



BIE SAFETY ADVISOR

2023 Trench Safety Stand Down June 19-23, 2023

The National Utility Contractors Association (NUCA) is once again sponsoring the 2023 Trench Safety Stand Down, June 19-23, 2023.

What is a Safety Stand-Down? A Safety Stand Down presents the opportunity for employers to talk directly to employees and others about safety. These Stand Downs will focus on trench & excavation hazards and reinforce the importance of using trench protective systems and protecting workers from trenching hazards.

Two workers are killed every month in trench collapses. Employers must provide a workplace free of recognized hazards that may cause serious injury or death. The employer must comply with the trenching and excavation requirements of 29 CFR 1926.651 and 1926.652 or comparable OSHA-approved state plan requirements.

An excavation is any man-made cut, cavity, trench, or depression in an earth surface formed by earth removal.

Trench (Trench excavation) means a narrow excavation (in relation to its length) made below the surface of the ground. In general, the depth is greater than the width, but the width of a trench (measured at the bottom) is not greater than 15 feet (4.6 meters).

Dangers of Trenching and Excavation Cave-ins pose the greatest risk and are much more likely than other excavation-related accidents to result in worker fatalities. Other potential hazards include falls, falling loads, hazardous atmospheres, and incidents involving mobile equipment. One cubic yard of soil can weigh as much as a car. An unprotected trench is an early grave. Do not enter an unprotected trench.

Trench Safety Measures Trenches 5 feet (1.5 meters) deep or greater require a protective system unless the excavation is made entirely in

stable rock. If less than 5 feet deep, a competent person may determine that a protective system is not required.

Trenches 20 feet (6.1 meters) deep or greater require that the protective system be designed by a registered professional engineer or be based on tabulated data prepared and/or approved by a registered professional engineer in accordance with 1926.652(b) and (c).

Competent Person OSHA standards require that employers inspect trenches daily and as conditions change by a competent person before worker entry to ensure elimination of excavation hazards. A competent person is an individual who is capable of identifying existing and predictable hazards or working conditions that are hazardous, unsanitary, or dangerous to workers, soil types and protective systems required, and who is authorized to take prompt corrective measures to eliminate these hazards and conditions.

Access and Egress OSHA standards require safe access and egress to all excavations, including ladders, steps, ramps, or other safe means of exit for employees working in trench excavations 4 feet (1.22 meters) or deeper. These devices must be located within 25 feet (7.6 meters) of all workers.

Protective Systems There are different types of protective systems. Benching means a method of protecting workers from cave-ins by excavating the sides of an excavation to form one or a series of horizontal levels or steps, usually with vertical or near-vertical surfaces between levels. *Benching cannot be done in Type C soil.* Sloping involves cutting back the trench wall at an angle inclined away from the excavation. Shoring requires installing aluminum hydraulic or other types of supports to prevent soil movement and cave-ins. Shielding protects workers by using trench boxes or other types of supports to prevent soil cave-ins. Designing a protective system can be complex because you must consider many factors: soil classification, depth of cut, water content of soil, changes caused by weather or climate, surcharge loads (e.g., spoil, other materials to be used in the trench) and other operations in the vicinity.



Monthly Toolbox Talk

Trench Safety

Working in a trench is one of the most hazardous jobs in construction. Hundreds of people die and thousands are seriously injured each year due to cave-ins.

Soil weighs between 90 and 140 lbs per cubic foot. Therefore, one cubic yard (3 ft. by 3 ft. by 3 ft.) can weigh as much as a small pickup truck. If a person is buried, there is little chance of survival.

There are many things that can affect soil stability, such as the type of soil, water, and vibration. Soils saturated with water and previously disturbed soils are very dangerous to work in or around. But, don't be fooled, even hard soil and rock that appears stable can cave in.

Before entering a trench, the competent person at the jobsite must inspect the trench and the protection system to ensure that the trench is safe to enter. There are recorded incidents of people buried and killed in trenches 3- to 4-ft. deep, so even shallow trenches must be inspected by a competent person before entering.

Trench Safety Tips

- ▲ Locate all underground utilities before digging.
- ▲ Enter only trenches that have been sloped at the proper angle, shored, or shielded.
- ▲ Never go outside the area that has been sloped, shored, or shielded, not even for a moment.
- ▲ Eliminate or control water accumulation before entering the trench.
- ▲ Stay alert when working in or near previously disturbed soil conditions.
- ▲ Do not permit vehicles near the edge of the trench.
- ▲ Check regularly for hazardous materials and oxygen levels in the trench.
- ▲ Never allow machines to run unattended.
- ▲ Use a ladder or ramp to get in and out of the trench. Place the ladder inside the protective system.
- ▲ Never climb on shoring or shields. Never ride in equipment buckets or on crane hooks.
- ▲ Wear hard hats when working in or around trenches.
- ▲ Stay out from under raised loads.

About half of the people killed each year in trenches die trying to rescue someone else who has been buried by a cave-in. Call 911 for help. Do not attempt a rescue, unless you have been properly trained in trench-rescue techniques.

Remember, if you are buried by a cave-in, your chance of survival is very low. Therefore, always be sure that the trench walls are sloped, shored, or shielded with a trench box and that the trench is safe before you enter.

