

ISSUE
NUMBER
EIGHT

Excavation **SAFETY**



**Special
PASA Edition!**
Exclusive
Agricultural Content

GUIDE & DIRECTORY™

A close-up photograph of a yellow excavator's arm and bucket, positioned in a field. The excavator is the central focus, with its hydraulic arm and bucket extending across the frame. The background shows a vast, open field under a clear sky, with some green vegetation in the distance. The overall scene is brightly lit, suggesting a sunny day.

Farm & Ranch

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



America's 2.6 million miles of natural gas and hazardous liquid transportation pipelines¹ combined with our nation's 3.4 million producers leads to a lot of digging over millions of miles of infrastructure.² The farming revolution that began in the 1800s transformed life in America and is the foundation that has allowed the United States to feed millions every year. The energy revolution today provides an opportunity to access previously untapped natural resources that transform the way we live our lives. The safest way to transport energy is through America's growing network of infrastructure. Becoming aware of this network, identifying utility markers in and around the dig area, completing a pre-excavation checklist, and maintaining awareness of emergency response procedures are some of the ways we can prevent damages and protect our communities.

The Pipeline Ag Safety Alliance (PASA) works with the National Association of County Agricultural Agents to help keep our buried infrastructure, our environment, and America's farmers and ranchers safe. Pipeline companies perform regular maintenance on their systems to ensure safe operation, but unsafe digging practices pose a major risk. State laws require that any ground disturbing activities be preceded by a request to have underground utilities located. PASA and local extension professionals continue to work together to educate and inform the agricultural community on safe digging practices to help America's farmers and our pipeline systems grow safely together.

For information on gas transmission and hazardous liquid pipelines, liquefied natural gas plants, and breakout tanks, visit the National Pipeline Mapping System (NPMS) at npms.phmsa.dot.gov.

Note the Public Map Viewer must not be used to identify exact locations of pipelines or as a substitute for contacting the appropriate One Call system or pipeline operator prior to excavation activities. 

¹ Pipeline and Hazardous Materials Safety Administration

² 2017 U.S. Census of Agriculture



Pipeline Safety Guidelines

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.

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

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 U.S. One Call center listing along with the state laws and provisions, plus much more. Protecting the buried infrastructure is becoming more of a challenge every day and this guide will help you navigate through these challenges.

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WORKING SAFELY AROUND OVERHEAD LINES

BY

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Every year farmers are injured or killed in electricity-related accidents. According to the National Ag Safety Database, every year 62 farm workers in the United States are electrocuted. To raise an additional cause for concern, 3.6% of deaths among youth under 20 years-of-age are caused by electrocution.

The changing face of agriculture has raised the need for concern regarding electric safety. Equipment continues to get larger and taller. Grain spouts on combines are becoming longer to get past the headers. Chisels often span forty plus feet to cover many acres on a timely basis. Larger equipment raises the risk for increased electrical line awareness. Accidents with electrical lines can happen any time of the day, but working in the dark or in low light can increase the potential for contact with electrical lines.

If the piece of equipment you are operating makes contact with an overhead electrical line, there are things the equipment operator should do:

- Remain in the vehicle.
- Warn others in the surrounding area to stay away.
- Call 911 and wait for emergency professionals or utility works to say it's safe to exit.

- In case of fire, jump out and clear and don't touch the equipment and ground simultaneously.
- Land with both feet together and keeping both feet on the ground, shuffle away in small steps to avoid shock or electrocution.

Another area of concern beyond electrocution while operating equipment includes coming into contact with overhead lines while outside of the equipment, on foot. Equipment and tools that have the greatest risk for coming in contact include ladders, irrigation pipes, and portable grain augers. Movement of these items should not be done in the dark or alone, as the potential for losing control is higher.

Reducing Risk

As an agricultural producer, you can reduce your risk of electrocution by:

- Always assuming all electric lines and electric equipment is energized. Never touch a power line.
- Be aware of the location of overhead power lines on your farm and choose a route for your equipment that avoids those lines.
- Avoid using ladders, portable augers, or irrigation equipment around power lines.

- When you are using a ladder, use fiberglass with non-conductive side rails, for example, near overhead power lines.
- Tools should be carried horizontally.
- Maintain 10 feet of clearance space between the power lines and your equipment. Contact your power company to determine the height of power lines on your farm.
- Review safety measures with all individuals working on your farm, whether full-time, part-time, voluntary, or family.
- Remember that even nonmetallic objects, such as tree limbs, ropes, and straw, can conduct electricity.
- Stay at least 30 feet away from downed electric lines and equipment.

Don't have an unfortunate planting or harvest season and become a farm accident statistic. Assessing your electrocution hazards around your farm and fields while developing a plan, may save a life this year. **ESG**

Article includes content abridged from the Electricity Means No Contact article from the 2022 PASA Farm & Ranch Excavation Safety Guide and data from the National Ag Safety Database.

IT HAPPENED TO HIM. IT COULD HAPPEN TO YOU.



Always **Contact 811** or **clickbeforeyoudig.com** before starting any drain tile project.

Watch online at **ThreeSecondsLater.org**



SCAN ME

Watch the award-winning, first-person account of a tragic drain tile accident and its impact on a close-knit community.

Install Farm Drain Lines Safely

BY KAPIL ARORA, FIELD AGRICULTURAL ENGINEER, IOWA STATE UNIVERSITY EXTENSION & OUTREACH



Tile plow install.



SUBSURFACE DRAINAGE SYSTEMS

are integral to farmland as they drain excess water from poorly drained soils. This excess water is conveyed by drain lines installed below the ground surface. Typically, a trencher or a plow is used to install drain lines. Drain lines are typically installed by excavating the soil to predetermined depths or by plowing them directly into the subsurface. During installation the equipment has the potential to contact buried utilities that may exist under the field.

Farmlands across the country have utility lines buried below the surface including natural gas, water, petroleum, electric, telecommunications, and several others. Utilities can run parallel to the road in a right-of-way or cut across a field.

Most aged drain lines in the Upper Midwest are getting upgraded by retrofitting or replacement while several farms are getting new systems installed. At the same time, the number of utilities crossing fields has increased as utility providers plan and build to meet increased demand. These buried utilities present challenges to the safe installation of new, or upgrades to existing, subsurface drainage systems.

Safely installing subsurface drainage when utilities are present takes more effort than a call to 811 before you start to install. Safety begins several months in advance when the system is designed.

The design of a subsurface drainage system typically consists of locating and sizing three main components: an outlet, a main line to convey water to the outlet, and laterals to collect water from the field and convey it to

the main line. Laterals are smaller than the main line and are installed across the field at known spacing and depth. The entire system functions by gravity to discharge the water through the outlet.

The location and size of the outlet, main line, and lateral can all be impacted by the presence of buried utilities. These issues are best addressed during the planning and design phase.

Outlet

The outlet is typically the starting point for planning and design. Its location is influenced by its ability to convey the drainage water to a stream, roadside ditch, or a neighbor's system. Where enough grade is not available in the field, an outlet may be placed at the stream bottom. Lower elevation placement of an outlet can become a hindrance if utilities are buried along the stream edge or roadside. In such cases, it may be beneficial to alter the elevation of the outlet or to move it to a different location that does not cross the buried utility line. In cases where outlet





locations are limited and moving it may not be feasible, working with the utility owner during the design phase to engineer a workable solution is an alternative.

Main Line

The main line is typically installed 5-8 feet below the surface but can be shallower or deeper depending upon field topography. Both the location and depth can be impacted if a buried utility, especially a pipeline, crosses the field. The presence of a pipeline marker is one indicator that a pipeline might cross the field.

It should not be assumed that pipelines are buried in a straight line from marker to marker. Markers merely indicate the approximate location of the utility. The potential exists that it is not installed in a straight line. It is essential that 811 be contacted during the planning phase to determine how the utility traverses the field. This information can be used when completing the drainage design. In some states, access to online utility maps for planning and design purposes is available through the One Call center.

Another factor to consider is the depth of the utility crossing the field. Excessive erosion of topsoil over time can cause significant

changes in elevation. Such elevation changes may not be obvious as tillage operations may cloak them. In these cases, it can be helpful to make elevation measurements with an accurate measuring device such as a global positioning system or a transit. Installation of a drain line can be nearly impossible if it is close to, or below, the pipeline depth. In such cases, it is helpful to plan a separate system on either side of the buried utility if multiple outlets are feasible. This minimizes crossing over or under the utility during drainage installation.

Working with the utility owner can help ensure crossovers or crossunders are properly engineered with no impact to buried lines. Engineers specializing in drainage designs can be employed to handle complicated issues and ensure safety and adequate drainage. Laterals can be planned in a similar manner.

Time lapse typically exists between planning and installation of a drainage system and can be significant if bottlenecks exist in neighbor relations or if specific county/drainage district approvals are needed. Any new utility line installations during this time lapse should be accounted for prior to installation of the drainage system.


811 should be contacted prior to installation to have utilities marked according to state law (usually 2-3 days). Utilities can require their presence if digging will take place within the tolerance zone or right-of-way. Tolerance

zones are areas around buried utilities where digging with mechanized equipment is prohibited by state law.

Laterals

Connecting laterals to the main line requires digging junction holes. Drain lines larger than 12-inch diameter are manufactured in fixed lengths and installation typically requires the digging of trenches to connect them. Outlet installations also require trenching or junction holes.

Trench safety can prevent personnel injuries or stuck equipment. Junction holes or trenches deeper than 4 feet may need to be widened at the top to prevent collapse. Check OSHA and local requirements as wall reinforcements may be needed depending upon the field conditions and the depth of excavation.

Planning a drainage system given the presence of pipelines may appear complicated but ignoring such details can result in significant time loss, damages, and potential injuries. Planning the drainage system by contacting 811 during the design phase can help minimize challenges during installation. Additional information about excavation safety can be obtained at PipelineAgSafetyAlliance.com or by contacting your state One Call center. 

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BY SHANE BRYAN, VP OSP ENG & CONSTRUCTION, RITTER COMMUNICATIONS

THE COST OF FIBER OPTIC

DAMAGE

I grew up on a small cattle farm in beautiful western Arkansas, less than one mile from the Ouachita National Forrest. It was a wonderful way to grow up, and I will forever be in debt to that wilderness for teaching me self-reliance, patience (mostly), and an appreciation for natural beauty. In all that time growing up on the farm, I do not think I ever heard my dad or older brother discuss calling 811 before digging post holes or widening a farm road. It just never occurred to us that there might be something in the ground we could damage.

Technology has come a long way since I was trapesing through those steep and rocky mountains, and fiber is what allows all those technological advances to continue the relentless march forward. Fiber optic infrastructure construction exploded over the last decade with more and more federal funding pouring into the industry to 'bridge the digital divide' but it is not over yet! Fiber is here to stay, and it is vital that ag professionals around the nation understand the impact of a cable damage.

So, how much will it cost if I mistakenly damage an underground fiber line?

