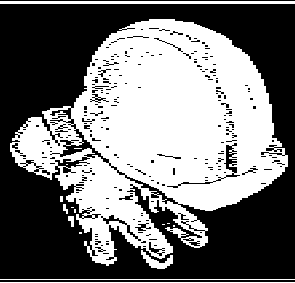
TRAINING GUIDE

TRENCHES & EXCAVATIONS



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Before you begin the meeting...

☐ *Does this topic relate to the work the crew is doing? If not, choose another topic.*

☐ *Did you read this Training Guide and fill in the blanks where the ___ appears? (To find the information you need, look over the Safety Walkaround Checklist for this topic.)*

Begin: This meeting is about working safely around trenches and excavations. The most obvious danger is from cave-ins. A lot of people think if there's ever a cave-in, they'll just outrun it. But that could be the biggest mistake you'll ever make. You can't outrun them. Between 50 and 100 workers die each year in the U.S. from cave-ins and other trenching accidents. Never enter an unsafe trench or excavation.

You or a crew member may want to add a personal story about trenches or excavations.

Next, discuss with the crew where you will be excavating at this particular job site:

_____

_____

ASK THE CREW THESE QUESTIONS:

After each question, give the crew time to suggest possible answers. Use the information following each question to add points that no one mentions.

1. **According to Cal/OSHA, excavations over five feet deep require a permit if workers will be entering them. We must have a *competent person* in charge. What does that person do?**
   - Determines the type of soil, and decides what kind of cave-in protection is needed.
   - Inspects the operation daily and after every rainstorm, snowstorm, or earthquake.
   - Checks and corrects any hazards.
   - Determines if there are hazardous fumes or vapors, and if there is enough oxygen.
   - Can shut down the operation until it is safe.
   - Must always be on the site when anyone is working in or around the excavation.

The "competent person" for this job is: _____.

2. **When does a trench or excavation need shoring, sloping, benching, shielding, or other protection from cave-ins?**
   - If five feet deep or more.
   - When less than five feet deep, similar protection may be needed if the competent person has not yet inspected the excavation and determined it is safe from cave-ins.

3. **An excavation can cave in if weakened by rain, snow, or other water. What precautions do we have to take in wet conditions?**
   - As a general rule, don't work in accumulated water.
   - The competent person must re-inspect after each rainstorm or snowstorm.

4. **What do you need to know about utility lines when excavating?**
   - The area should be marked by the Underground Service Alert (USA) system to show location of underground utility lines.
   - Make sure you're not interfering with any kind of utility—underground, overhead, or on the surface. Watch out for electrical, gas, telephone, water, and sewer lines.
   - Keep all equipment at least six feet from any electric power line (more distance for very high voltage). Remember that electricity can arc.

5. **Where should spoil go? How far back from the edge?**
   - Keep it at least two feet from the edge. If you can't, use retaining devices adequate to prevent it from falling into the excavation.
   - The same applies to all tools, equipment, and other materials. Keep them at least two feet from the edge, or use retaining devices.

6. **How do you get in and out of a trench or excavation safely? How do you cross over safely?**
   - If the excavation is over four feet deep, there should be designated access points within 25 feet of any worker in the excavation.
   - If equipment or people cross over a trench deeper then 6 feet or wider then 30 inches, there must be a walkway with standard guardrails.
   - Trenches and excavations in remote areas should be barricaded.

7. **When do you need a lookout standing by?**
   - Always.

8. **What precautions should you take if a trench or excavation is classified as a "confined space"?**
   - Don't go in until the competent person checks out the air. There may be toxic vapors or fumes, insufficient oxygen, or both.

- Follow directions from the competent person. You'll be told what special precautions to take.

Confined spaces on this site: _____

_____

CAL/OSHA REGULATIONS

Explain: Most of the safety measures we've talked about are required by Cal/OSHA. We have to take these precautions—it's the law. I have a Checklist of the Cal/OSHA regulations on trenches and excavations. If you'd like to know more, see me after the meeting.

COMPANY RULES

(Only if applicable.) Besides the Cal/OSHA regulations, we have some additional company rules about trenches and excavations.

Discuss company rules: _____

_____

COMMENTS FROM THE CREW

Ask: Do you have any other concerns about trenches or excavations? Do you see any problems on our job? *(Let the steward answer first, if there is one.)*

What about other jobs you've worked on? Have you had any experience with trenches or excavations that might help us work safer on this job?

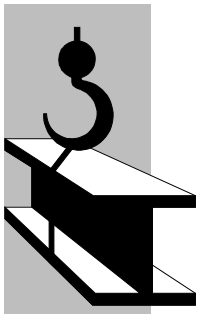
SIGN-OFF FORM
TRENCHES & EXCAVATIONS

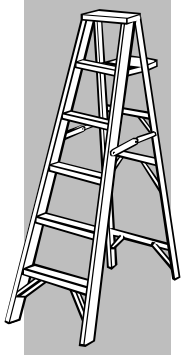
Date Presented: _____ By: _____

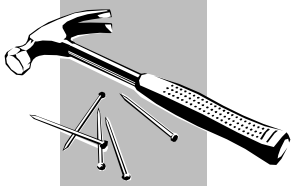
Project Name/No.: _____ Location: _____

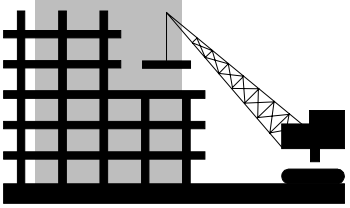
NAMES OF THOSE WHO ATTENDED THIS SAFETY MEETING

PRINTED NAME	*SIGNATURE*









Laborer Dies in Trench Cave-In

A 27-year-old laborer died after being trapped in soil over his head as a result of a trench cave-in.

The laborer was digging out the bottom of the trench to expose a drain pipe. On one side of the trench was a retaining wall. The other side was a dirt wall which was part of a hillside.

When the collapse occurred, another worker had been pulling up buckets filled with the spoil, placing it on the hillside above the trench wall as well as on the other side of the excavation. Eventually the hillside collapsed, burying the laborer.

The hillside that collapsed was not shored or otherwise protected from earth movement. The soil in the area had recently been disturbed by an earthquake.

There was no competent person on site to check the soil and excavation. No initial hazard assessment had been performed. The laborer had received no training from the company.

April 11, 1996

What should have been done to prevent this accident?

Preventive Measures

Cal/OSHA investigated this accident and made the following recommendations.

Employers should:

- Assure that the sides of all excavations are shored, laid back to a stable slope, or provided with other equivalent protection where employees may be exposed to moving ground or cave-ins.

- Have a competent person frequently inspect excavations in which the soil was previously disturbed, or where there is loading due to stored materials.

- Train employees, including periodic refresher training, to be aware of and understand the hazards of the job.

- Perform an initial hazard assessment of the job prior to beginning work and whenever there is a change (storm, earthquake, etc.) that may cause new hazards.

This Case Study is based on an actual California incident. For details, refer to California Dept. of Health Services, Occupational Health Branch, Fatality Assessment and Control Evaluation (FACE) Report #96CA007.