

	Name:	Hand Digging Definition
	Date:	May 15, 2019
Best Practices Committee	Affiliation:	Hand Digging Task Team
Proposal Form New/Rev Best Practice	Phone:	289-649-2048
	Email:	phil.bruni@enbridge.com

TRANSACTION RECORD

Purpose: *Describe the purpose of the proposed definition.*
To define what it means to “hand dig” at an excavation site.

Origin/Rationale: *Briefly describe the origin/rationale behind the practice proposal. Include any examples of existing practices.*
To create a definition of what the term “hand digging” means.

“Hand Digging” definition to be placed in “Appendix A” in the CCGA Best Practices Version 3.0 October 2018 on page 87 after “Grounding Systems”.

References: *Provide references for any existing practices cited in Origin/Rationale.*

CSA Z247-15 and Facility Owners best practices.

Practice Statement:

To define equipment that is acceptable to be used to safely expose underground facilities and also, to clarify and define the term “hand digging” when used in the Best Practice booklet.

Practice Description:

"HAND DIGGING" means to excavate using a **blunt nose or square** shovel with a **single handle** wooden or an insulated handle. Picks, bars, stakes or other earth piercing devices shall be considered **an aggressive form of excavating**.

Best Practice Committee

Definition of “**Hand Digging**” since it is used in the “Underground Infrastructure Damage Prevention” and not defined in “Appendix A: Glossary of Terms and Definitions”.

The current CSA Z247 release identifies *Hand Digging* as follows:

Hand digging — any movement of earth using a hand shovel.

Notes:

- 1) *This does not include picks, bars, stakes, or other earth-piercing devices.*
- 2) *The preference is to use an insulated or wooden-handled shovel.*

Although it is not the intention to rewrite the Best Practice booklet as this has always been a work in progress it should be noted that some definitions may not be sufficient when compared to the CSA Z247 definitions.

Comparing “**Excavate or Excavation**” to the CSA definition:

Ground disturbance — any work, operation, or activity on or under the existing surface resulting in a disturbance or displacement of the soil or ground cover.

Notes:

- 1) *Ground disturbances can include, but are not limited to, the following: digging; excavation; trenching; ditching; tunnelling; boring/drilling/pushing; auguring; topsoil stripping; land levelling/grading; plowing to install underground infrastructure; tree planting; clearing and stump removal; subsoiling; blasting/use of explosives; quarrying; grinding and milling of asphalt/concrete; seismic exploration; driving fence posts, bars, rods, pins, anchors, or pilings; and crossing of buried pipelines or other underground infrastructure by heavy loads off the travelled portion of a public roadway.*
- 2) *For the purposes of this Standard, the definition of “ground disturbance” does not include agricultural cultivation to a depth less than 450 mm that does not reduce the cover over the underground infrastructure.*

Writing a Best Practice

- CGA and CCGA do not have published criteria for what constitutes a “Best Practice”, or specifically what is and is not acceptable content for a Best Practice.
- Not found anything directly comparable to our BP situation, however, there does appear to be a clear recognition of the difference between a general statement and a step by step procedure.

What vs How

What = objective?
intended result?

How = procedure?
methodology?
specific action?

If there is an overlap
Where do we draw the line?

Definitions of “Practice”

Internet sources give us the following definitions and opinions:

- The customary, habitual, or expected procedure or way of doing of something. *[Oxford English Dictionary]*
- The form, manner, and order of conducting legal suits and prosecutions. *[Merriam-Webster Dictionary]*
- Something that is usually or regularly done, often as a habit, tradition, or custom. *[Cambridge Dictionary]*

Difference Between “Practice” and “Procedure”

Miriam Boudreaux, May 5, 2014 [Mireaux Management]

First, let us make some distinctions. A work practice is simply a “practice,” an “activity,” or a “process” (a series of activities). A procedure, on the other hand, is usually a written document that depicts the necessary steps of a practice, an activity, or a process.

Difference Between “Practice” and “Procedure”

WikiDiff.com

As nouns the difference between practice and procedure is that practice is . . . a customary action, habit, or behavior; a manner or routine . . . while procedure is . . . a particular method for performing a task.

Difference Between “Practice” and “Procedure”

Infrastructure Health & Safety Association

[Safe work] practices are generally written methods outlining how to perform a task with minimum risk to people, equipment, materials, environment, and processes. [Safe job] procedures are a series of specific steps that guide a worker through a task from start to finish in a chronological order.