The answer is, of course, complicated. There are two components to consider when identifying what that cost might total. The first is the physical repair costs associated with the damage, including troubleshooting (the time needed to find the damage), digging up the damaged piece of fiber cable, pulling up the slack (pulling enough fiber cable to your location from other



areas to splice together the broken fiber), and splicing. Depending on how many tiny, human-hair-sized, individual fibers are damaged the cost could be anywhere from \$2,500 to \$10,000 (costs will vary significantly across geographic areas) to do the initial repair. This is a large cost but only the tip of the iceberg.

We have all likely heard horror stories about enormous fiber optic damage bills which are due to revenue loss from the fiber owner. Depending on what fiber bundle is damaged,

damage. If that operator chooses to pursue reimbursement, it takes little time to add up to an astronomical bill.

So, how can you prevent damaging fiber optic lines in the first place?

The easiest and most consistent way to prevent damage is by contacting 811 (online or by calling 8-1-1) and scheduling a utility location of any existing lines you might encounter during work. Most fiber operators are members of the state One Call service and provide that

Now, what do you do if you damage an underground fiber optic cable?

The first thing is to try to figure out who the owner is and contact them. Sometimes the fiber jacket (the outer protective coating) of the fiber will have the operator's name printed on it, but not all do this. You can also try to locate an underground pedestal that would be cylindrical or rectangular in shape and might have the owner's name present. Nevertheless, if you cannot get ahold of them or identify them,

“THE EASIEST AND MOST CONSISTENT WAY TO PREVENT DAMAGE IS BY CONTACTING 811 (ONLINE OR BY CALLING 8-1-1) AND SCHEDULING A UTILITY LOCATION OF ANY EXISTING LINES YOU MIGHT ENCOUNTER DURING WORK. MOST FIBER OPERATORS ARE MEMBERS OF THE STATE ONE CALL SERVICE AND PROVIDE THAT GROUP WITH PROPRIETARY MAPS OF THEIR NETWORK TO ALLOW EASY IDENTIFICATION OF EXISTING UTILITIES.”




it could be carrying internet traffic for vast swaths of different parts of the nation, many of which are commercial customers. Those commercial customers could be your local grocery store, high school, or other fiber operators leasing bandwidth to service their customers. The more customers affected, the higher the cost to the operator that owns the fiber due to lost revenue and/or downtime penalties. In addition, consider nearly all cell towers in our nation are connected to a fiber optic backbone to carry the bulk of the phone and internet traffic, with countless customers that would be affected if those towers were taken offline due to

group with proprietary maps of their network to allow easy identification of existing utilities. Another way to help prevent damage is to contact your local fiber operator(s) and ask them to come and tell you if they are in the area you wish to excavate or dig. All operators will have operation teams that spend their time maintaining the network to keep customers online and will be delighted to discuss where their lines are located. Think about it, much better to prevent the damage from happening than needing to come out in the dark of night to make a repair. Keep in mind you should always contact 811 to have public utilities marked.

it will only be a matter of time before they are onsite. If that's the case, don't hesitate to explain the situation from your perspective.

Believe it or not, it is relatively rare for a fiber operator to pursue reimbursement from a member of the community. Normal etiquette usually wins the day in these situations, so be polite and realize that the operator just wants that fiber circuit back online regardless of how many customers are on it at any given time.

Fiber optics are here to stay, so remember to contact 811 before you dig! 

Pennsylvania's Underground Utility Line Protection Act (UULPA) describes a Complex Project as an excavation that (1) involves more than properly can be described in a single locate request or (2) any project designated as such by the excavator or facility owner as a consequence of its complexity or (3) its potential to cause significant disruption to lines or facilities and the public, (4) including excavations that require scheduling locates over an extended time frame.

An excavator is any person who performs excavation or demolition work for themselves or another person. In Pennsylvania, this work should begin with a design ticket being placed through Pennsylvania 811's Coordinate PA application. The information provided should cover the entire scope of the plan with enough detail to allow the facility owners to provide the approximate locations of their lines in the

proposed work area. This ticket will help the designer plan the work around existing underground utility lines as well.

In the agriculture industry, these projects may include land contour modifications, drain tile installation, subsoiling, deep ripping or deep plowing. According to RanchSafe811.org, farming accidents involving pipelines and utilities occur nearly three times every day.

In Pennsylvania, a single routine notification is defined as "1000' or intersection to intersection, whichever is greater, along the same street in the same political subdivision".

What do you do if your excavation project is larger than what can fit on a single routine notification or you have a situation with some complexity?

Complex Project notification is designed to get all stakeholders of the underground dig project, i.e. Project Owner, Designer, Facility Owner, and Excavator on the same page on large excavation projects. The complex project notification begins with the excavator reviewing their engineer/designer drawings or plans. During the job review process, the excavator is generally determining the amount of material and equipment needed to complete the job. In addition, they also are calculating the personnel needed for the project. This is the optimum time they should update the Coordinate PA project to place the complex project notification.

One of the requirements of a complex project notification is to have a complex project meeting. All stakeholders of the underground dig project, i.e. Project Owner, Designer, Facility Owner, and Excavator must attend the complex project meeting. The complex

CASE STUDY:

Pennsylvania's Complex Project Ticket Process Related to Agricultural Work





project notification requires 10 business days' notice. The excavator shall not enter a routine excavation notification prior to the pre-construction meeting.

At the meeting the excavator provides everyone with the entire scope of the project. In some cases, the project is divided into multiple phases. The basic idea is to get agreement on the scope of the project and develop a locate schedule that meets the needs of the excavator and isn't burdensome on the facility owner's locating personnel. The stakeholders attending the meeting must work together to reach a mutually beneficial agreement. This agreement is memorialized using the complex project meeting template provided in the Coordinate PA application and then uploaded to the project documents. The excavator can have the meeting at any location and time they choose, but the best place to have any pre-construction meeting is at the actual proposed dig site.

What happens if the excavator states on the complex project notification that a pre-construction meeting is not needed?

If all the facility owners agree that a meeting isn't necessary, then they will respond back to the notification that they agree, "No Meeting Required". If one of the facility owners disagrees, then that facility can respond that they would like to have a meeting. Since the facility owner is requesting the meeting, the facility owner needs to make contact with the excavator to set up the meeting time and place.

Once everyone has agreed with the locate schedule the excavator must generate routine notifications for the project. These routine notifications must follow the agreed upon locate schedule and scope from the meeting. Additional tickets shall be consistent with the agreement reached at the pre-construction meeting. Should the excavator change the scope of the project

or delay the start more than 90 days, a new pre-construction meeting shall be held.

Under the Underground Utility Line Protection Act aka PA One Call Law, a facility owner is required "to mark, stake, locate or otherwise provide the position of the facility owner's underground lines at the work site within eighteen inches horizontally from the outside wall of such line..." prior to excavation commencing. The facilities can be marked with tools such as flags, paint or whisksers. These marks help the excavator know where underground lines are located in the work site to allow for the excavation to occur without damage to the underground line or issue. **ESG**

For more information on your state's process, please contact your state's One Call center.

For more information on Pennsylvania's Complex Project Ticket Process contact a Pennsylvania 811 liaison or visit www.pa1call.org.

DIGGING DEEPER



BY EVAN WILSON, AGRICULTURE AND NATURAL RESOURCES EXTENSION AGENT, CABELL AND WAYNE COUNTIES, WEST VIRGINIA UNIVERSITY

The utilization and techniques of building fences have changed over the centuries from the earliest stonewalls and stacked split rail fences to t-posts, split rails, privacy fences and more, every day. As people move out to rural areas in a post-pandemic era, we are seeing an increase in agriculture on both the produce and livestock side. With this interest comes a necessity to set posts and build fences or improve existing fence lines. By following safe digging steps, not only will this save possible time and money but may just save a life. Proper planning of new fence construction and maintenance of existing fence is critical for a safe and efficient task. Here in rural West Virginia, we have many potential hazards buried below ground that

may not be visible from the surface. These hazards can pose great risks to the people building the fence if 811 isn't contacted.

I have seen it happen where someone was building a fence with a simple t-post driver, and that post ended up being driven through a buried water line. They thought they were far from the buried line, but this led to water being shut down for them and their neighbors. We, as producers, need to be good stewards of our land and neighbors in order to help preserve our ability to farm and enjoy the life we have chosen.

Oftentimes, when planning to install a

fence, producers go from memory where they believe the utilities have been buried for years, sometime decades, but their memory has faded. With the utilization of augers, automatic drivers and other equipment, destruction can quickly happen and become a bigger headache than planned. An auger can quickly wrap up buried lines causing severe damage not only to line but possibly the equipment and injury. Clipping an electrical line can lead to electrocution, hitting a gas line can lead to explosion, or hitting a water line can lead to a sewage spill creating a biohazard. As always, when planning to dig contact 8-1-1 before breaking ground on your next project. **ESG**



Pipeline Location Information

Reproduced with permission from Pipeline Association for Public Awareness

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

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

MARCADORES DE TUBERÍA

Las tuberías son enterradas en áreas llamadas derecho de paso (ROW por sus siglas en 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 refinerías a terminales comerciales y de distribución típicamente usando líneas de alta presión con diámetro más grande. La ubicación general de todas las tuberías de transmisión se puede ver en el sistema de trazado nacional de tubería en www.npms.phmsa.dot.gov

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



AND FARM SAFETY

BY MEGAN ESTES, DIRECTOR OF CORPORATE COMMUNICATIONS, GEORGIA 811

Questions submitted by Brooklyne Wassel, Pike County Extension Coordinator and Agent, UGA Cooperative Extension

Farmers and ranchers play an extremely important role in supporting utility damage prevention efforts. Beneath America's farmland lie buried utilities such as natural gas, oil, electricity, communications, and water. Hitting a natural gas line can result in an explosion, damages to electric lines can cause electrocution, and 911 systems can be cut off if fiber is cut or damaged. That's why it's vitally important that farmers utilize the 811 system and understand recommended safe digging practices.

At times, farmers and ranchers may find themselves unsure if they need to contact 811, and it's important to remember that it is recommended to contact 811 to submit a free ticket any time digging is involved. Some things to consider include:

- Buried utilities can be found beyond the right of way on private property, as in the case when a landowner sells a utility easement.
- Depth should not be a deterrent when deciding to contact 811 as over time a

utility's depth can change due to erosion, soil movement, grading and other activities.

- Even if you see electric lines overhead, do not assume that there are no underground electrical services or that you know where they are buried.
- Don't rely solely on permanent markers. Permanent markers show a general location of the buried utility but not the exact location, depth, or number of underground facilities.





Utility damages have the potential to severely impact farmers, communities, and the environment making it vitally important that farmers and ranchers understand what to do in the event of a damage. **Damages to underground utility lines include hits, dents, scrapes, gauges, and scratches. Even the most minimal strike against a utility line can lead to a damage as time passes.** If a damage occurs the digger should contact 811 and the affected utility. If the damage involves gas or electricity, 911 should be contacted first. If a utility marker is disturbed, notify the utility company directly.

