) 433-0252	<a href="http://www.portlandgeneral.com">www.portlandgeneral.com</a>
Kern River Gas Transmission Company	(800) 272-4817	(800) 420-7500	<a href="http://www.kernrivergas.com">www.kernrivergas.com</a>
Kinder Morgan Altamont	(435) 454-3927	(800) 276-9927	<a href="http://www.kindermorgan.com">www.kindermorgan.com</a>
Kinder Morgan CO2 Company, LP	(877) 390-8640	(325) 573-3105	<a href="http://www.kindermorgan.com">www.kindermorgan.com</a>
Kinder Morgan Double H Pipeline	(877) 977-2078	(307) 686-8288	<a href="http://www.kindermorgan.com">www.kindermorgan.com</a>
Legacy Reserves Operating LP	(307) 527-2873	(307) 587-7232	<a href="http://www.legacylp.com">www.legacylp.com</a>
Liberty Midstream Solutions	(701) 664-3035	(303) 886-7046	<a href="http://www.libertyresourcesllc.com">www.libertyresourcesllc.com</a>
Liberty Utilities	(855) 644-8134	(855) 872-3242	<a href="http://www.libertyutilities.com">www.libertyutilities.com</a>
Linde Inc	(800) 926-9620	(801) 359-8629	<a href="http://www.linde.com">www.linde.com</a>
Lost Creek Gathering Company	(877) 534-4117	(307) 328-2833	<a href="http://www.kindermorgan.com">www.kindermorgan.com</a>
Lumen Midstream Partners - KS	(316) 542-0395	(316) 542-0395	<a href="http://www.durangomidstream.com">www.durangomidstream.com</a>
Macpherson Oil Company	(661) 448-5200	(661) 448-5200	<a href="http://www.macphersonenergy.com">www.macphersonenergy.com</a>
Magellan Midstream Partners LP - ND	(800) 720-2417	(701) 282-7134	<a href="http://www.magellanlp.com">www.magellanlp.com</a>
Magellan Midstream Partners LP - WY and SD	(800) 720-2417	(918) 574-7000	<a href="http://www.magellanlp.com">www.magellanlp.com</a>

• Si quisiera más información sobre un miembro de tubería, llame o visite los enlaces arriba.