Difference Between “Practice” and “Procedure”

SweetProcess.com

Policies are the guidelines or laws that drive the Processes and Procedures. Processes are a high level view. The tasks within the overall process are identified. Procedures are the detailed steps required to perform an activity within a process.

[SweetProcess.com, see Figure below, image credit KCC Group]

Laws and Rules of the Road

Speed Limits

California has a "Basic Speed Law." This law means you may never drive faster than is safe for current conditions. For example, if you are driving 45 mph in a 55 mph speed zone during a dense fog, you could be cited for driving "too fast for conditions." You may never legally drive faster than the posted speed limit, even if you think it is safe to do so.

Regardless of the posted speed limit, your speed should depend on:

- The number and speed of other vehicles on the road.
- Whether the road surface is smooth, rough, graveled, wet, dry, wide, or narrow.
- Bicyclists or pedestrians walking on the road's edge.
- Whether it is raining, foggy, snowing, windy, or dusty.

Maximum Speed Limit

Policies

Policies are the guidelines or laws that drive the Processes and Procedures.

Processes

Processes are a high level view. The tasks within the overall process are identified



Maneuvers	Distance	Maps
1: Start out going EAST on W SUNSET BLVD toward ARGYLE AVE.	0.6 miles	Map
2: Merge onto US-101 S.	5.2 miles	Map
3: Take the LOS ANGELES ST exit.	0.1 miles	Map
4: Turn RIGHT onto N LOS ANGELES ST.	0.2 miles	Map
5: Turn RIGHT onto TOM BRADLEY BLVD.	<0.1 miles	Map
6: End at Los Angeles, CA US		Map
Total Est. Time: 9 minutes Total Est. Distance: 6.35 miles		

Procedures

Procedures are the detailed steps required to perform an activity within a process.

4-16: Marking Preservation

Practice Statement:

The excavator, where practical, should protect and preserve locate markings, or other designations of underground facilities, until no longer required for proper and safe excavation. The excavator should stop excavating and request re-marks where the original locate markings are no longer visible, but work continues around the facility.

Practice Description:

Protecting and preserving the locate marks to prevent possible damages and delays caused by relocations is a shared responsibility. The excavator is responsible for reasonably protecting and preserving facility location markings until no longer required for proper and safe excavation. The facility owner and locator are responsible to support the excavator by providing suitable marking and to refresh the marks if they are no longer legible.

Excavator's Responsibilities:

1. As part of the locate request, describe the type and extent of proposed excavation so that facility owners and locators can determine the proper means of marking based on terrain, site conditions and the type and extent of the proposed excavation.
2. Plan work in proper phases to avoid unnecessary locating or destroying of facility location markings caused by excavation activity, vehicle traffic, etc.
3. Use White paint or other methods to manage and identify the location of the original marks.
4. Where practical, record and document all actions taken to preserve the markings and offsets prior to excavation.
5. Where practical, avoid driving equipment and vehicles over the markings during everyday activities.
6. Where practical, avoid covering the markings with dirt or debris due to excavation, etc.

Facility Owner/Locator's Responsibilities:

7. Be alert for marking requests by excavators and for site conditions that may adversely affect preserving the marks.
8. Avoid placing marks on surfaces that will be removed by indicated method of excavation and/or provide offset markings in anticipation of this.
9. Consider use of more permanent marking methods in hostile environments. These may include but are not limited to, semi-permanent paint, offset stakes, marker posts

Reference;

- **CGA Best Practice 5-17**
- **Lone Star 811 Excavator Manual**

ORCGA Best Practice

Task Team on “Conditional Clearances”

Practice Statement:

When a Facility Owner or Agent issues a positive response in the form of a “Clearance” or “Clear to Dig” locate, the type of clearances and conditions should be clearly defined ~~defined~~ **noted**.