Farmers and ranchers should also understand state regulations as they pertain to the Tolerance Zone and hand digging. The Tolerance Zone is a buffer area around a buried utility in which hand digging, potholing, soft digging, vacuum excavation methods, and pneumatic hand tool usage are considered safe digging practices. In the state of Georgia, the Tolerance Zone is defined as 18 inches of either side of the outer edge of a buried utility line. When working inside that Tolerance Zone potholing is recommended, a practice where hand tools or vacuum methods are used to expose a buried utility. While exclusive hand tool digging does not require contacting 811, it is still highly recommended in an effort to protect diggers from physical injury and expensive repair costs.

As a reminder of the 811 process, the first step is to contact 811 at least two

to three business days before excavation is scheduled to begin. 811 should be contacted before any mechanized digging and **when contracting out jobs, it's best to have the person excavating or planning the excavation contact the 811 center.** Tickets can be submitted online or by simply dialing 811. Required ticket information includes the address, county, phone number, type of excavation work and a description of where on the property the digging will take place. After the ticket is submitted, utility companies or their representatives will place colored flags and/or paint on the property to mark underground utility lines with each paint color corresponding to a specific utility. Additionally, some companies will send out a representative to be present when digging near underground lines to ensure that digging is done safely. Those digging should check the status of their ticket prior to excavating to ensure that all affected utilities have responded. When all utilities have responded with a marked, clear, or no conflict code, digging can begin.


In most cases, contacting 811 is required by law before any type of mechanized digging. In Georgia and some other states, contacting 811 is not required for specific farming activities. The exclusion is referenced in the Georgia Underground Facility Protection Act, OCGA § 25-9-3 (16):

“Farming activities” means the tilling of the fields related to agricultural activities but does not include other types of mechanized excavating on a farm.

While routine tilling doesn't require that you contact Georgia 811 before you dig, other types of mechanized excavation on a farm do require contacting 811 first. This may include, but is not limited to:

- Drain Tiling
- Fence Building
- Deep Plowing
- Ripping
- Work on Ponds, Wells and Irrigation Systems

It is still advisable to contact 811 before any digging activity to know what's below. To view dig law requirements and exemptions in other states, you can visit Call811.com or review the Pipeline & Hazardous Materials Safety Administration's Summary of Damage Prevention Laws.

Digging without knowing the approximate location of underground utilities can result in serious injuries, inconvenient service disruptions and costly repairs. Submitting a ticket to 811 online or by calling 811 directly helps farmers maintain essential utility services for themselves and neighbors and keeps communities safe by reducing the likelihood of accidentally digging into buried utility lines. Several years ago, the Common Ground Alliance created an excellent educational video for farmers and ranchers that is available in both English and Spanish. To view on YouTube, search “811 for the Ag Community” and you will find the videos available through Common Ground Alliance and North by Northwest. 

For more information about Georgia 811, please visit www.Georgia811.com.

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PLANNING FOR SAFE & EFFICIENT AG OPERATIONS

Successful agricultural operations rely on practical and effective planning. Your production plan is the backbone, and it encompasses all the details surrounding how your farm operation will produce for the market. Many components of your production plan require their own plans to address regulations, land use and improvements, and construction of new facilities. Frequently these activities include excavation and one of the keys to safe and successful excavation is, of course, planning.

Planning is the first step in ensuring that work is done safely. Planning for excavation work should start as early as possible and involves:

- **Identifying the nature and condition of the ground or work environment**
- **Selecting the right equipment for the excavation work**
- **When employing outside labor,**

consulting with equipment operators or general contractors

- **Contacting all governmental or environmental agencies for permitting when required**
- **Consulting with any utility companies that could potentially be impacted by the excavation, drainage work, or contouring**

Contacting 811 is required 2-3 days (state laws vary) prior to excavation to make sure public pipelines and cables are marked by the utility companies.


On the day the project kicks off, there is one last bit of planning that can ensure the job gets done safely. Follow a comprehensive pre-excavation checklist and survey the entire digging area. Knowing what to look for, and knowing

what piece of communication might be missing, can help avoid a catastrophe.

ROW Encroachment

Encroachments along a right-of-way (ROW), such as a deer stand or fence, for example, can inhibit a utility operator's ability to respond to damages, provide adequate surveillance of the ROW and hinders an operator's ability to perform routine maintenance and inspections.

Integrity Management

Pipeline operators monitor their utilities closely to keep them operating efficiently and safely, especially in High Consequence Areas (HCAs). To learn more about a pipeline operator's Integrity Management Plan, contact your local utility operator who can send you detailed information on their specific program. 



PRE-EXCAVATION CHECKLIST

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-excitation activities required of your situation. PASA accepts no liability and disclaims 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.

PLANNING

- Determine where digging or agricultural activities will take place that may impact underground utilities
- Mark areas of proposed digging or agricultural activities in white paint or flags
- Contact 811 2-3 business days prior to excavation (check your state laws/regulations) *Recommendation: take a picture of the work area to help locators identify exact dig location*
- Schedule an onsite meeting with all underground utilities to discuss the proposed digging or agricultural activities, when appropriate**

ONSITE REVIEW

- WARNING signs or other pipeline markers
- Temporary marking flags or stakes installed by underground utility owners
- Identify all services to buildings
- Gas meters
- Farm taps
- Propane tanks
- Pipeline valves
- Cable or telephone pedestals
- Electric transformers
- Water valves or meters
- Evidence of privately-owned facilities*
- Evidence of trench lines from previous excavation
- Cleared pipeline rights-of-way

Complete a pre-excitation walkthrough of the entire jobsite, adjacent areas, and visually inspect for:

JOBSITE DOCUMENTATION

- Verify 811 ticket covers the scope of proposed digging or agricultural activities
- Ensure 811 ticket has a valid "work to begin" date and specifies how long the marks will be valid
- Post 811 ticket (or have available) near the area digging or agricultural activities will take place
- Verify all utilities in conflict with a proposed digging or agricultural activity area have responded by either:
 - Temporarily marking the general location of their utilities, or*
 - Stating their utilities are not in conflict with proposed dig area*

BEFORE YOU DIG

- Review safety information for excavation equipment with everyone working on the jobsite
- Note locations requiring hand digging as per the tolerance zone** for your state
- The location and route to emergency services is known
- Confirm with each utility in conflict if a utility representative must be present during excavation activities. (Most pipeline operators require a representative to be present when excavating within 25 feet of the pipeline); make appropriate arrangements**
- Compile a list of emergency contact numbers for utilities in and adjacent to the proposed dig areas should an emergency occur

PRIVATE FACILITIES* MAY INCLUDE:

- Electric lines running between out-buildings or behind the meter
- Natural gas lines behind the meter
- Propane lines off the tank
- Sewer laterals or waste collection lines
- Sprinkler or irrigation lines

*Private facilities are NOT marked through 811. It is the responsibility of the landowner to provide detailed information about the location of these lines.

**The "tolerance zone" is between 18-24" from the outer edge of the pipeline (in all directions), or as defined by state regulations, whichever is greater. Hand digging is required when excavating within the tolerance zone.

Pipeline Products & Facilities

Reproduced with permission from Pipeline Association for Public Awareness

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"

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



LEAK, HAZARD & EMERGENCY RESPONSE INFORMATION

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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	1	1						●	●
SMELL – an odor like petroleum liquids or gasoline		●	●			●		●	
SMELL – an irritating and pungent odor				●				●	●

	NATURAL GAS	PETROLEUM GAS	PETROLEUM LIQUIDS	ANHYDROUS AMMONIA	CARBON DIOXIDE	ETHANOL	HYDROGEN GAS	SOUR CRUDE OIL (H ₂ S)	SOUR GAS (H ₂ S)
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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	1	1			●		●		
Is lighter than air and can migrate into enclosed spaces	●						●		

EMERGENCY RESPONSE

Avoid any action that may create a spark	●	●	●			●	●	●	●
Do NOT start vehicles, switch lights or hang up phones	●	●	●			●	●	●	●
Evacuate the area on foot in an upwind and/or uphill direction	●	●	●	2	2	●	●	2	2
Alert others to evacuate the area and keep people away	●	●	●	2	2	●	●	2	2
From a safe location, call 911 to report the emergency	●	●	●	●	●	●	●	●	●
Call the pipeline operator and report the event	●	●	●	●	●	●	●	●	●
Wait for emergency responders to arrive	●	●	●	●	●	●	●	●	●
Do NOT attempt to close any pipeline valves	●	●	●	●	●	●	●	●	●
Take shelter inside a building and close all windows				2	2			2	2

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.

Understanding the Marks: Locating and Marking Practices

ABRIDGED FROM CGA BEST PRACTICES 19.0

For the complete *Understanding the Marks: Locating and Marking Best Practices*, see CGA Best Practices 19.0 at CommonGroundAlliance.com.

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 to 18 inch long and 1 inch wide, spaced approximately 4 to 50 feet 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

1) placing the marks over the approximate center of the facility (Illustration 2a1) or

2) 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 inch facility. When a facility can be located or toned separately from other facilities of the same type, it is marked as a single facility⁴¹.

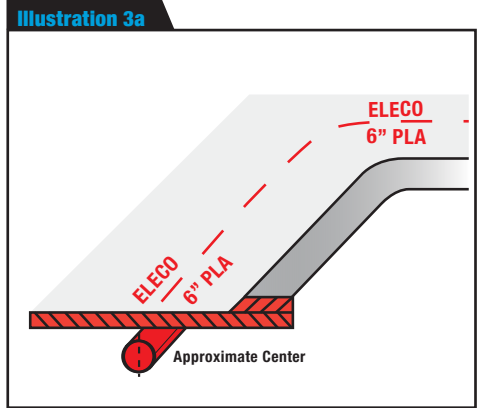
b. Multiple Facility Marking: Used to mark multiple facilities of the same type (e.g., electric), where the separation does not allow for a separate tone for each facility, but the number and width of the facilities is known. Marks are placed over the approximate center of the facilities and indicate the number and width of the facilities. **Example:** four plastic facilities that are 4 inch 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 inch in diameter (4/4" PLA), and the marks are 16 inch apart, indicating the actual left and right edges of the facilities. (Illustration 2c)

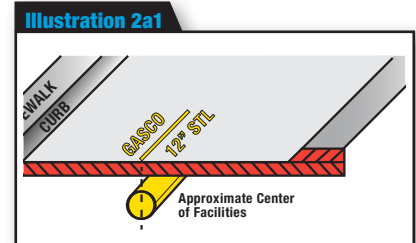
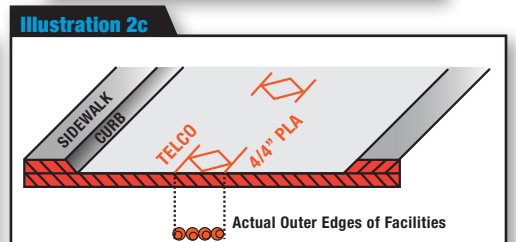
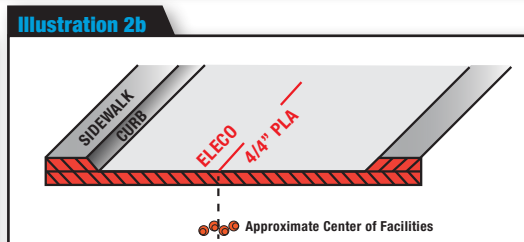
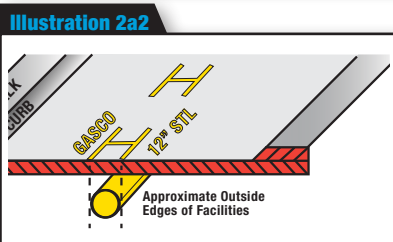
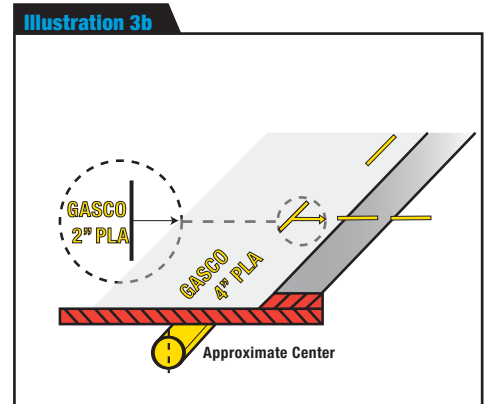
3. Changes in direction and lateral connections are clearly indicated at the point where the change in direction or connection

occurs, with an arrow indicating the path of the facility. A radius is indicated with marks describing the arc.