# PIPELINE OPERATOR CONTACT DIRECTORY

Company	EMERGENCY	NON-EMERGENCY	WEB ADDRESS
Marathon Pipe Line - Northwest Products	(833) 675-1234	(855) 888-8056	<a href="http://www.marathonpipeline.com">www.marathonpipeline.com</a>
Marathon Pipe Line - Salt Lake and Core	(833) 675-1234	(855) 888-8056	<a href="http://www.marathonpipeline.com">www.marathonpipeline.com</a>
Matrix Oil Corporation	(805) 586-0674	(805) 798-3592	<a href="http://www.matrixoil.com">www.matrixoil.com</a>
Mid American Energy Company	(800) 595-5325	(888) 427-5632	<a href="http://www.midamericanenergy.com">www.midamericanenergy.com</a>
Midstream Energy Partners	(866) 295-2176	(661) 765-4087	<a href="http://www.magellanlp.com">www.magellanlp.com</a>
Midwest Energy Inc.	(800) 222-3121	(800) 222-3121	<a href="http://www.mwenergy.com">www.mwenergy.com</a>
MIGC	(307) 682-9710	(970) 515-1901	<a href="http://www.migc.com">www.migc.com</a>
Montana Dakota Utilities Company	(800) 638-3278	(701) 222-7655	<a href="http://www.montana-dakota.com">www.montana-dakota.com</a>
Mountain Gas Resources, Inc.	(307) 870-2859	(307) 212-3461	<a href="http://www.westernmidstream.com">www.westernmidstream.com</a>
MountainWest Pipeline	(800) 300-2025	(801) 201-5062	<a href="http://www.questarpipeline.com/">www.questarpipeline.com/</a>
MPLX - Andeavor Field Services - CO and UT	(800) 340-3482	(800) 840-3482	<a href="http://www.marathonpetroleum.com">www.marathonpetroleum.com</a>
MPLX - Andeavor Field Services - ND and MT	(866) 283-7676	(800) 840-3482	<a href="http://www.marathonpetroleum.com">www.marathonpetroleum.com</a>
MPLX - Andeavor Field Services - WY	(800) 840-3482	(800) 840-3482	<a href="http://www.marathonpetroleum.com">www.marathonpetroleum.com</a>
Naftex Operating Company	(661) 363-8801	(661) 809-4956	<a href="http://www.montana-dakota.com">www.montana-dakota.com</a>
Natural Gas Pipeline Co of America - IA	(866) 775-5791	(800) 276-9927	<a href="http://www.kindermorgan.com">www.kindermorgan.com</a>
NEOKC Pipeline, LLC	(405) 239-6001	(405) 239-6001	<a href="http://www.marathonpetroleum.com">www.marathonpetroleum.com</a>
Nephi City Gas	(435) 623-0822	(435) 623-0822	<a href="http://www.nephi.utah.gov">www.nephi.utah.gov</a>
Nesson Gathering System LLC	(701) 664-3139	(701) 664-3139	<a href="http://www.xtoenergy.com">www.xtoenergy.com</a>
Northern California Power Agency	(888) 764-5147	(888) 764-5147	<a href="http://www.ncpa.com">www.ncpa.com</a>
Northern Natural Gas - IA	(888) 367-6671	(888) 689-5175	<a href="http://www.northernnaturalgas.com">www.northernnaturalgas.com</a>
Northern Natural Gas - SD	(888) 367-6671	(888) 689-5175	<a href="http://www.northernnaturalgas.com">www.northernnaturalgas.com</a>
NorthWestern Energy - MT	(888) 467-2669	(406) 497-2446	<a href="http://www.northwesternenergy.com">www.northwesternenergy.com</a>
NorthWestern Energy - NE and SD	(800) 245-6977	(406) 497-2446	<a href="http://www.northwesternenergy.com">www.northwesternenergy.com</a>
NuStar Logistics, L.P.	(800) 481-0038	(361) 290-0604	<a href="http://www.nustarenergy.com">www.nustarenergy.com</a>
NuStar Pipeline Operating Partnership L.P.	(800) 759-0033	(316) 721-7068	<a href="http://www.nustarenergy.com">www.nustarenergy.com</a>
NW Natural	(800) 882-3377	(503) 610-7639	<a href="http://www.nwnatural.com">www.nwnatural.com</a>
ONEOK - North System	(888) 844-5658	(918) 732-1451	<a href="http://www.oneok.com">www.oneok.com</a>
ONEOK Fort Union Gas Gathering	(866) 575-6465	(307) 687-3103	<a href="http://www.oneok.com">www.oneok.com</a>
ONEOK NGL Pipeline, L.L.C.	(855) 348-7258	(855) 689-1298	<a href="http://www.oneok.com">www.oneok.com</a>
ONEOK Rockies Midstream	(800) 778-7834	(406) 433-3664	<a href="http://www.oneok.com">www.oneok.com</a>
ONEOK Rockies Midstream - Wyoming	(866) 575-6465	(307) 687-3103	<a href="http://www.oneok.com">www.oneok.com</a>
ONEOK Viking Gas Transmission	(888) 417-6275	(218) 745-5082	<a href="http://www.vgt.nborder.com">www.vgt.nborder.com</a>