Practice Description:

Conditional clearances can be given on behalf of the Facility Owner from one of several methods:

- 1) ***Filter clears*** done at time of the locate request. These are done at ~~Ontario One Call (OOC)~~ **the One-Call Centre** based on a criteria agreed to by the Facility Owner and will **appear** ~~show up at the bottom of the bottom of~~ **on** the locate request as a “C” identifying the specific ~~Facility Owner as being clear in the requested work area~~ **type of work will not impact the members infrastructure**. These “Filter Clears” can be given for a variety of work activity which include but are not limited to the following:
 - (a) Method of excavation (hand digging only or use of hydro vacuum equipment)
 - (b) Location of work (public or private property) ~~or based on the Map Selection Notification (MSN) completed~~ **identified** by the Locate Requestor.
 - (c) Depth of excavation (shallow vs deep)
 - (d) Type of work which may include:
 - i. Deck construction or patio installation
 - ii. Grading
 - iii. Landscaping
 - iv. Hydro vacuum excavation (may be based on water pressure used)
- 2) ***Clearances by a “Look Up Centre”*** on behalf of the Facility Owner are also given. Based on the description of the work to take place the “Look Up Centre” will assess the potential risk to the plant and makes a decision based on that information. Notification of the clearance will be given by the “Look Up Centre” via and email or fax of the locate request being submitted.

Clearances at this level are reviewed by personnel working for or on behalf of the Facility Owner. They review the description of the work and assess their risk tolerance for the type work to take place. Examples of clearances may be given for the following types of work:

- i. Shallow excavation within the Municipal ROW
- ii. Sidewalk and/or curb work
- iii. Location of Work Area based on description given

NOTE:

It must be understood that the conditional clearances given were based on the information provided at the time of the locate request. Any changes to the depth of the excavation, type of excavation equipment to be used or size of the work area, etc., will result in any ~~conditional~~ clearances given to become void and require the requestor to obtain a new locate.

Definition of Conditional Clearances

A clearance based on the parameters provided by the requestor such as public vs private, method of excavation or depth of excavation.

INSTRUCTIONS:

Please review the attached DRAFT Private Locate Best Practice. Please use track changes for your suggestions. If the changes are of a grammatical nature, I will go ahead and make them, however, I will compile a list of any content changes to be discussed. Once reviewed we should all have a conference call to discuss the changes before the next Best Practice meeting on May 21st.

Private Locate Best Practice Outline:

1. Private Locate
2. Requirements to Perform an Accurate Private Locate
3. Private Locate Methodology
4. Excavators Role
5. Private Landowners Role
6. Private Locate Report
7. Documenting Limitations
8. Managing Limitations and Special Instructions

CHANGES TO EXISTING 4-2 BP**4-2: Privately Owned Facility Awareness**

Practice Statement - Prior to excavating, the excavator must be aware that privately-owned buried facilities may exist within the work area and should **have these facilities located and marked prior to the breaking ground.** ~~request the private facility owner (e.g. landowner) to locate his/her~~ **their** underground facilities.

Practice Description – Privately-owned **buried** ~~underground~~ facilities may not be marked by representatives of the public facility owners beyond the demarcation point of each facility **on private property. The excavator should work with a private locate service provider (LSP) and the private landowner to ensure privately-owned buried facilities are located and marked prior to excavation. (e.g. Private Property).** ~~The private facility owner is responsible for identifying the location of these buried facilities. Identification activities may include, but are not limited to: provision of maps, provision of engineering drawings from previous workings and/or retaining or authorizing the deployment of a private locator.~~ **See 4-37 Private Locates for more information when excavating on private property.**

4-37 Private Locate

Practice Statement - A Private Locate should be performed when excavating near privately-owned buried facilities on private property.

Practice Description - A Private Locate is performed by Private Locate Service Provider (LSP) to locate and mark buried privately-owned facilities on behalf of the private landowner. These privately-owned buried facilities are those on private property after the public utility owned demarcation point. These private facilities are owned and maintained by the private property landowner. When excavating on private property, the excavator or private landowner should hire a private LSP to locate and mark privately owned buried facilities. The locates performed by private LSPs are typically called Private Locates and the Locate Technicians that mark private facilities are typically called Private Locators.

4-38 Requirements to Perform an Accurate Private Locate

Practice Statement - A Private Locator requires information to perform an accurate locate for privately owned buried facilities. These can be supplied to the private locator by the excavator on behalf of the private landowner or from the private landowner directly.

Practice Description - A Private LSP requires similar information that an LSP working for a utility owner requires to mark public locates. The private property locate information required from the excavator or private landowner includes:

- a. Public Locates for the work area
- b. Private Landowner Utility Records
- c. Access to Privately-Owned Above Ground Utility Infrastructure
- d. Site Operations Assistance from Landowner (if needed)

When all or some this this information is not provided, Private Locators are challenged to work “blind” and have to sleuth out the underground private facility network, thus increasing the risk of an inaccurate private locate.