Example: radius (Illustration 3a)



Example: lateral connection (Illustration 3b)



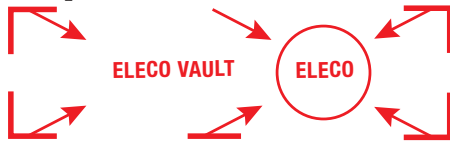
5. Information regarding the size and composition of the facility is marked at an appropriate frequency.

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" CAB **4" PLA** **12" STL**

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:



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

- 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.

- 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.

"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. **ESG**



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












Common Ground Alliance Excavation Best Practices 19.0

The Best Practices Committee of the Common Ground Alliance (CGA) developed the following guide based on the Common Ground Study. The Best Practices document is considered the “go to” resource by all stakeholders, governments, and associated industries when addressing safety and damage prevention issues internally, as well as on the local, state, and national levels.














To view the complete Common Ground Alliance Best Practices Field Manual, visit CommonGroundAlliance.com.





	<i>Project Owner</i>		<i>One Call Center</i>
	<i>Facility Owner</i>		<i>Designer</i>
	<i>Excavator</i>		<i>Locator</i>






5-1:	One Call Facility Locate Request
	<p>Practice Statement: The excavator requests the location of underground facilities at each site by notifying the facility owner/operator through the One Call Center. Unless otherwise specified in state/provincial law, the excavator calls the One Call Center at least two working days and no more than ten working days prior to beginning excavation.</p> <p>Practice Description: Currently 50 states and 5 Canadian provinces have One Call legislation and/or established One Call Centers recognizing that excavation performed without prior notification poses a risk to public safety, excavators, and the environment, and can disrupt vital services provided by facility operators. Increased participation in this One Call system provides for improved communication between excavators and facility operators necessary to reduce damage.</p>
5-2:	White Lining^{67/79/}
	<p>Practice Statement: The excavator delineates the area of proposed excavation by one or a combination of the following methods:</p> <ol style="list-style-type: none"> 1. Electronic white lining (where available through the 811 center); 2. On-site premarking, also known as white lining, with white paint, flags, stakes, whisksers and/or other locally accepted methods (See Appendix B); and/or 3. Clear description of the proposed excavation site on the locate ticket. <p>Practice Description: A clearly delineated proposed work area allows facility owners/operators and locators to avoid unnecessary work created by locating facilities that are not affected by the planned excavation, and ensure that underground facilities within the intended work area are well marked. Electronic white lining provides a method where excavators may indicate their defined dig area visually by electronic data entry (lines or polygons) without the need for a physical site visit. Premarking, on-site and/or electronically, allows excavators to accurately communicate to the 811 center, facility owners/operators, or their locator where excavation is to occur.</p>
5-3:	Locate Reference Number
  	<p>Practice Statement: The excavator receives and maintains a reference number from the One Call Center that verifies that the locate was requested.</p> <p>Practice Description: All calls from excavators processed by the One Call Center receive a unique message reference number, which is contained on all locate request messages. The excavator records this number; it is proof of notification to the members. The computer-generated request identifies the date, time, and sequence number of the locate request. Each locate request ticket (notification) is assigned a unique number with that One Call Center, the requestor, and the facility owner/operator. This number distinguishes this ticket from all other tickets so that it can be archived and retrieved upon request to provide the details of that request only.</p>

5-4:	Pre-Excavation Meeting
   	<p>Practice Statement: When practical, the excavator requests a meeting with the facility locator at the job site prior to marking the facility locations. Such pre-job meetings are important for major, or unusual, excavations.</p> <p>Practice Description: The meeting facilitates communications, coordinates the marking with actual excavation, and ensures identification of high-priority facilities. An on-site pre-excavation meeting between the excavator, facility owners/operators, and locators (where applicable) is recommended on major or large projects. This includes projects such as road, sewer, water, or other projects that cover a large area, that progress from one area to the next, or that are located near critical or high-priority facilities. Such facilities include, but are not limited to, high-pressure gas, high-voltage electric, fiber-optic communication, and major pipe or water lines.</p>
5-5:	Facility Relocations
  	<p>Practice Statement: The excavator coordinates work that requires temporary or permanent interruption of a facility owner/operator’s service with the affected facility owner/operator in all cases.</p> <p>Practice Description: Any temporary or permanent interruption requires the active participation by the facility owner/operator and the excavator to ensure protection of facilities through a joint preplanning meeting or conference call. 811 Centers note on the ticket any special contractor requests for a joint meeting that require the facility owner/operator to initiate the process.</p>
5-6:	Separate Locate Requests
 	<p>Practice Statement: Every excavator on the job has a separate One Call reference number before excavating.</p> <p>Practice Description: There are often several excavators on a job site performing work. The construction schedule may dictate different types of work requiring excavation from different specialty contractors simultaneously. In these situations, it is imperative for each excavator to obtain a One Call reference number before excavation to ensure that the specific areas have been appropriately marked by any affected underground facility owner/operator.</p>
5-7:	One Call Access (24/7)
 	<p>Practice Statement: The excavator has access to a One Call Center 24 hours per day, 7 days a week.</p> <p>Practice Description: Utilities service the public needs 24 x 7 and thus should be protected during that same time. Certain conditions may exist that require excavators to work during off-hours (city/road congestion, off-peak utility service hours). Although most excavators are on the job site during regular work hours, they need to be able to call in future work locations after 5:00 p.m. This allows them more flexibility to schedule work and to avoid peak hours of locate requests at the One Call center.</p>






















5-8:	Positive Response	   	<p>Practice Statement: The underground facility owner/operator either 1) identifies for the excavator the facility's tolerance zone at the work site by marking, flagging, or other acceptable methods; or 2) notifies the excavator that no conflict situation exists. This takes place after the One Call Center notifies the underground facility owner/operator of the planned excavation and within the time specified by state/provincial law.</p> <p>Practice Description: If a facility owner/operator determines that the excavation or demolition is not near any of its existing underground facilities, it notifies the excavator that no conflict exists and that the excavation or demolition area is "clear." This notification by the facility owner/operator to the excavator may be provided in any reasonable manner including, but not limited to face-to-face communications; phone or phone message, facsimile or other electronic means; posting at the excavation or demolition area; or marking the excavation or demolition area. If an excavator has knowledge of the existence of an underground facility and has received an "all clear," a prudent excavator will attempt to communicate that a conflict does indeed exist, and the locator will make marking these facilities a priority before excavation begins. Better communication between the excavator and the facility owner/operator is required as an area of excavation becomes more crowded with new underground facilities.</p> <p>"Positive response" is a term used to describe the two types of action taken by a facility owner/operator after it receives notification of intent to excavate. The facility owner/operator must 1) mark its underground facilities with stakes, paint, or flags; or 2) notify the excavator that the facility owner/operator has no underground facilities in the area of excavation. This process allows the excavator to begin work in a timely manner.</p> <p>When the excavator makes the request to the One Call Center, the excavator is told which facility owners/operators will be notified. The excavator logs these facilities on a job sheet and identifies which facility owner/operators have responded by marking and which have cleared the area. When a facility owner/operator does not respond by marking or clearing, it may indicate that the facility owner/operator did not receive a locate notice or that the One Call Center's contact information for that facility owner/operator may be incorrect, incomplete, or corrupt (which could result in calamity).</p> <p>When the excavator has obtained all required information, the excavation can commence with confidence that the safety of the work crew and the public at large has been considered.</p>
5-9:	Facility Owner/Operator Failure to Respond	  	<p>Practice Statement: If the facility owner/operator fails to respond to the excavator's timely request for a locate (e.g., within the time specified by state/provincial requirements) or if the facility owner/operator notifies the excavator that the underground facility cannot be marked within the time frame and a mutually agreeable date for marking cannot be arrived at, then the excavator re-calls the One Call Center. However, this does not preclude the excavator from continuing work on the project. The excavator may proceed with excavation at the end of two working days, unless otherwise specified in state/provincial law, provided the excavator exercises due care in all endeavors.</p> <p>Practice Description: The facility owner/ operator and the excavator partner together to ensure that facilities are marked in an acceptable time frame to allow for underground facility protection.</p>
5-10:	Locate Verification		<p>Practice Statement: Prior to excavation, excavators verify that they are at the correct location, verify locate markings and, to the best of their ability, check for unmarked facilities.</p> <p>Practice Description: Upon arrival at the excavation site and prior to beginning the excavation, an excavator does the following:</p> <ul style="list-style-type: none"> • Verifies that the dig site matches the One Call request and is timely • Verifies that all facilities have been marked and reviews color codes if in doubt • Verifies all service feeds from buildings and homes • Checks for any visible signs of underground facilities, such as pedestals, risers, meters, and new trench lines • Checks for any facilities that are not members of the One Call Center and contact someone to get them located. <p>Use of a pre-excavation checklist is recommended by insurers and practiced by responsible excavating contractors.</p>
5-11:	Documentation of Marks		<p>Practice Statement: An excavator uses dated pictures, videos, or sketches with distance from markings to fixed objects recorded, to document the actual placement of markings.</p> <p>Practice Description: In most situations when underground facilities are not properly marked, excavators have no way of knowing where underground utilities are located. If locate markings are adequately documented through the use of photographs, video tape, or sketches before excavation work begins, it is easier to resolve disputes if an underground facility is damaged as a result of improper marking, failure to mark, or markings that have been moved, removed, or covered. It is important for excavators and locators to document the location of markings before excavation work begins. The primary purpose of this best practice is to avoid unnecessary litigation and expensive legal fees for all parties involved.</p>
5-12:	Work Site Review with Company Personnel		<p>Practice Statement: Prior to starting work, the excavator reviews the location of underground facilities with site personnel.</p> <p>Practice Description: Sharing information and safety issues during an on-site meeting between the excavator and the excavating crews helps avoid confusion and needless damage to underground facilities.</p>
5-13:	One Call Reference at Site⁵⁹		<p>Practice Statement: Except in case of an emergency, the excavator at each job site has available a complete description of the dig site, a list of the facility owner members impacted at that dig site as identified by the One Call Center, and the One Call Center ticket number.</p> <p>Practice Description: The availability of locate request details on site is useful because excavators can easily access information about the location and extent of work, the valid start time, and the list of operators notified. The documentation also provides an excavator with appropriate information for daily tailgate meetings for crews; provides quick references for excavation equipment operators; and facilitates communications between the excavator and the One Call Center with respect to that particular locate request, should it become necessary. When multiple crews are working on the same project at separate locations or when different employers have crews working at the same location, each crew has the information.</p>
5-14:	Contact Names and Numbers		<p>Practice Statement: The excavator's designated competent person at each job site has access to the names and phone numbers of all facility owner/operator contacts and the One Call Center.</p> <p>Practice Description: Situations arise on the job site that require immediate notification of the facility owner/operator, One Call Center, or local emergency personnel. To avoid costly delays, the excavator ensures that the designated job site personnel have all appropriate names and phone numbers. If telephone communication is unavailable, radio communication to the "home office" is available so that timely notification can be made. The "home office" also has immediate access to all appropriate names and telephone numbers.</p>
5-15:	Facility Avoidance		<p>Practice Statement: The excavator uses reasonable care to avoid damaging underground facilities. The excavator plans the excavation so as to avoid damage or to minimize interference with the underground facilities in or near the work area.</p> <p>Practice Description: Foremost on any construction project is safety. Excavators using caution around underground facilities significantly contribute to safe excavation of existing facilities.</p>

