



**NATIONAL  
TRENCH SAFETY**

# Trench Safety STAND DOWN

## Excavation Safety Stand Down Outline

### HAZARDS IN EXCAVATION WORK

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The following is an abbreviated list of topics and discussions that may be relevant to your crew as you prepare to participate in the National Utility Contractor Association's (NUCA) for Trench Safety Stand Down. This information is provided for general illustrative purposes and is not meant to be considered advice, counsel or authoritative.

## I. General Hazards

### A. Surface Encumbrances:

Hazards in the adjacent area of an excavation include objects that can fall into an excavation or interrupt smooth traffic flow and must be dealt with. For example, utility poles must be supported prior to excavating in the adjacent area.

### B. Underground Installations:

**Employees can be at risk if underground utilities are struck.**

1. Call before you dig.
2. Wait the right amount of time (Observe state and local laws).
3. Locate existing utilities carefully (hand dig, pot hole).
4. Support exposed utilities to protect employees.

### C. Access and Egress – Ladder Safety:

1. Required in excavations greater than four feet deep.
2. In trench excavations the access and egress must be located within 25 feet of employees.

### D. Exposure to Vehicular Traffic:

**Work zones present serious safety hazards to workers.**

1. Establish safety procedures in work zones (Certified flaggers, proper signage etc.).
2. Employees must wear minimum class II reflectorized warning vests.
3. Follow state laws regarding lane closures and warning devices.

### E. Exposure to Falling Loads:

**This hazard exists because we develop bad habits.**

1. Employees are not allowed under lifted loads of any kind.
2. Tag lines can (must) be utilized to guide pipe to keep employees at a safe distance.

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#### **F. Warning System for Mobile Equipment:**

**Excavators or trucks that fall into an excavation present a real nightmare!**

1. Operating equipment in the vicinity of an excavation presents a hazard to employees in the excavation and to employees around the excavation.
2. Use hand signals or stop logs from keeping equipment from getting too close to the edge of excavations.

#### **G. Hazardous Atmospheres:**

**Some hazardous atmospheres include low oxygen or the presence of H<sub>2</sub>S, CO, or a flammable gas (example: methane).**

1. Excavations in some areas (such as landfills) can have a hazardous atmosphere.
2. Air ventilation and continuous monitoring may be required.
3. Never enter a manhole, vault, or other similar space unless the atmosphere has been tested with a calibrated and "bump-tested" monitor.

#### **H. Protection from Hazards Associated with Water Accumulation:**

1. Hazards from water accumulation include slips, trips, falls, and drowning.
2. Accumulating water presents soil stability problems which may require special shoring or shield systems.
3. Competent person monitoring is required if pumps are used to remove water.

#### **I. Stability of Adjacent Structures:**

**Expect the unexpected; if it's adjacent to the excavation, it needs our attention.**

1. Employees must be protected from structures in the adjacent area that can fall into an excavation (e.g. sidewalks, pavement, roads, sign bases, buildings).
2. Special shoring or underpinning may be required to stabilize adjacent structure.
3. In some cases engineering expertise may be required to ensure employee safety (and the protection of the asset in the adjacent area).

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#### **J. Protection of Employees from Loose Rock or Soil:**

1. Keep spoil piles away from the edge of the excavation (2 feet minimum).
2. Use the bucket to scale any loose soil or rock from the faces of excavations that could fall onto someone.

#### **K. Inspections:**

1. Daily inspections of excavations, the adjacent areas, and protective systems shall be made by a competent person for:
  - a. Evidence of a situation that could result in possible cave-ins
  - b. Indications of failure of protective systems
  - c. Hazardous atmospheres
  - d. Other hazardous conditions
2. An inspection shall be conducted by the competent person:
  - a. Prior to the start of work.
  - b. As needed throughout the shift.
  - c. After every rainstorm or other hazard increasing occurrence.

#### **L. Fall Protection:**

1. Walkways needed if employees are to cross excavations 6' or deeper and 30" or wider
2. Remotely located excavations obscured from view must be backfilled, covered, or protected by physical barrier protection.