Overland Pass Pipeline Company	(800) 635-7400	(307) 872-2833	<a href="http://www.williams.com/overlandpass/">www.williams.com/overlandpass/</a>
Pacific Gas and Electric Company	(800) 743-5000	(800) 743-5000	<a href="http://www.pge.com/pipelinesafety">www.pge.com/pipelinesafety</a>
Paradigm Midstream	(800) 514-3624	(214) 389-8168	<a href="http://www.paradigmstream.com">www.paradigmstream.com</a>
Paradox Midstream	(435) 587-2237	(970) 529-3419	<a href="http://www.paradoxresources.com">www.paradoxresources.com</a>
Paradox Resources	(866) 774-8385	(435) 686-7600	<a href="http://www.paradoxresources.com">www.paradoxresources.com</a>
Pecan Pipeline Company - ND	(866) 899-2626	(701) 628-1635	<a href="http://www.pecanpipeline.com">www.pecanpipeline.com</a>
Pembina Cochin Pipeline - IA	(800) 360-4706	(713) 369-9000	<a href="http://www.pembina.com">www.pembina.com</a>
Pembina Cochin Pipeline - ND	(800) 360-4706	(701) 252-9013	<a href="http://www.pembina.com">www.pembina.com</a>
Petro - Hunt, LLC	(701) 863-6500	(701) 863-6500	<a href="http://www.petrohunt.com">www.petrohunt.com</a>
Phillips Pipe Line Co - WY and MT	(877) 267-2290	(406) 441-4749	<a href="http://www.phillips66.com">www.phillips66.com</a>
Pinedale Natural Gas, Inc.	(307) 367-4427	(970) 928-9208	<a href="http://www.pinedalegas.com">www.pinedalegas.com</a>
Pioneer Pipeline / Phillips 66	(877) 267-2290	(406) 441-4749	<a href="http://www.phillips66.com">www.phillips66.com</a>
Plains Pipeline, L.P.	(800) 708-5071	(713) 993-5098	<a href="http://www.plainsallamerican.com">www.plainsallamerican.com</a>
Platte Pipeline - Enbridge	(800) 794-3827	(800) 700-8666	<a href="http://www.enbridge.com">www.enbridge.com</a>
Platte River Power Authority	(970) 229-1733	(970) 226-4000	<a href="http://www.prpa.org">www.prpa.org</a>
Prospector Pipeline Company	(877) 723-3344	(916) 859-4700	<a href="http://www.pembina.com">www.pembina.com</a>
Puget Sound Energy	(888) 225-5773	(888) 225-5773	<a href="http://www.pse.com">www.pse.com</a>
Red Cedar Gathering Company	(970) 382-0828	(970) 764-6900	<a href="http://www.redcedargathering.com">www.redcedargathering.com</a>
Redding Electric Utilities	(530) 245-7009	(210) 540-4703	<a href="http://www.reupower.com">www.reupower.com</a>
Ringwood Gathering Company	(800) 967-8493	(580) 438-2345	<a href="http://www.ringwoodgathering.com">www.ringwoodgathering.com</a>
Roaring Fork Midstream, LLC	(877) 375-0488	(720) 923-5593	<a href="http://www.roaringforkmidstream.com">www.roaringforkmidstream.com</a>
Running Horse Pipeline, LLC	(800) 889-7437	(928) 871-4880	<a href="http://www.nnpgc.com">www.nnpgc.com</a>
San Diego Gas & Electric	(888) 611-7343	(800) 411-7343	<a href="http://www.sdge.com">www.sdge.com</a>
San Pedro Bay Pipeline C/O Beta Offshore	(562) 606-5711	(562) 628-1534	<a href="http://www.amplifyenergy.com">www.amplifyenergy.com</a>
Savage Bakken Connector, Inc	(701) 774-9316	(701) 774-9311	<a href="http://www.savageservices.com">www.savageservices.com</a>
Sentinel Peak Resources	(661) 324-6571	(661) 809-9451	<a href="http://www.sentinelpeakresources.com">www.sentinelpeakresources.com</a>
Signature Flight Support	(808) 836-1830	(808) 226-3981	<a href="http://www.signatureflight.com">www.signatureflight.com</a>
Silicon Valley Power	(408) 615-6550	(408) 615-5606	<a href="http://www.siliconvalleypower.com">www.siliconvalleypower.com</a>
Silver Creek Midstream Holdings	(866) 628-1693	(469) 614-2257	<a href="http://www.scmidstream.com">www.scmidstream.com</a>
Sinclair Pipeline Company	(800) 321-3994	(307) 328-3553	<a href="http://www.sinclairoil.com/pipelines.html">www.sinclairoil.com/pipelines.html</a>
SoCal Holdings, LLC / LA Basin	(562) 624-3452	(562) 624-3400	<a href="http://www.crc.com">www.crc.com</a>
South Dakota Intrastate Pipeline Co.	(800) 852-0949	(605) 224-0949	<a href="http://www.sdipco.com">www.sdipco.com</a>
Southern California Gas Company	(800) 427-2200	(800) 427-2200	<a href="http://www.socalgas.com">www.socalgas.com</a>
Southern Star Central Gas Pipeline	(800) 324-9696	(888) 885-6008	<a href="http://www.southernstar.com">www.southernstar.com</a>