5-16: Federal and State Regulations	<p> Practice Statement: The excavator complies with all applicable federal and state/provincial safety regulations, and, when required, provides training as it relates to the protection of underground facilities.</p> <p>Practice Description: Although most existing state/provincial damage prevention legislation does not include reference to federal and state/provincial regulations, it is important to include reference to worker safety and training in the best practices. Excavators are required to comply with federal and state/provincial occupational safety and health requirements to protect employees from injury and illness. These regulations include reference to training each employee to recognize and avoid unsafe conditions in the work environment and to control or eliminate any hazards or exposures to illness or injury. Therefore, the excavator's crew, as part of its safety training, is informed of the best practices and regulations applicable to the protection of underground facilities.</p>
5-17: Marking Preservation	<p> Practice Statement: The excavator protects and preserves the staking, marking, or other designation of underground facilities until no longer required for proper and safe excavation. The excavator stops excavating and notifies the One Call Center for re-marks if any facility mark is removed or is no longer visible.</p> <p>Practice Description: During long, complex projects, the marks for underground facilities may need to be in place far longer than the locating method is durable. Painting, staking, and other marking techniques last only as long as the weather and other variables allow. When a mark is no longer visible, but work continues around the facility, the excavator requests a re-mark to ensure the protection of the facility.</p>
5-18: Excavation Observer	<p> Practice Statement: The excavator has an observer to assist the equipment operator when operating excavation equipment around known underground facilities.</p> <p>Practice Description: The excavator designates a worker (an observer) who watches the excavation activity and warns the equipment operator while excavating around a utility to prevent damaging that buried facility.</p>
5-19: Excavation Tolerance Zone	<p> Practice Statement: The excavator observes a tolerance zone that is comprised of the width of the facility plus 18 in. on either side of the outside edge of the underground facility on a horizontal plane. This practice is not intended to preempt any existing state/provincial requirements that currently specify a tolerance zone of more than 18 in.</p> <p>Practice Description: (See Practice Statement 5-20)</p>

5-20: Excavation Within Tolerance Zone^{90/}	<p> Practice Statement: When excavation is to take place within the specified tolerance zone, the excavator exercises such reasonable care as may be necessary for the protection of any underground facility in or near the excavation area. Methods to consider, based on certain climate or geographical conditions, include pot holing, hand digging when practical, soft digging, vacuum excavation methods, pneumatic hand tools, other mechanical methods with the approval of the facility owner/operator, or other technical methods that may be developed. Hand digging and non-invasive methods are not required for pavement removal.</p> <p>Practice Description: Safe, prudent, non-invasive methods that require the excavator to manually determine the actual location of a facility are considered "safe excavation practices" in a majority of state/provincial laws. A majority of states outline safe excavation practices to include hand digging and/or pot holing. Some states specifically allow for the use of power excavating equipment for the removal of pavement. Each state/province must take differing geologic conditions and weather-related factors into consideration when recommending types of excavation within the tolerance zone.</p>
5-21: Mismarked Facilities	<p> Practice Statement: The excavator notifies the facility owner/ operator directly or through the One Call Center if an underground facility is not found where one has been marked or if an unmarked underground facility is found. Following this notification, the excavator may continue work if the excavation can be performed without damaging the facility, unless specified otherwise in state/provincial law.</p> <p></p> <p></p> <p>Practice Description: When an excavator finds an unmarked or inaccurately marked facility, excavation stops in the vicinity of the facility and notification takes place. If excavation continues, the excavator plans the excavation to avoid damage and interference with other facilities and protects facilities from damage.</p>
5-22: Exposed Facility Protection	<p> Practice Statement: Excavators support and protect exposed underground facilities from damage.</p> <p>Practice Description: Protecting exposed underground facilities is as important as preventing damage to the facility when digging around the utility. Protecting exposed underground facilities helps ensure that the utility is not damaged and, at the same time, protects employees working in the vicinity of the exposed facility. Exposed facilities can shift, separate, or be damaged when they are no longer supported or protected by the soil around them. Excavators support or brace exposed facilities and protect them from moving or shifting, which could result in damage to the facility. This can be accomplished in different ways; for example, by shoring the facility from below or by providing a timber support with hangers across the top of an excavation to ensure that the facility does not move or bend. In addition, workers are instructed to not climb on, strike, or attempt to move exposed facilities that could damage protective coatings, bend conduit, separate pipe joints, damage cable insulation, damage fiber optics, or in some way affect the integrity of the facility. The Occupational Safety and Health Administration (OSHA) also has addressed this issue in Subpart P—Excavation Standard 29 CFR 1926.651(b)(4), which states "While the excavation is open, underground installations shall be protected, supported, or removed as necessary to safeguard employees." For example, an unsupported sewer main could shift, causing the pipe joints to separate, which could result in the trench where employees are working to flood, endangering the safety of employees.</p>



<p>5-23:</p>  	<p>Locate Request Updates</p> <p>Practice Statement: The excavator calls the One Call Center to refresh the ticket when excavation continues past the life of the ticket (sometimes, but not always, defined by state/provincial law). This recognizes that it is a best practice to define ticket life. If not currently defined in state/provincial law, ticket life is ideally 10 working days but does not exceed 20 working days. Original locate request tickets are generated so that the minimum number of locate request updates are necessary for the duration of a project. After all the excavation covered by a locate request is completed, no additional locate request updates are generated. Communication between excavation project planners, field personnel, and clerical personnel is essential in accomplishing this task.³⁶</p> <p>Practice Description: Refreshing the ticket recognizes that markings are temporary and provides notification to facility owners/operators of ongoing excavation when a job is started but not completed as planned. Any excavation not begun during the life of the ticket is recalled to the One Call Center. Any excavation that covers a large area and will progress from one area to the next over a period of time is broken into segments when notifying the One Call Center in order to coordinate the marking with actual excavation. The possibility exists that new facilities have been installed in the area where the excavation is to be conducted after the original notification and marking. This practice also helps in situations where multiple excavators are working in the same area at essentially the same time. An example of when this can occur is when two facility owners, such as a cable television company and a telephone company, are planning to serve a new section of a subdivision. In their pre-planning process, they see a vacant space in the right-of-way to place their new facility. Each excavator (internal or external) calls the One Call Center for locates and each facility owner/operator comes and marks their respective facilities indicating that nothing exists. For one reason or another, one of the excavators gets delayed and does not start construction as planned, and when returning to the job site to place the new facility, finds new lines have been installed in the previously vacant space. Many facility owners/operators do not perform their own locates and utilize the services of a contracted facility locator. These contracted facility locators may not be aware of work planned in the near future. By excavators refreshing the locate ticket, the contract locator has another opportunity to identify newly placed facilities. This practice also gives the facility owner/operator another chance to identify the location of their facilities and to avoid possible damage and disruption of service if something was marked incorrectly or missed on a previous locate. Excellent planning, generation, and updating of tickets enhance safety and reduce the unnecessary use of locate resources.³⁷</p>
<p>5-24:</p>   	<p>Facility Damage Notification</p> <p>Practice Statement: An excavator discovering or causing damage to underground facilities notifies the facility owner/operator and the One Call Center. All breaks, leaks, nicks, dents, gouges, grooves, or other damages to facility lines, conduits, coatings, or cathodic protection are reported.</p> <p>Practice Description: A majority of states require notification for damage or substantial weakening of an underground facility (27 states). The possibility of facility failure or endangerment of the surrounding population dramatically increases when a facility has been damaged. Although the facility may not immediately fail, the underground facility owner/operator is provided the opportunity to inspect the damage and make appropriate repairs.</p>
<p>5-25:</p>  	<p>Notification of Emergency Personnel</p> <p>Practice Statement: If the damage results in the escape of any flammable, toxic, or corrosive gas or liquid or endangers life, health, or property, the excavator responsible immediately notifies 911 and the facility owner/operator³. The excavator takes reasonable measures to protect everyone in immediate danger, the general public, property, and the environment until the facility owner/operator or emergency responders arrive and complete their assessment⁴.</p> <p>Practice Description: This practice is already required by many of the states' One Call legislation. This practice minimizes the danger to life, health, or property by notifying the proper authorities to handle the emergency situation. In these situations, local authorities are able to evacuate as appropriate and command substantial resources unavailable to the excavator or underground facility owner/operator. The excavator takes reasonable measures based on their knowledge, training, resources, experience, and understanding of the situation to protect themselves, people, property, and the environment until help arrives. The excavator responsible remains on-site to convey any pertinent information to responders that may help them to safely mitigate the situation.⁴</p>

