SAFETY BULLETIN #4

April 15, 2025

Excavation & Trench Safety - Part 3

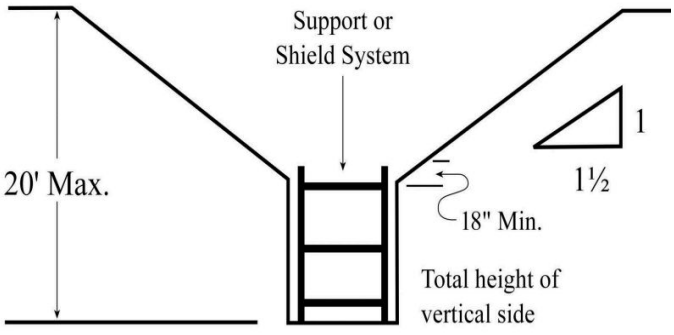
Excavation and Trenching

- ★ The previous Excavation and Trench Safety Bulletins (Parts 1 & 2) discussed trench collapses, cave-ins, sloping, and benching. Part 3 will explain proper shoring and shielding methods (for excavations at depths of 5’ or greater)

- ★ What is **shoring**? It is the method used to support trench faces and increase structural integrity when sloping and benching are not practical. Shoring may include timber, hydraulic, and pneumatic methods.
- ★ Adequate trench **shoring** could have prevented this roadway edge from failing under the concrete truck’s weight.

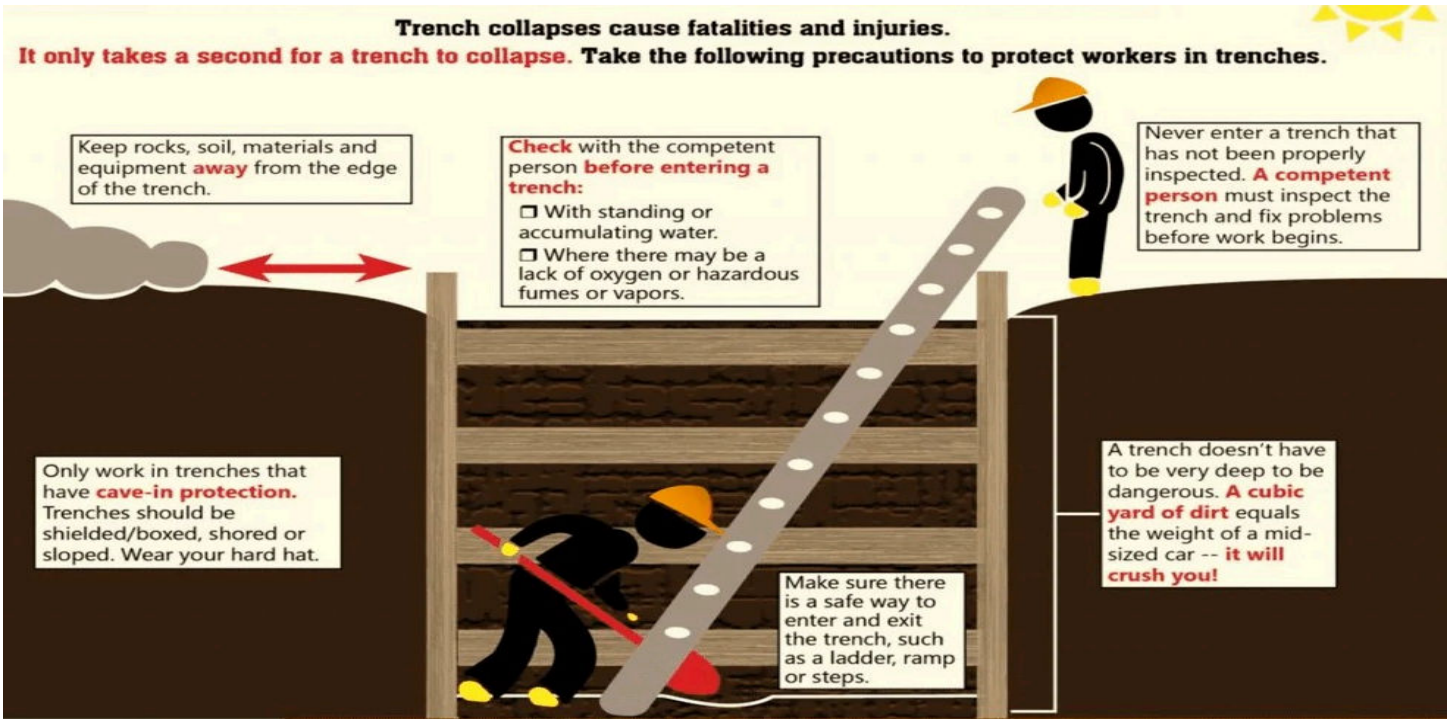


- ★ What is **shielding**? It is the method used to protect individuals from cave-ins while working in trenches. The most common shielding methods are trench and manhole boxes.
- ★ Shielding systems used with sloping or benching shall extend 18” above the vertical sidewalls. See diagram to the right. (Note: Sloping example based on Type C soil)
- ★ If the top of the trench box is at ground level, it does not have to extend 18” above grade.



Ways to protect yourself and team members

- ★ When removing shoring devices, begin at the bottom of the excavation and progress upward.
- ★ Backfilling must progress together with the removal of shoring and shielding devices.
- ★ To install, move, or relocate trench boxes, use the lifting eyes. Do not drag or lift by the spread bars.
- ★ Team members are not allowed to be in the trench boxes when boxes are being installed, removed, or moved vertically.
- ★ Means of entry and exit must be within 25’ laterally and rise 3’ above top of the trench.
- ★ Fall protection may be needed in situations where there is a crossing bridge or the edge of excavation cannot be clearly seen.



Discussion Point:

- ★ One cubic yard (CY) of dirt can weigh the same as a small car! So how big is a CY?
- ★ Shoring does what?
- ★ Shielding does what?

- ★ *Answers:*
  - *1 CY = 3' tall x 3' wide x 3' deep area*
  - *Shoring = increases structural integrity*
  - *Shielding = protects individuals*