• If you would like any additional information from a pipeline member, call or visit the links above.



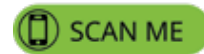
COMPañÍA	EMERGENCIA	NO EMERGENCIA	DIRECCIÓN DE INTERNET
Southwest Gas	(877) 860-6020	(877) 860-6020	www.swgas.com
Spire	(800) 887-4173	(205) 326-2680	www.spireenergy.com
St. Croix Gas	(715) 425-6177	(715) 425-6177	www.stcroixgas.com
Sterling Energy Investments LLC	(877) 838-9381	(720) 881-7100	www.sterlingenergy.us
Summit Midstream	(888) 643-7929	(970) 858-3425	www.summitmidstream.com
Suncor Energy (U.S.A.) Pipeline Company	(866) 978-6267	(307) 775-8106	www.suncor.com
Tallgrass Cheyenne Connector	(877) 436-2253	(303) 763-2950	www.tallgrassenergy.com
Tallgrass Interstate Gas Transmission	(888) 763-3690	(303) 763-2950	www.tallgrassenergy.com
Tallgrass Midstream - Powder River Gathering	(307) 687-9691	(303) 763-2950	www.tallgrassenergy.com
Tallgrass Midstream - Redtail NGL Pipeline	(888) 763-3690	(303) 763-2950	www.tallgrassenergy.com
Tallgrass Midstream - Wind River Gathering	(888) 763-3690	(303) 763-2950	www.tallgrassenergy.com
Tallgrass Pony Express Pipeline	(855) 220-1762	(303) 763-2950	www.tallgrassenergy.com
Tallgrass Powder River Gateway	(855) 220-1762	(303) 763-2950	www.tallgrassenergy.com
Tallgrass Rockies Express Pipeline	(877) 436-2253	(303) 763-2950	www.tallgrassenergy.com
Tallgrass Ruby Pipeline	(888) 763-3690	(303) 763-2950	www.tallgrassenergy.com
Tallgrass Trailblazer Pipeline	(866) 299-3050	(303) 763-2950	www.tallgrassenergy.com
Targa Badlands LLC	(866) 957-3133	(701) 842-3315	www.targaresources.com
Targa Northern Delaware LLC	(575) 748-4555	(575) 748-4555	www.targaresources.com
TC Energy - Bison Pipeline	(800) 447-8066	(855) 458-6715	https://www.tcenergy.com/sustainability/safety/l
TC Energy - Gas Transmission Northwest	(800) 447-8066	(855) 458-6715	https://www.tcenergy.com/sustainability/safety/
TC Energy - Keystone Pipeline	(866) 920-0007	(855) 458-6715	https://www.tcenergy.com/sustainability/safety/
TC Energy - Northern Border Pipeline Co	(800) 447-8066	(855) 458-6715	https://www.tcenergy.com/sustainability/safety/
TC Energy - Tuscarora Gas Transmission	(800) 447-8066	(855) 458-6715	https://www.tcenergy.com/sustainability/safety/
THUMS Long Beach Company	(562) 624-3452	(562) 624-3400	www.crc.com
Thunder Basin Pipeline LLC	(877) 478-7588	(850) 324-5453	www.slateenergy.com
Tidelands Oil Production Company	(562) 624-3452	(562) 624-3400	www.crc.com
Tidewater Terminal Company	(800) 562-1607	(360) 693-1491	www.tidewater.com
Timberland Gathering & Processing Inc.	(620) 624-3868	(620) 624-3868	www.timberlandgathering.com
Town of Aguilar	(719) 941-4360	(719) 941-4360	www.aguilarco.us