<p>5-26:</p>   	<p>Emergency Excavation</p> <p>Practice Statement: In the case of an emergency excavation, maintenance or repairs may be made immediately, provided that the excavator notifies the One Call Center and facility owner/operator as soon as reasonably possible. This includes situations that involve danger to life, health, or property or that require immediate correction in order to continue the operation of or ensure the continuity of public utility service or public transportation.</p> <p>Practice Description: This practice allows excavation to begin immediately to restore service or to stop a hazardous situation from getting worse in the case of a gas or pipeline leak, cut telephone cable, or other facility damage.</p>
<p>5-27:</p> 	<p>Backfilling</p> <p>Practice Statement: The excavator protects all facilities from damage when backfilling an excavation. Trash, debris, coiled wire, or other material that could damage existing facilities or interfere with the accuracy of future locates are not buried in the excavation.</p> <p>Practice Description: Extra caution must be taken to remove large rocks, sharp objects, and large chunks of hard-packed clay or dirt. No trash or pieces of abandoned lines are backfilled into the trench. This helps prevent inadvertent damage to the facility during the backfill process.</p>
<p>5-28:</p>  	<p>As-built Documentation</p> <p>Practice Statement: Contractors installing underground facilities notify the facility owner/operator if the actual placement is different from expected placement.</p> <p>Practice Description: For a facility owner/operator to maintain accurate records of the location of their facilities, it is critical that the contractor installing the new facility be required to notify the facility owner/operator of deviations to the planned installation. Some facility owners/operators do not require a full-time inspector and use a sampling process to ensure that a new facility is correctly installed in compliance to specifications. When this occurs, it becomes much more critical for the contractor to notify the facility owner/operator of changes. For example, it is common for the contractor to make adjustments in the location of the new facility when rocks or other underground obstructions are encountered or when the location of the new facility conflicts with another existing underground facility. This change in plan can represent changes in horizontal or vertical distances from the specified plans. The facility owner/operator establishes standards that require notification if a deviation is beyond specified tolerances, such as changes in depth of 6 in. or more and lateral measurement changes of greater than 1 ft. When these changes to the expected location are communicated to the facility owner/operator, it is the owner/operator's responsibility to take appropriate action to update their records so that an accurate locate can be conducted in the future.</p>
<p>5-29:</p>      	<p>Trenchless Excavation¹³</p> <p>Practice Statement: All stakeholders comply with all best practices and the following general guidelines prior to, during, and after any trenchless excavation (as applicable).</p> <p>Practice Description:</p> <ul style="list-style-type: none"> • The excavator requests the location of underground facilities at the entrance pit, trenchless excavation path, and the exit pit by notifying the facility owner/operator through the One Call Center. • The trenchless equipment operator performs a site inspection, walking the trenchless excavation path prior to commencing work, and has a good understanding of the job. • The trenchless excavation operator confirms and maintains the path and minimum clearances established by the project owner and design engineer by tracking and recording the path of the trenchless excavation until complete. Means of tracking trenchless excavations include electronic locating/guidance devices, pipe lasers, water levels, visual inspection, etc. • When existing facilities are known to be present but cannot be potholed as a result of local conditions, the facility owner and the excavator meet to discuss how to safely proceed with the excavation. • The excavator stops the trenchless excavation operations if an abnormal condition, unknown substructure, or other hidden hazard is encountered. The excavator proceeds safely only after making positive identification. (Refer to Practice Statements 2–13 and 4–19 for additional information.)

5-30: Emergency Coordination with Adjacent Facilities¹⁶	<p>Practice Statement: Emergency response planning includes coordination with emergency responders and other aboveground and/or underground infrastructure facility owner/operators identified by the Incident Commander through the Incident Command System/Unified Command (ICS/UC) during an emergency.</p> <p>Practice Description: During emergency situations, there are many stakeholders involved: excavators, locators, owner/operators, first responders, One Call Centers, and the general public. Any actions taken by one stakeholder could adversely affect other stakeholders. Accordingly, emergency planning and response are coordinated.</p>
5-31: No Charge for Providing Underground Facility Locations²³	<p>Practice Statement: Upon notification by One Call Centers, locations of underground facilities are provided by operators at no cost to excavators.</p> <p>Practice Description: It is the basic underpinning of the call-before-you-dig process that persons involved in excavation activities receive facility locates at no charge when they contact their local One Call Center to give notice of intent to excavate. This service is critical to maintaining the communication between operators and excavators. Call-before-you-dig education and marketing campaigns, such as 811 and those promoted by One Call Centers and associated industries, advise persons involved in excavation activities, including the public, homeowners, and professional excavators, that the service is provided by facility operators at no charge to the person providing the notice of intent to excavate.</p>

- 3. 11/30/2001 Amendment approved by the CGA Board via TR-2001-02A
- 4. 09/27/2002 Amendment approved by the CGA Board via TR-2001-02B
- 13. 09/16/2005 Amendment approved by the CGA Board via TR-2002-03
- 16. 09/08/2006 Amendment approved by the CGA Board via TR-2005-02
- 23. 08/08/2008 Amendment approved by the CGA Board via TR-2007-06
- 36. 07/16/2010 Amendment approved by the CGA Board via TR-2009-16
- 37. 07/16/2010 Final wording approved by the CGA Board via TR-2009-16
- 39. 09/10/2010 Amendment approved by the CGA Board via TR-2009-09
- 59. 06/19/2014 Wording approved by CGA Board via TR-2011-11
- 64. 12/13/2016 Approved by CGA Board via TR-2014-01
- 67/79. 12/13/2017 Approved by CGA Board via TR-2016-01 & 07/28/2022 Approved by CGA Board via TR 2021-01
- 90. 12/06/2022 Approved by CGA Board via TR 2022-01

5-32: Vacuum Excavation³⁹	<p>Practice Statement: Vacuum excavation, when used appropriately, is an efficient, safe, and effective alternative to hand digging within the designated underground facility tolerance zone. Use of equipment also follows state/provincial laws and/or local ordinances.</p> <p>Practice Description: The safe exposure of underground facilities within the tolerance zone is essential to damage prevention. Site conditions may make the use of hand tools to expose underground facilities difficult or even impractical. Vacuum excavation is often an appropriate alternative. Locates must be obtained prior to the commencement of work (see Practice Statement 5-1). Many underground facility owners/operators have specific criteria for safe excavation/exposure practices around their facilities. Some underground facility owners/operators accept vacuum excavation as equivalent to hand excavation for exposing their facilities, and others have restrictions on its use. Vacuum excavation is an appropriate method of excavating safely around underground facilities provided that the equipment.</p> <ul style="list-style-type: none"> • has been specifically designed and built for this purpose; • is operated by a worker trained and experienced in its operation; • is operated in accordance with practices that provide appropriate levels of worker and public safety and prevent damage to buried facilities; and • is used in compliance with state/provincial laws and/or local ordinances.
5-33: Facility Owner Provides a Monitor During Excavation⁶⁴	<p>Practice Statement: If a facility owner/operator considers it necessary to be on site during excavation activities to work with the excavator in protecting their existing facilities, the facility owner/operator makes arrangements with the excavator to be present during those excavation activities within the time specified by state/provincial law.</p> <p>Practice Description: The facility owner/operator may determine it necessary to be on site during excavation activities taking place near their facilities to help protect them. A facility owner/operator has access to information and resources that may not be available to the excavator. This practice should be considered in conjunction with Practice Statement 2-4: Utility Coordination.</p>

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.lynnch@dot.gov • Phone: (202) 366-6855

Central Region:

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

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Sean Quinlan: sean.quinlan@dot.gov • Phone: (816) 329-3800

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

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Western Region:

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



Notification Center and State Law Directory

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	
ALABAMA / Alabama 811 / 800-292-8525																								
Website: al811.com Hours: 24 hours, 7 days Advance Notice: 2 full working days (not including day of notification) Marks Valid: 20 working days Law Link: 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>																								
ALASKA / Alaska Dig Line, Inc. / 800-478-3121 or 907-278-3121																								
Website: 811ak.com Hours: 8:00 AM - 5:00 PM, M-F/Emergency 24/7 Advance Notice: 2-10 business days based on location Marks Valid: 15-20 business days based on location Law Link: 811ak.com/faq	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>																								
ARIZONA / Arizona 811 / 800-782-5348																								
Website: arizona811.com Hours: 6:00 AM - 5:00 PM, M-F Advance Notice: 2 full working days(excludes weekends and holidays) Marks Valid: 15 working days Law Link: arizona811.com/resources/	N	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	N	N	N	Y	N	N	Y	Y	N	N	24"	
ARKANSAS / Arkansas 811 / 800-482-8998																								
Website: arkansas811.com Hours: 24 hours, 7 days Advance Notice: 2 to 10 working days Marks Valid: 20 working days Law Link: arkonecall.com/statelaw/statelaw.aspx	N	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	N	N	N	N	N	Y	Y	N	Y	18"		
CALIFORNIA																								
Underground Service Alert of Northern CA & NV USA North 811 / 800-642-2444																								
Website: usanorth811.org Hours: 24 x 7 Advance Notice: 2 working days, not including the day of notification Marks Valid: 28 days Law Link: usanorth811.org (Quick Links / Law & Excavation Manual)	N	Y	Y	N	Y	Y	Y*	Y	Y	Y	Y	Y	N	Y	N	N	N	Y	N	Y	N	Y	24"	
Underground Service Alert of Southern California / 800-422-4133																								
Website: digalert.org Hours: 6:00 AM - 7:00 PM, M-F Advance Notice: 2 working days to 14 calendar days not including date of notice Marks Valid: 28 days Law Link: https://leginfo.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>																								
COLORADO / Colorado 811 / 800-922-1987																								
Website: co811.org • Hours: 24 hours Advance Notice: 2 days, not to include the day of notice Marks Valid: 30 days Law Link: colorado811.org/one-call-legislation/	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>																								
CONNECTICUT / Call Before You Dig / 800-922-4455																								
Website: www.cbyd.com Hours: 7:00 AM - 5:00 PM, M-F; Emergencies 24 Hours Advance Notice: 2 full working days up to 30 calendar days (excludes weekends, holidays and the day of notification) Marks Valid: 30 days Law Link: www.cbyd.com/resources/ct-cbyd-state-law-regulations#	N	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	N	N	N	Y	N	Y	Y	Y	N	Y	18"	
DELAWARE / Miss Utility of Delmarva / 800-282-8555																								
Website: missutility.net/delaware Hours: 24 hours, 7 days Advance Notice: 2 full business days Marks Valid: must start within 10 calendar days, no expiration as long as marks still visible and scope does not change. Law Link: delcode.delaware.gov/title26/c008/index.shtml	N	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	N	Y	N	N	N	N	Y	Y	N	N	24"	
FLORIDA / Sunshine 811 / 800-432-4770																								
Website: sunshine811.com Hours: 7:00 AM - 6:00 PM Advance Notice: 2 full business days (10 if dig site is underwater) Marks Valid: 30 days Law Link: sunshine811.com/law	N	Y	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



