

## Locating and Marking Buried Utilities

A few decades back, water, natural gas, and sewer were the only utilities buried underground. Over time, we have learned that burying utilities is safer, extends their useful life and is more visually appealing. Overhead utilities such as electrical and telecommunication lines are vulnerable to the elements and the daily exposure to wind, sun and rain can deteriorate them resulting in damage and reduced reliability. Today, most energy and utility lines are beneath the surface creating a maze of buried pipelines, cables, tanks, drainage facilities, ventilation shafts, sewers and more.

That's why it is critical that before you dig, you need to Know What's Below.

General safety protocols created the need to know what's below and locate buried utilities prior to the start of any ground disturbance project and over time, locating and marking has improved considerably.

Whether for survival, safety or science, we've always been curious about what might lie beneath the surface, and we've been improving our knowledge on how to locate items beneath our feet for hundreds of years.

Dowsing was the first form of locating. As practiced today, it is the action of a person or the dowser using a rod, stick or other device called a dowsing rod, dowsing stick or divining rod, to locate such things as underground water, buried treasure, oil, or precious metals. As an activity, more closely related to locating today, it likely originated in Germany during the 16th century when it was used in attempts to find metals. Whether or not it actually works seems as debatable today as it was hundreds of years ago. I remember my father dowsing on family-owned land in search of a water source when an additional well was required for livestock. When he was young, his own father had taught him the 'art of dowsing' and my father swore by it. I recall my uncles giving my dad a hard time as he walked back and forth in an open field paying close attention to his divining rods. They quickly grew quiet, though, when the excavator operator discovered a water source after my father instructed him where to dig.

Today, locating buried utilities is akin to science and both the ability, and reliability, to locate buried infrastructure continues to improve.

Safety begins with a mindset. That wonderful grey mass between our ears is our greatest safety asset. Through research, training and practice, it helps establish the safety culture that we teach others to follow and ensure everyone goes home after a day's work.









Before you dig, Know What's Below! Critical energy and utilities are registered with One-call notification services across Canada but most provinces have hundreds of energy and utility assets registered with them.

One Call Centres	Registered Members	Phone Locate Requests (%)	Web Locate Requests (%)
British Columbia	364	23%	77%
Alberta	853	17%	83%
Saskatchewan	103	37%	63%
Manitoba	57	27%	73%
Ontario	837	16%	84%
Quebec	260	8%	92%
Atlantic	33	10%	90%
Canada	2,507	17%	83%

The easiest way to request a locate of buried infrastructure before you dig is to visit [ClickBeforeYouDig.com](http://ClickBeforeYouDig.com). Just click the province you're working in and begin the locate request process. If you've never done this before, you will have to register your information with the notification service, such as your name and contact information, but that only takes a few minutes and you'll only have to do it once and when that's done, you're ready to request a locate for your digging project.

The vast majority of locate requests to a notification service, or provincial One-Call centre, are made online. It's fast, easy, available 24/7 and the integrity of web-based locate requests is higher than phone-based requests because nobody knows better where they're digging than you – the person submitting the locate request. Online, *you* plot the location of your project whereas over the phone, you have to describe the location of your project to an agent looking at the same map as you, and sometimes that can be confusing.

Once you've plotted the location of your project using the notification service's online tools, the notification service will send you a locate "ticket" by email and notify the owners of registered buried utilities whose assets intersect with the location of your digging project. If those buried assets are at risk from your project, the owners will either contact you for more information or dispatch an authorized representative to locate their buried assets prior to excavation and mark them with the colour code below. They will also provide a sketch further identifying the approximate location of the buried utilities in relation to your project. If their assets aren't at risk, they will provide you with an "all clear" in writing (electronic / email). If you have not received a response to your locate request within a reasonable time (6 hrs), contact the notification service with your ticket number and ask them to investigate.

	<b>RED</b> – Electric Power Lines, Cables, Conduit, and Lighting Cables
	<b>YELLOW</b> – Gas, Oil, Steam, Petroleum, or Gaseous Material
	<b>ORANGE</b> – Communication, Alarm or Signal Lines, Cables, or Conduit
	<b>BLUE</b> – Potable Water
	<b>GREEN</b> – Sewers and Drain Lines
	<b>WHITE</b> – Proposed Excavation Limits or Route
	<b>PINK</b> – Temporary Survey Markings, Unknown / Unidentified Facilities
	<b>PURPLE</b> – Reclaimed Water, Irrigation, and Slurry Lines

Uniform Colour Codes for Temporary Marking of Buried Utilities

According to the [CCGA 2020 DIRT Report](#), almost 25% of damage to buried utilities occurred because the excavator didn't request a locate from the notification service. Unfortunately, that percentage of damage, despite the tremendous amount of resources used to promote and deliver ClickBeforeYouDig services, has barely changed over the years.

Another way you can help improve the damage prevention process is to get involved. There are provincial chapters of the [Canadian Common Ground Alliance](#) in every province and their members are continually seeking meaningful engagement from members of the digging community to improve processes and reduce damages. Damage prevention professionals want to hear from you and the [Best Practices Committee](#) is a great place to share your voice. If practices can improve and meet reasonable demands, positive change will happen and damages will decrease.

If you do hit a buried utility, evacuate the area immediately and instruct others to do the same. Do not attempt to turn off running equipment. If you think you've hit a gas line, evacuate upwind or perpendicular to the venting gas and wind direction. Then, once you are safe distance away, call 911 to report the incident and remain nearby in a safe location until emergency responders arrive. When safe to do so, also call the notification service responsible for your province and inform them of the emergency and your location. If you requested a locate prior to excavation, be ready to provide your ticket number. The notification service will contact utility owners and dispatch personnel to site.

The success of the damage prevention process is dependent on everyone doing their part and in that light, damage prevention truly is a shared responsibility.

One Click Costs you Nothing. Not Clicking could cost you Everything.

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**Before**   
**You Dig.com**

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