

## **8. QUESTIONS ABOUT UNDERGROUND UTILITY LOCATION**

### **How do you mark the lines on the ground?**

We typically mark underground lines with paint, wire flags, or a combination of both. If you have a preference for one or the other, or you prefer the lines marked some other way, please let us know prior to the start of work and we will do our best to accommodate your needs.

### **Do you just mark underground lines, or will you provide a map as well?**

We can simply mark the lines on the ground for you as part of our basic service, or for an additional fee, we can provide you with a map of the lines, either as a stand-alone product or in connection with a boundary, topographic, or as-built survey.

### **What do the different colors mean?**

We use the American Public Works Association (APWA) Uniform Color Codes for temporary underground utility location. Under the APWA system, each type of service line is identified by a unique color. The colors you will see have the following meanings:

<b>White</b>	<b>PROPOSED EXCAVATION</b>
<b>Fluorescent Pink</b>	<b>TEMPORARY SURVEY MARKINGS</b>
<b>Red</b>	<b>ELECTRIC POWER LINES, CABLES, CONDUIT AND LIGHTING CABLES</b>
<b>Yellow</b>	<b>GAS, OIL, STEAM, PETROLEUM OR GASEOUS MATERIALS</b>
<b>Orange</b>	<b>COMMUNICATION, ALARM OR SIGNAL LINES, CABLES OR CONDUIT</b>
<b>Blue</b>	<b>POTABLE WATER</b>
<b>Purple</b>	<b>RECLAIMED WATER, IRRIGATION AND SLURRY LINES</b>
<b>Green</b>	<b>SEWERS AND DRAIN LINES</b>



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### **How does your underground utility location equipment work?**

LandTech utilizes electromagnetic methods, similar to a metal detector, to detect the presence of a magnetic field which indicates the presence of an underground pipe or cable.

### **Can you locate non-metallic underground pipes?**

If the non-metallic utility line was constructed with a tracing wire, then we can locate this line; otherwise we will depend on above ground structures such as meters, valves, hydrants and the like, along with existing records and maps to estimate the utility line location.

### **How accurate is utility line location using electromagnetic methods?**

Use of electromagnetic equipment is the standard method for underground utility line detection. The most accurate method to determine pipe or cable location is exposure by excavation. While LandTech does not currently provide underground utility location by excavation, if your project requires it we can provide these services through a subcontractor.

### **If I hire you to locate lines for me, what do I need to do?**

You can help us do your job by being sure to tell us anything you know about the underground utilities on or near the property. We may meet with you during our initial site visit, which will give us an opportunity to ask questions and take a look at any site drawing or utility plans you may have.

### **What is the cost?**

Each utility location project is different, and it is difficult to quote a general price for utility marking. However, before we start the job, we will do our best to determine an appropriate scope of work and quote a fixed price based on that scope of work.

### **What quality control standards do you use for your underground utility location services?**

LandTech provides Quality Level B, C and D utility location services as specified in the American Society of Civil Engineers' (ASCE) Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data, described by ASCE as follows:



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- Quality Level D. QL-D is the most basic level of information for utility locations. It comes solely from existing utility records or verbal recollections. QL-D is useful primarily for project planning and route selection activities.
- Quality Level C. QL-C involves surveying visible above ground utility facilities (e.g., manholes, valve boxes, etc.) and correlating this information with existing utility records (QL-D information).
- Quality Level B. QL-B involves the application of appropriate surface geophysical methods to determine the existence and horizontal position of virtually all subsurface utilities within a project's limits.

### **I have heard of Subsurface Utility Engineering (SUE). What is that?**

According to the “Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data, CI/ASCE 38-02, American Society of Civil Engineers” SUE is a branch of engineering practice that involves managing certain risks associated with utility mapping at appropriate quality levels, utility coordination, utility relocation design and coordination, utility condition assessment, communication of utility data to concerned parties, utility relocation cost estimates, implementation of utility accommodation policies, and utility design.