TransColorado Gas Transmission Co.	(800) 944-4817	(800) 276-9927	www.kindermorgan.com/public_awareness
UNEV Pipeline LLC	(877) 748-4464	(307) 328-3553	www.hollyenergy.com
United States Gypsum Company	(866) 650-6005	(503) 556-4360	www.usg.com
Urban Oil & Gas	(435) 820-9801	(435) 636-2400	www.urbanoilandgas.com
Utah Associated Municipal Power Systems	(801) 925-4008	(801) 925-4012	www.uamps.com
Utah Gas Corp	(970) 675-4482	(970) 675-4400	www.utahgascorp.com
Vantage Pipeline US LP	(800) 360-4706	(888) 428-3222	www.pembina.com
Vermont Gas Systems	(800) 639-8081	(802) 863-4511	www.vermontgas.com
Walden Gas	(970) 723-4662	(970) 928-9208	www.pinedalegas.com
Wamsutter Pipeline LLC	(307) 870-2859	(307) 212-3461	www.westernmidstream.com
Watertown Municipal Utilities	(605) 882-6233	(605) 882-6233	www.watertownsd.us
WBI Energy	(888) 859-7291	(406) 359-7316	www.wbienergy.com
Western Midstream - Colorado	(866) 504-8184	(303) 775-8965	www.westernmidstream.com
Western Midstream - Utah	(435) 781-7039	(435) 781-9733	www.westernmidstream.com
Western Midstream - Wyoming	(307) 682-9710	(307) 696-4747	www.westernmidstream.com
Westfield Gas & Electric	(413) 572-0000	(413) 572-0100	www.wgeld.org
White River Hub LLC	(800) 558-1913	(307) 352-7690	www.whiteriverhub.com
Wickland Pipelines LLC	(916) 978-2477	(916) 978-2480	www.wicklandpipelines.com
Williams Midstream - Northwest CO	(800) 635-7400	(970) 285-5512	www.williams.com
Williams Midstream - Wyoming	(800) 635-7400	(307) 872-2839	www.williams.com
Williams NW Pipeline - Eastern WA Dist.	(800) 972-7733	(509) 466-6650	www.williams.com
Williams NW Pipeline - Intermountain Dist.	(800) 972-7733	(208) 884-4300	www.williams.com
Williams NW Pipeline - Portland Dist.	(800) 972-7733	(770) 507-4203	www.williams.com
Williams NW Pipeline - Seattle Dist.	(800) 972-7733	(425) 836-4950	www.williams.com
Williams NW Pipeline - Uinta Dist.	(800) 972-7733	(435) 781-3200	www.williams.com
Williams Rocky Mountain Midstream	(877) 624-7183	(918) 573-7409	www.williams.com
Woodbine Municipal Natural Gas System	(712) 644-2537	(712) 647-2550	www.woodbineia.com
Wyoming Gas Company	(307) 347-2416	(307) 335-3597	www.wyogas.com
Xcel Energy, NSP - Minnesota	(800) 895-2999	(800) 895-4999	www.xcelenergy.com
Xcel Energy, NSP - Wisconsin	(800) 895-2999	(800) 895-4999	www.xcelenergy.com
Xcel Energy, PSCo - Gas Distribution	(800) 895-2999	(800) 895-4999	www.xcelenergy.com
Xcel Energy, PSCo - Gas Transmission	(800) 698-7811	(800) 895-4999	www.xcelenergy.com
Xcel Energy, SPS	(800) 895-2999	(800) 895-4999	www.xcelenergy.com
XTO Energy - New Mexico	(575) 887-7329	(885) 218-2705	www.xtoenergy.com
XTO Energy - Oklahoma	(918) 423-0366	(580) 653-3200	www.xtoenergy.com
XTO Energy - West TX	(877) 311-1007	(806) 592-2939	www.xtoenergy.com