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## II. Cave-In Hazards

### A. Protect from Cave-Ins:

1. Slope/Bench
2. Use Shoring
3. Use Shields

**B. Protection is needed if the excavation is 5' or deeper and also needed if less than 5' and the competent person determines that protection is required to keep employees safe.**

**C. All shoring must be installed and removed from outside of the trench.**

### D. Shoring Installation and Placement is Determined by:

1. Manufacturer's tabulated data.
2. Competent soil classification.

### E. Safe Shield Usage Guidelines:

1. Follow manufacturer's tabulated data.
2. All shields must be installed in a way to prevent lateral shifting (make sure the shield is a tight fit in the excavation).
3. Do not subject shields to loads exceeding those the shield is designed to withstand.
4. Do not excavate more than 2' below a shield.
5. Do not excavate below a shield if the soil will not stand or if the shield is not rated for the full excavation depth.
6. Access and egress must be provided in a safe area for employees exiting or entering shields.
7. Do not allow employees to be in a shield when it is installed, removed, or lifted.
8. When sloping or benching in combination with shields, make sure the slope starts at least 18 inches below the top of the shield to prevent material from rolling off the slope and into the shield area.

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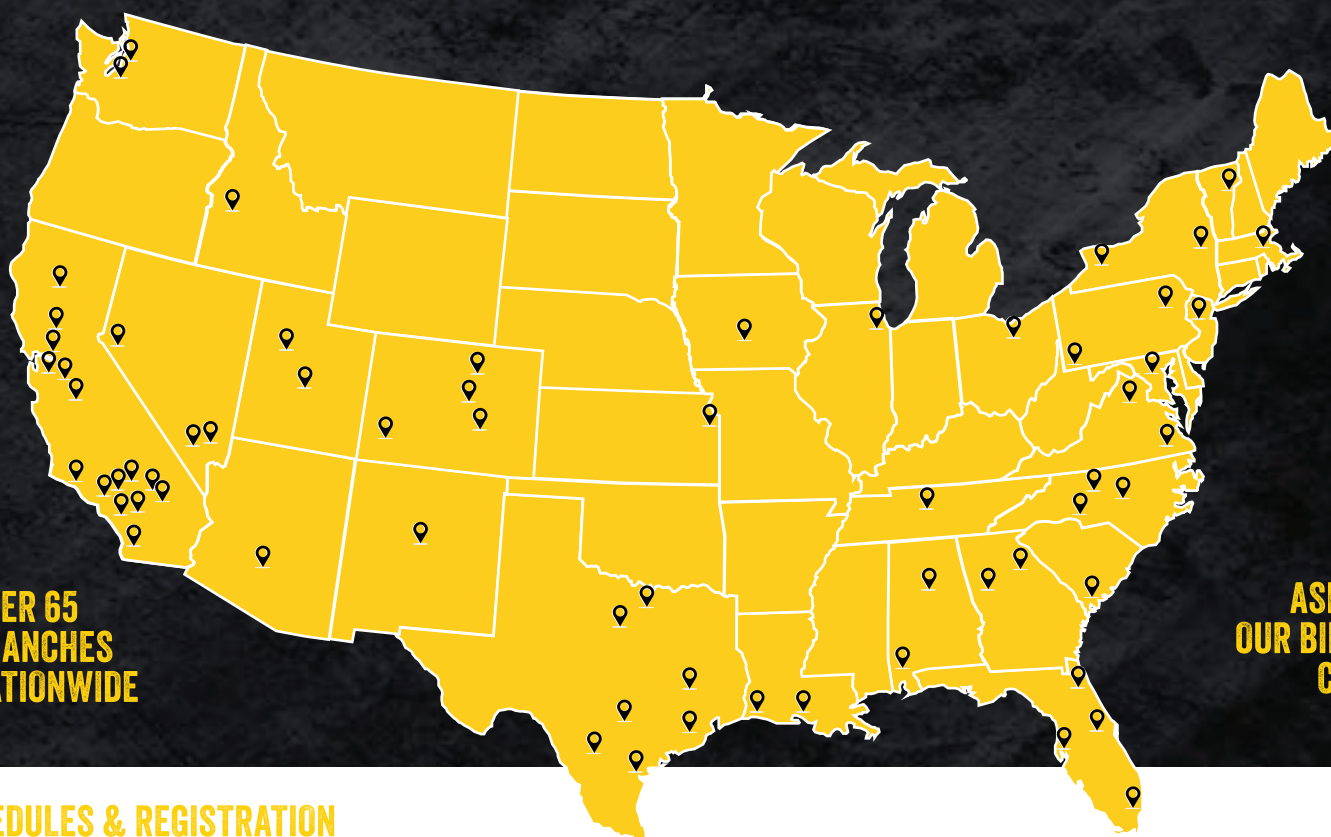
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