4-39 Private Locate Methodology

Practice Statement – To ensure an accurate private locate, it is important that a private locator follows a consistent methodology.

Practice Description - A private locate technician should locate and mark a buried facility by working through the following procedural steps when providing an accurate private locate:

-
- Step 1. Review records of a buried facility to understand its path and where the connection points are to perform an active locate. These records should include but are not limited to:
 - a. Public Locates for the work area
 - b. Architectural, construction, or as-built drawings
 - c. Survey for the property
 - Step 2. Interview site operations personnel to further help with identifying potential buried facilities on-site.
 - Step 3. Visually inspect the work area and all site building mechanical rooms and any other areas suspect of containing above ground utility structures.
 - Step 4. Locate all buried facilities using the following methods:
 - a. Actively locate all known buried facilities within the work area using cable and pipe locate equipment
 - b. Use passive locating techniques to find any unknowns
 - c. Perform an inductive sweep of the work area to find any unknowns
 - d. If needed, use any other non-standard locating techniques that may include ground penetrating radar, electromagnetic survey equipment, and acoustic emission testing equipment.
 - Step 5. Mark the buried facility using one, or a variety of marking methods (paint, flags, offset markers, etc.).
 - Step 6. Prepare a detailed private locate report for the private locate.

4-40 Excavators Role in the Private Locate Process

Practice Statement - The excavator plays an important role in the private locate process when hiring a private LSP. When the excavator hires the private LSP, they must act as liaison between the private LSP and the private landowner.

Practice Description - When an excavator works on private property and hires a Private LSP, they should obtain the following from the private landowner to ensure the private locate technician has everything they need to perform an accurate locate:

- a. Public Locates for the work area
- b. Private Landowner Utility Records
- c. Access to Privately-owned Above Ground Utility Infrastructure
- d. Site Operations Assistance from the Landowner

When all or some of this information is not provided to the Private Locator, they will not have the tools they need to perform an accurate locate and the risk of missing a buried facility increases.

4-41 Private Landowners Role in the Private Locate Process

Practice Statement - The private landowner plays an important role in the private locate process when hiring a private LSP.

Practice Description - When the private landowner directly hires the private LSP, they must provide the following information to the private locate technician before performing a private locate on their property.

- a. Public Locates for the work area
- b. Private Landowner Utility Records
- c. Access to Privately-owned Above Ground Utility Infrastructure
- d. Site Operations Assistance

4-42 Private Locate Report

Practice Statement – A private locate report should be prepared by the private locate technician for their private locate.

Practice Description - A private locate report is a record of the findings prepared by the private locate technician. The report at a minimum should include the following information:

- a. Client contact information
- b. Site Address / Location
- c. Drawing of the work area depicting buildings, above ground utility structures and buried facility marks on the ground
- d. A Limitations Section noting any factor that limited their ability to perform an accurate locate

4-43 Documenting Limitations

Practice Statement - When a Private Locator is presented with an issue that limits their ability to provide an accurate locate, the issue becomes a limitation that needs to be documented on the private locate report. for the excavator and private landowner.

Practice Description Any limitation that a Privat Locate Technician encounters while investigating, locating, and marking, increases the risk of missing a buried facility. These limitations can be grouped into two types:

Unavoidable Limitations

- non-tonable facilities

- non-locatable facilities due to depth or angled facilities
- fixes or repairs with non-conductive materials
- non-functioning tracer wires
- no tracer wires on non-tonable facilities
- no records exist

Avoidable Limitations

- utility records or records are not available or provided
- no access to buildings and mechanical rooms
- no direct access to connection points for facilities
- no access to site operations personnel that have knowledge of the property's utility infrastructure and mechanical systems

4-44 Managing Limitations and Special Instructions

Practice Statement - If a limitation or special instruction is noted on the private locate report, it needs to be acted upon prior to excavating to ensure that proper care is taken when excavating near private buried facilities. Any limitation increases the risk of missing a buried facility during the private locate.

Practice Description - When any of these limitations are identified, the excavator should notify either their Supervisor, Project Manager, Client, and/or Private Landowner for direction. Furthermore, the excavator should not proceed with mechanical excavation activities until clear direction is given from the private utility owner or they assume the risk of working with an inaccurate locate.

Sources:

Utility Infrastructure Awareness Training Program Workbook, Own Your Safety Inc., 2018
Private Locate Best Practice, Own Your Safety, 2017