• Si quisiera más información sobre un miembro de tubería, llame o visite los enlaces arriba.

# Resources for Excavators



Visit our website for additional training tools and resources!  
[pipelineawareness.org/excavator-resources](https://pipelineawareness.org/excavator-resources)



## CGA Best Practices

The CGA Best Practices Guide is the original industry resource for ensuring the safety of those who work or live near underground facilities. The Best Practices manual includes more than 130 practices that cover all phases of the 811 process, agreed to by 16 stakeholder groups.

## CGA Videos and Training Resources

The damage prevention industry has many moving parts. Each stakeholder plays an important role in making the 811 process work effectively. If everyone involved works to make their area of responsibility more efficient, the entire 811 system will be able to function like a well-oiled machine. These videos and materials provide important tips for excavators when using 811.

## 49 CRF Part 196 - Protection of Underground Pipelines from Excavation Activity

This Federal Regulation prescribes the minimum requirements that excavators must follow to protect underground pipelines from excavation-related damage. It also establishes an enforcement process for violations of these requirements.

## CGA DIRT Report

The DIRT Annual Report is based on data entered into the Damage Information Reporting Tool (DIRT) for a given year and is published in written form and as an interactive dashboard. The latest report included analysis of over 500,000 damages and near-miss events.

# Provide Feedback / Request Information

How useful, to you, is the content contained in this edition?

- Extremely     Very     Somewhat     Not at all

Additional topics I'd like to see included in the Excavation Safety Guide are:

---

---

## INFORMATION REQUEST FORM

Please complete the form below to request additional information from Pipeline Companies. Your request will be forwarded to all Pipeline Member Companies operating facilities in your State/County. Please print the information clearly in each field. All fields must be completed to process information requests.

Organization Name:

---

State & County:

---

Contact Person:

---

Contact Email:

---

Contact Phone:

---

Request:

---

---

---

After completing this form, scan or snap a pic and email it to [info@pipelineawareness.org](mailto:info@pipelineawareness.org). This form may also be accessed online at <https://pipelineawareness.org/request-info> or by scanning the QR code on this page.



SCAN ME

Follow us on  
social media



Pipeline Association  
*for* Public Awareness





# FREE PIPELINE SAFETY TOOLBOX TALK!



SCAN ME

Looking for safety meeting topics?  
We've done the prep work for you!  
Share this pipeline safety information  
with your team to protect your  
workforce and your community.

Pipeline Association  
for Public Awareness

811

## TOOLBOX TALK: PIPELINE SAFETY

### Pipelines and Excavation: What you need to know to work safely

- The energy transportation network of the United States consists of more than 2.5 million miles of pipelines. That's enough to circle the earth about 100 times.
- Pipelines can contain hazardous gas and liquids and are operated at high pressures. Although they do not pose a risk to the public and crews while safely moving their products under the ground, excavation and other types of disturbances like moving heavy loads over the pipelines, can have severe consequences, especially if these products are ignited. Escaping gases can also displace oxygen.
- You can protect yourself and the public by avoiding damages to buried pipelines.

#### 4 STEPS TO SAFE DIGGING

**CALL OR CLICK BEFORE YOU DIG**  
It's not only a best practice, but it's also the law! Call 811 or contact your local one call center to have pipelines and underground utilities marked. Many states now have online ticket options.

**WAIT THE REQUIRED AMOUNT OF TIME**  
Generally, 2-3 business days, depending on state requirements.  
Inspect the marks and ensure that all operators on the ticket have responded.

**RESPECT THE MARKS**  
Underground utilities should be marked with permanent signage and/or temporary paint and flags. Markings are an approximate location of the facility, verify the state's tolerance zone and hand dig near the marks.

**EXCAVATE WITH CARE**  
Pothole or hand dig to determine exact location of pipelines. Support and protect any exposed facilities. Follow any specific instructions provided by the pipeline company.

#### PIPELINE EMERGENCIES

**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 a pipeline are all signs of a leak and should be treated as an emergency.

**How to Respond in a Pipeline Emergency:** Immediately leave the area while avoiding any action that may cause ignition. Abandon all equipment and get a safe distance away upwind. Call 911 and then immediately notify the pipeline company. Keep others away and wait for emergency officials to arrive. Stay upwind, do not attempt to repair the damaged facility, and do not attempt to operate pipeline valves or extinguish any pipeline fires.

**Always Report Damage:** Even a minor scrape, nick, cut, tear, break or dent needs to be reported to the facility owner immediately. This includes pipe coating and tracer wires, which are critical to protecting facilities.

SCAN ME

Download a digital copy of our Excavation Safety Guide.