



# Checklist Trenching Safety

**For:**

**Date:**

**Conducted by:**

In accordance with OSHA 29 CFR 1926 Subpart P, safety and health programs must be in place to address the variety of hazards workers' face while in excavation sites. The following guide is designed to provide best practices to prevent trenching injuries and fatalities for trenches less than 20 feet deep.

**Pre-Planning (to be conducted by a competent person of authority)**

**DONE**

Contact utilities to locate all underground lines prior to digging	<input type="checkbox"/>
Evaluate soil conditions (see chart)	<input type="checkbox"/>
Based on soil type, determine maximum allowable slope for excavations less than 20 feet based on angle to the horizontal (see chart)	<input type="checkbox"/>
Select appropriate protective systems	<input type="checkbox"/>
Determine proximity to the structures that could affect the choice of protective system	<input type="checkbox"/>
Test for low oxygen, hazardous fumes and toxic gases, especially when gasoline engine driven equipment is running, or the dirt has been contaminated by leaking lines or storage tanks	<input type="checkbox"/>
Insure adequate ventilation or respiratory protection, if necessary	<input type="checkbox"/>
Provide a warning system for mobile equipment, if necessary	<input type="checkbox"/>
Plan for vehicle traffic control, if necessary	<input type="checkbox"/>
Train all workers to recognize existing or potential hazards and how to protect themselves from cave-ins.	<input type="checkbox"/>

Soil Type	Height/Depth Ratio	Slope Angle
Stable Rock (granite or sandstone)	Vertical	90°
Type A (clay)	¾:1	53°
Type B (gravel, silt)	1:1	45°
Type C (sand)	1 ½:1	34°
Type A (short-term); for a max. excavation depth of 12 feet	½:1	63°

**Protective Systems**

**DONE**

<p>Always use a protective system, such as sloping, shoring or shielding, for trenches 5 feet deep or greater.</p> <ul style="list-style-type: none"> <li>✓ Benching to protect 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.</li> <li>✓ Slope to protect workers by cutting back the trench wall at an angle inclined away from the excavation that is not steeper than a height/depth ratio of 1 1/2:1, according to the sloping requirements for the type of soil.</li> <li>✓ Shore to protect workers by installing supports to prevent soil movement for trenches that do not exceed 20 feet in depth.</li> </ul>	<input type="checkbox"/>
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Provided by: Lawley

✓ Shield to protect workers by using trench boxes or other types of supports to prevent soil cave-ins.	<input type="checkbox"/>
Instruct employees to never enter an unprotected trench	<input type="checkbox"/>

**Access and Egress**

**DONE**

If trench is 4 feet deep or more, provide stairways, ladders, ramps or other safe means of egress.	<input type="checkbox"/>
Ensure structural ramps used solely for access or egress are designed by a competent person.	<input type="checkbox"/>
Provide ladders or steps within 25 lateral feet of workers.	<input type="checkbox"/>
When two or more components form a ramp or runway, they must be connected to prevent displacement, and be of uniform thickness.	<input type="checkbox"/>
Cleats or other means of connecting runway components must be attached in a way that would not cause tripping.	<input type="checkbox"/>
Structural ramps used in place of steps must have a non-slip surface.	<input type="checkbox"/>
Use earthen ramps as a means of egress only if a worker can walk them in an upright position, and only if they have been evaluated by a competent person.	<input type="checkbox"/>
Keep excavations open the minimum amount of time needed to complete operations.	<input type="checkbox"/>

**Inspection Procedures**

**DONE**

<p>Inspections should be conducted by a competent person who has training in soil analysis, use of protective systems, is knowledgeable about the OSHA requirements and has authority to immediately eliminate hazards. Inspect trenches daily for evidence of possible cave-ins, hazardous atmospheres, failure of protective systems or other unsafe conditions. Inspect the trench:</p>	
✓ Before construction begins	<input type="checkbox"/>
✓ Daily before each shift	<input type="checkbox"/>
✓ As needed throughout the shift	<input type="checkbox"/>
✓ After any hazard-increasing event such as a rainstorm, vibrations or excessive surcharge loads	<input type="checkbox"/>

**Considerations for Excavated Materials**

**DONE**

<p>Excavated materials are hazardous if they are set too close to the edge of a trench. The weight of the spoils can cause a cave-in, or spoils and equipment can roll back on top of workers, causing serious injuries or death. Provide protection by one or more of the following:</p>	
✓ Set spoils and equipment at least 2 feet back from the excavation	<input type="checkbox"/>
✓ Use retaining devices, such as a trench box that will extend above the top of the trench, to prevent equipment and spoils from falling back into the excavation	<input type="checkbox"/>
✓ Where the site does not permit a two-foot setback, temporarily haul spoils to another location	<input type="checkbox"/>

Source: OSHA. For reference use only. Not intended to identify all hazards, or reflect all requirements of federal, state or local law.