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

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"
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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"
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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"
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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"
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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"
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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"
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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"
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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 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
KANSAS / Kansas 811 / 800-344-7233																							
Website: kansas811.com Hours: 24 hours, 7 days Advance Notice: 2 full working days(not including day of notice) Marks Valid: 15 calendar days Law Link: kansasoneline.com/static/pdf/KUUDPA_04.03.2010.pdf	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																							
KENTUCKY / Kentucky 811 / 800-752-6007																							
Website: kentucky811.org Hours: 24 hours/7 days Advance Notice: 2 working days Marks Valid: 21 calendar days Law Link: kentucky811.org/the-dig-law	N	Y	N	Y	Y	Y	N	N	N	Y	Y	Y	N	N	Y	Y	N	Y	Y	Y	N	Y	24"
LOUISIANA / Louisiana 811 / 800-272-3020																							
Website: louisiana811.com 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: louisiana811.com/index.php/dig-law	N	Y	Y	Y	Y	Y	N	N	Y	Y	N	N	N	Y	N	Y	N	Y	Y	Y	N	N	18"
MAINE / Dig Safe System, Inc. / 888-344-7233																							
Website: digsafe.com Hours: 24 hours, 7 days Advance Notice: 72 hours(excluding weekends and holidays) Marks Valid: 60 days; must start within 30 days Law Link: http://www.digsafe.com/laws_rules.php	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	Y	N	Y	N	Y	N	Y	18"
MARYLAND / Miss Utility (Western Shore) / 800-257-7777																							
Website: www.missutility.net Hours: 24 hours, 7 days Advance Notice: 2 full business days Marks Valid: 12 business days Law Link: www.missutility.net/maryland/	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.																							
Miss Utility of Delmarva (Eastern Shore) / 800-441-8355																							
Website: missutilitydelmarva.com Hours: 24 hours, 7 days Advance Notice: 2 full business days Marks Valid: 12 business days Law Link: www.missutility.net/maryland/	N	Y	Y	Y	Y	Y	Y	N	N	Y	N	Y	N	Y	N	N	N	N	Y	Y	N	N	18"
MASSACHUSETTS / Dig Safe System, Inc. / 888-344-7233																							
Website: digsafe.com Hours: 24 hours, 7 days Advance Notice: 72 hours(excluding weekends and holidays) Marks Valid: 30 days Law Link: digsafe.com/laws_rules.php	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	Y	N	Y	N	Y	N	Y	18"
MICHIGAN / Miss Dig System, Inc. / 800-482-7171																							
Website: missdig811.org Hours: 24 hours Advance Notice: 3 business days(excluding weekends and holidays) Marks Valid: 3 weeks to 6 months Law Link: missdig811.org/education/public-act-174.html	N	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y	N	N	N	N	N	Y	Y	Y	Y	18"
MINNESOTA / Gopher State One Call / 800-252-1166 or 651-454-0002																							
Website: gopherstateonecall.org Hours: 24 hours Advance Notice: 48 hours(excluding weekends and holidays) Marks Valid: 14 days Law Link: revisor.leg.state.mn.us/statutes/?id=216D	N	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	N	N	Y	N	N	Y	Y	N	Y	24"	
MISSISSIPPI / Mississippi 811, Inc. / 800-227-6477 / Tickets Fax: 601-362-7533																							
Website: ms811.org Hours: 24 hours, 7 days Advance Notice: 2 working days Marks Valid: 14 working days Law Link: ms1call.org/One-Call-law	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"																							
MISSOURI / Missouri One Call System / 800-344-7483 / Tickets Fax: 573-635-8402																							
Website: mo1call.com Hours: 24 hours, 7 days Advance Notice: 2 working days, not counting day of request Marks Valid: As long as visible Law Link: mo1call.com/manual_law.php	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"
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NEVADA / USA North 811 / 800-642-2444

Underground Service Alert of Northern CA & NV

Website: 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"
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NEW HAMPSHIRE / Dig Safe System, Inc. / 888-344-7233

Website: digsafe.com

Hours: 24 hours, 7 days

Advance Notice: 72 hours(excluding weekends and holidays)

Marks Valid: 30 days

Law Link: digsafe.com/laws_rules.php

N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	Y	N	Y	N	Y	N	Y	18"
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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"
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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"
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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"
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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"
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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"
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Notification Center and State Law Directory

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. **Click Before You Dig.com**

	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
NORTH DAKOTA / North Dakota One Call / 800-795-0555																							
Website: ndonecall.com Hours: 24 hours Advance Notice: 2 Full Business Days Marks Valid: 21 calendar days Law Link: legis.nd.gov/cencode/t49c23.pdf?20130530105605	N	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	N	N	N	Y	N	N	Y	Y	N	N	24"
OHIO																							
OHIO811 / 800-362-2764 Website: OHIO811.org Hours: 24 hours, 7 days Advance Notice: 48 hours but not more than 10 working days Marks Valid: As long as visible and work begins within 10 days of original ticket Law Link: oups.org/law	N	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	N	N	N	Y	N	Y	Y	Y	N	Y	18"
OKLAHOMA / Okie811 / 800-522-6543																							
Website: okie811.org Hours: 24 hours, 7 days Advance Notice: 48 hours excluding date of notification, 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"
OREGON / Oregon Utility Notification Center / 800-332-2344 / Tickets Fax: 503-293-0826																							
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"
PENNSYLVANIA / Pennsylvania One Call System, Inc. / 800-242-1776																							
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"
<p>* 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</p>																							
RHODE ISLAND / Dig Safe System, Inc. / 888-344-7233																							
Website: digsafe.com Hours: 24 hours, 7 days Advance Notice: 72 hours(excluding weekends and holidays) Marks Valid: Must start within 30 days, as long as marks maintained Law Link: digsafe.com/laws_rules.php	N	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	N	N	N	Y	N	Y	N	Y	N	Y	18"
SOUTH CAROLINA / South Carolina 811 / 888-721-7877																							
Website: sc811.com Hours: 7:30 AM - 5:30 PM, M-F Advance Notice: 3 to 12 full working days notice(10-20 full working days notice subaqueous) Marks Valid: 15 working days Law Link: sc811.com/state-law/	N	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	N	Y	N	Y	Y	Y	N	N	24"
SOUTH DAKOTA / South Dakota 811 Center / 800-781-7474																							
Website: 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"
<p>* 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</p>																							
TENNESSEE / Tennessee 811 / 800-351-1111																							
Website: tn811.com • Hours: 24 hours Advance Notice: Not less than 3 working days, not more than 10 working days Marks Valid: 15 calendar days Law Link: 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"

Call or Click Before You Dig

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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	

TEXAS / Texas811 / 800-344-8377

Website: texas811.org
Hours: 24 hours
Advance Notice: 48 hours (excluding weekends and holidays)
Marks Valid: 14 working days
Law Link: 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"
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UTAH / Blue Stakes of Utah 811 / 800-662-4111

Website: 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

N	Y	Y	Y	Y	N	Y	N	N	Y	Y	N	N	N	N	N	N	N	Y	N	N	N	24"
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VERMONT / Dig Safe System, Inc. / 888-344-7233

Website: 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

N	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	N	N	N	Y	N	Y	N	Y	N	Y	18"
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VIRGINIA / Virginia 811 / 800-552-7001

Website: va811.com
Hours: 24 hours, 7 days
Advance Notice: 2 working days(excluding day of call)
Marks Valid: 15 working days
Law Link: va811.com/laws-and-regulation

N	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	N	Y	Y	Y	N	N	Y	Y	N	Y	24"
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WASHINGTON / Washington 811 / 811 / 800-424-5500

Washington 811
Website: digsafewa.com
Northwest Utility Notification Center (NUNC)
Website: digsafewa.com
Inland Empire Utility Coordinating Council (IEUCC)
Website: digsafewa.com
Hours: 24 hours, 7 days
Advance Notice: 2 business days
Marks Valid: 45 days
Law Link: washington811.com/wa-dig-law-rcw-19-122/

N	Y	Y	Y	Y	Y	Y	N	Y	N	Y	Y	N	Y	N	Y	Y	Y	Y	Y	N	Y	25"
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WASHINGTON D.C. / District One Call / 800-257-7777

Website: 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

N	Y	Y	Y	Y	Y	Y	N	N	Y	Y	N	N	N	N	N	N	N	Y	N	N	N	18"
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WEST VIRGINIA / West Virginia 811 / 800-245-4848

Website: wv811.com
Hours: 24 hours
Advance Notice: 2 days but not more than 10
Marks Valid: 10 days
Law Link: wv811.com/one-call-law

N	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	N	N	N	Y	N	Y	Y	Y	N	N	24"
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WISCONSIN / Diggers Hotline / 800-242-8511

Website: diggershotline.com
Hours: 24 hours, 7 days
Advance Notice: 3 working days
Marks Valid: For duration of work if marks remain visible and work is continuous
Law Link: docs.legis.wisconsin.gov/statutes/statutes/182/0175

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



	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			
WYOMING / One Call of Wyoming / 800-849-2476 / Tickets Fax: 800-217-3719																										
Website: onecallofwyoming.com Hours: 24 hours Advance Notice: 2 full business days Marks Valid: 14 business days Law Link: 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)																										
Website: gulfsafe.org Hours: 24 hours Advance Notice: 7 working days Marks Valid: Not Applicable Law Link: 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

White Lining

White lining simply means using white paint, flags, stakes (or any combination of these) to mark the outer edges of your dig site. It is a valuable form of non-verbal communication between you and the locate technician who marks the approximate location of buried utilities within your dig site. When you take the time to white line, it makes it much easier for the technician to focus work on the exact area of excavation and complete the job quickly so you can start your project. White lining can be much more effective when communicating a dig area than trying to describe it in a written locate request.



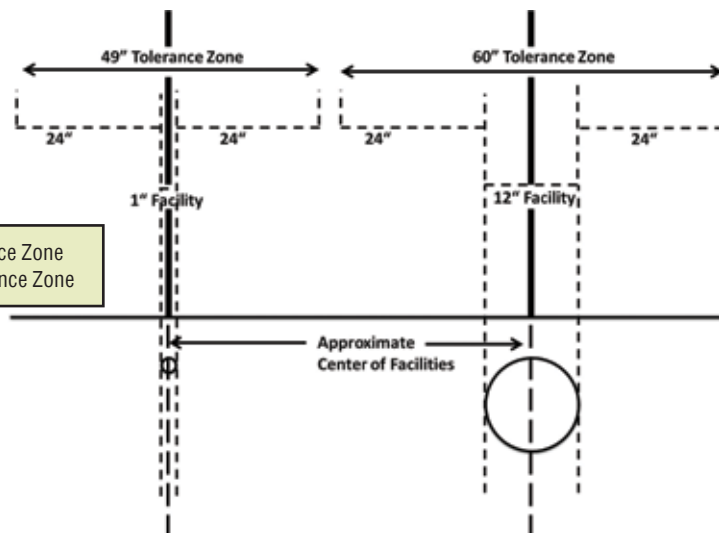
Marks made should be made in dashes 1" wide, and 6"-12" in length. Each mark should be 4'-50' apart, depending on the scope of the dig area. Line-of-site is important when determining how far apart you make the marks. For smaller dig areas, you may choose to use dots of paint or place a white stake in the center of the dig area with a radius indicated from that stake.

Each type of buried utility is designated by a different color (using the APWA color code). The color reserved for proposed excavation is white, hence the term "white lining." Do not use other colors to indicate your dig area.

Additional methods of white lining (where available through the 811 center) include electronic white lining. Electronic white lining provides a method where excavators may indicate their defined dig area visually by electronic data entry (lines or polygons) without the need for a physical site visit. Premarking, on-site and/or electronically, allows excavators to accurately communicate to the 811 center, facility owners/operators, or their locator where excavation is to occur.

Tolerance Zone

The tolerance zone is a precise horizontal measurement extending from the outer edge of a buried utility, in all directions, which gives the excavator a margin of error for the mark. Within a legal tolerance zone, the excavator must hand dig or use soft-digging methods until the utility line is uncovered. If state law indicates a 24-inch tolerance zone, the measurement begins from the mark made by the locate technician indicating the outer edge of the buried facility. If the buried utility has a one-inch diameter, the tolerance zone is 49 inches. For a marked 12-inch facility, the tolerance zone is 60 inches:



- 1" Facility:** 24" left of the mark + 1" facility + 24" right of the mark = 49" Tolerance Zone
- 12" Facility:** 24" left of the mark + 12" facility + 24" right of the mark = 60" Tolerance Zone

The tolerance zone accommodates inconsistencies that might occur during the marking of the utility such as a tracer wire buried to the side of the utility instead of on top, distortion of the electromagnetic signal induced during the locate, or an unknown pipe diameter. The tolerance zone for utility marks varies by state, so review the directory beginning on page 27 for the law in your state. **ESG**

The excavator can be held responsible for damages within the tolerance zone, so always contact 811 and dig carefully around the marks.

VIDEO VAULT

Safe digging advocates around the nation have created videos to help keep farmers and ranchers safe. Share their stories and testimonials with agricultural professionals in your state. Visit PipelineAgSafetyAlliance.com for more safe digging tools.



12 Inches From Mishap

Northern Natural Gas was notified by its aerial patrol pilot of an excavation near one of its pipelines. The landowner was attempting to locate an obstructed portion of drain tile by digging holes in various locations.



Installing Farm Drain Tile Safely

Call 811 before you start installing drain tile to help protect people, property, and the environment.



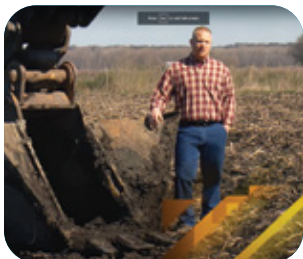
Field Tile Testimonial

A farmer shares his firsthand experience encountering a petroleum pipeline while installing field tile.



Replacing Clay Drain Tile to Prevent Sinkholes

Call 811 before you start installing drain tile so you know what lies underground.



Excavator Testimonial

An excavator tells the story of what occurred when his crew hit an underground high-pressure pipeline and the valuable lesson he learned.

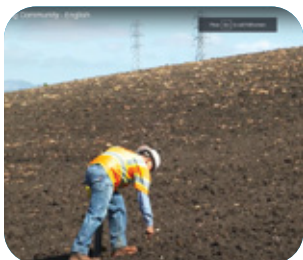


YOUTH EDUCATION



Safety & Public Awareness - Call Before You Dig

Waldo and Digger help spread the pipeline safety and public awareness message as TC Energy encourages everyone to Call Before You Dig to help prevent accidents.




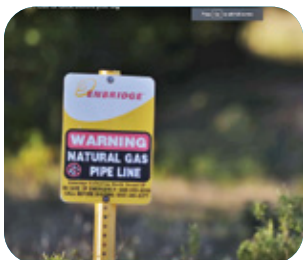
811 for the Ag Community

Hitting a pipeline or underground utility on your farm or ranch can impact your family for generations.



Pirate Video

A safety education video for kids 8 to 11 years old on the importance of calling 811 before digging, and the dangers of underground utilities. 



Life is Precious: Call or Click Before You Dig

The job was simple - clear a handful of trees on a local landowner's property to make way for a fence. It didn't take long for this simple project to become a matter of life, death - and luck.



Let's
Grow
Safely Together 



PASA OPERATOR DIRECTORY

COMPANY	EMERGENCY	NON-EMERGENCY	WEB ADDRESS
Alliance Pipeline (Operated by Enbridge)	(800) 884-8811	(888) 293-7867	alliancepipeline.com
Bayou Bridge Pipeline	(800) 753-5531	(877) 795-7271	energytransfer.com
Centurion Pipeline L.P.	(800) 765-8695	(346) 803-2800	centurionpipeline.com
CHS (Cenex & Front Range Pipelines)	(800) 421-4122	(855) 424-7747	chsinc.com/pipelines
CHS (Jayhawk & Kaw Pipelines)	(888) 542-9575	(855) 424-7747	chsinc.com/pipelines
CHS (McPherson Refinery Pipelines)	(844) 721-6611	(855) 424-7747	chsinc.com/pipelines
DAPL-ETCO	(800) 753-5531	(877) 795-7271	energytransfer.com
Enable Bakken Crude Services	(800) 753-5531	(877) 795-7271	energytransfer.com
Enable Gas Gathering	(800) 522-8048	(877) 795-7271	energytransfer.com
Enable Gas Transmission	(800) 474-1954	(877) 795-7271	energytransfer.com
Enable Midstream Partners	(800) 474-1954	(877) 795-7271	energytransfer.com
Enable Mississippi River Transmission	(800) 325-4005	(877) 795-7271	energytransfer.com
Enable Oklahoma Intrastate Transmission	(800) 522-8048	(877) 795-7271	energytransfer.com
Enbridge Gas	(800) 231-7794	(888) 293-7867	enbridge.com/publicawareness
Enbridge Liquids	(800) 858-5253	(877) 799-2650	enbridge.com/publicawareness
Energy Transfer Gas	(877) 404-2730	(877) 795-7271	energytransfer.com
Energy Transfer Gas (Houston)	(800) 392-1965	(877) 795-7271	energytransfer.com
Energy Transfer Gas (San Antonio)	(800) 375-5702	(877) 795-7271	energytransfer.com
Energy Transfer Gulf Coast NGLs	(877) 839-7473	(877) 795-7271	energytransfer.com
Energy Transfer Liquids	(888) 844-8134	(877) 795-7271	energytransfer.com
Enterprise Products Operating LLC	(888) 883-6308	(866) 806-8152	enterpriseproducts.com/safety-sustainability/public-awareness/
ETC Tiger Pipeline	(888) 844-3735	(877) 795-7271	energytransfer.com
Fayetteville Express Pipeline	(888) 844-8030	(877) 795-7271	energytransfer.com
Florida Gas Transmission Company	(800) 238-5066	(877) 795-7271	energytransfer.com
Gulf Run Transmission	(800) 325-4005	(877) 795-7271	energytransfer.com
Houston Oil Terminal	(800) 753-5531	(877) 795-7271	energytransfer.com
Kern River Gas Transmission Company	(800) 272-4817	(800) 420-7500	kernrivergas.com
Kinder Morgan, Inc. and its Subsidiaries and Affiliates	(866) 762-8442	(800) 276-9927	kindermorgan.com/public_awareness
Magellan Midstream Partners, L.P.	(800) 720-2417	(888) 945-2255	magellanlp.com
Marathon Pipe Line LLC	(833) 675-1234	(855) 888-8056	marathonpipeline.com
Mid-Valley Pipeline Company	(800) 753-5531	(877) 795-7271	energytransfer.com
NEXUS Gas Transmission (Operated by Enbridge)	(855) 329-1781	(888) 293-7867	nexusgastransmission.com
Northern Natural Gas Company	(888) 367-6671	(888) 367-6671	northernnaturalgas.com
Panhandle Eastern Pipe Line	(800) 225-3913	(877) 795-7271	energytransfer.com
Permian Express Pipeline	(800) 753-5531	(877) 795-7271	energytransfer.com
Phillips 66	(877) 267-2290	(800) 231-2566	phillips66pipeline.com
Pine Pipeline	(800) 474-1954	(877) 795-7271	energytransfer.com
Plains All American Pipeline, LP	(800) 708-5071	(713) 646-4100	plainsallamerican.com
Rover Pipeline	(800) 225-3913	(877) 795-7271	energytransfer.com
Sabal Trail Transmission (Operated by Enbridge)	(888) 568-7269	(888) 293-7867	sabaltrailtransmission.com
Sea Robin Pipeline Company	(800) 225-3913	(877) 795-7271	energytransfer.com
Southeast Supply Header	(866) 977-7374	(877) 795-7271	energytransfer.com
Southern Star Central Gas Pipeline	(800) 324-9696	(888) 885-6008	southernstar.com
Sunoco Pipeline (Crude Oil)	(800) 753-5531	(877) 795-7271	energytransfer.com
Sunoco Pipeline (Natural Gas Liquids)	(877) 839-7473	(877) 795-7271	energytransfer.com
Sunoco Pipeline (Refined Products)	(800) 786-7440	(877) 795-7271	energytransfer.com
Tallgrass Cheyenne Connector	(877) 436-2253	(303) 763-2950	tallgrassenergy.com
Tallgrass East Cheyenne Gas Storage	(888) 763-3690	(303) 763-2950	tallgrassenergy.com
Tallgrass Interstate Gas Transmission	(888) 763-3690	(303) 763-2950	tallgrassenergy.com
Tallgrass Midstream - Powder River	(307) 687-9691	(303) 763-2950	tallgrassenergy.com
Tallgrass Midstream - Redtail	(888) 763-3690	(303) 763-2950	tallgrassenergy.com
Tallgrass Pony Express Pipeline	(855) 220-1762	(303) 763-2950	tallgrassenergy.com
Tallgrass Powder River Gateway	(855) 220-1762	(303) 763-2950	tallgrassenergy.com
Tallgrass Rockies Express Pipeline	(877) 436-2253	(303) 763-2950	tallgrassenergy.com
Tallgrass Ruby Pipeline	(877) 436-2253	(303) 763-2950	tallgrassenergy.com
Tallgrass Trailblazer Pipeline	(866) 299-3050	(303) 763-2950	tallgrassenergy.com
TC Energy (ANR Pipeline, Bison Pipeline System, Gas Transmission Northwest, Great Lakes Gas, Iroquois Transmission System, Keystone Pipeline, North Baja, Northern Border, Tuscarora Gas Transmission)	(800) 447-8066 Keystone System: (866) 920-0007	(800) 661-3805	TCEnergy.com
TC Energy (Columbia Gas Transmission, Crossroads Pipeline, Hardy Storage, Millennium Pipeline)	(800) 835-7191	(800) 661-3805	TCEnergy.com
TC Energy (Columbia Gulf Transmission)	(866) 485-3427	(800) 661-3805	TCEnergy.com
TC Energy (Portland Natural Gas System)	(800) 830-9865	(800) 661-3805	TCEnergy.com
Transwestern Pipeline Company	(866) 999-8975	(877) 795-7271	energytransfer.com
Trunkline Gas Company	(800) 225-3913	(877) 795-7271	energytransfer.com
Vector Pipeline (Operated by Enbridge)	(888) 427-7777	(877) 799-2650	vector-pipeline.com
White Cliffs Pipeline – Crude	(800) 753-5531	(877) 795-7271	energytransfer.com
White Cliffs Pipeline – NGL	(877) 839-7473	(877) 795-7271	energytransfer.com
Xcel Energy (Electric)	(800) 895-1999	(800) 895-4999	xcelenergy.com
Xcel Energy (Gas)	(800) 895-2999 CO, TX - Gas Transmission: (800) 698-7811	(800) 895-4999	xcelenergy.com

INFRASTRUCTURE RESOURCES

3800 American Boulevard West, Suite 1500
Bloomington, MN 55431

MEMBERS



PASA is here to support your safety efforts!
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