



TRENCH SAFETY

336-920-8925

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IRON LOT SAFETY TRAINING SERIES

NATIONAL TRENCH SAFETY MONTH

WEEK 1 TRAINING: UNDERSTANDING TRENCH HAZARDS

Training Topic:

Understanding Trench Hazards: Why Trenches Can Turn Deadly in Seconds

Training Duration

15-20 Minutes

Audience

- Equipment Operators
 - Laborers
 - Foremen
 - Superintendents
 - Project Managers
 - Utility Crews
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Training Objectives

Upon completion of this training, employees should be able to:

- ✓ Identify common trench hazards
- ✓ Recognize factors that contribute to trench cave-ins
- ✓ Understand the dangers associated with water accumulation
- ✓ Recognize hazards associated with underground utilities
- ✓ Understand the role of the Competent Person
- ✓ Apply trench safety principles before entering an excavation

Why Trench Safety Matters

Excavation and trenching work remain among the most hazardous activities in construction.

Trench incidents often occur without warning. Soil conditions can change rapidly due to weather, vibration, nearby equipment, and groundwater.

A trench that appears stable one moment may collapse the next.

Every employee must understand that trench safety begins before entering the excavation.



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Hazard #1: Cave-Ins

Cave-ins remain one of the leading causes of trench-related fatalities.

Common causes include:

- Improper soil classification
- Previously disturbed soil
- Water infiltration
- Spoil piles too close to trench edges
- Heavy equipment operating nearby
- Inadequate protective systems

Discussion Question

What conditions on our current projects could increase the likelihood of a trench collapse?

Hazard #2: Falling Loads and Equipment

Workers inside trenches may be exposed to:

- Suspended loads
- Excavator buckets
- Pipe sections
- Construction materials
- Equipment operating near trench edges



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Safety Reminder

Never work beneath suspended loads.

Equipment should be positioned to minimize surcharge loads and vibration near trench walls.

Hazard #3: Water Accumulation

Water can dramatically affect trench stability.

Sources include:

- Rainfall
- Groundwater
- Utility leaks
- Surface runoff

Water may:

- Weaken trench walls
- Increase collapse risk
- Hide unstable footing
- Conceal hazards

Discussion Question

What actions should be taken if water begins accumulating in a trench?



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Hazard #4: Underground Utilities

Underground utilities present serious risks.

Examples include:

- Electric lines
- Natural gas lines
- Water lines
- Sewer systems
- Communication lines

Utility strikes may result in:

- Electrocution
- Explosions
- Flooding
- Service interruptions
- Serious injuries

Safety Reminder

Always verify utility locations before excavation begins.



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The Competent Person

OSHA requires a Competent Person to evaluate excavation hazards.

The Competent Person is responsible for:

- Soil classification
- Daily inspections
- Identifying hazards
- Monitoring changing conditions
- Verifying protective systems
- Taking corrective action

The Competent Person must have authority to stop work when unsafe conditions exist.

Key Takeaways

- ✓ Trench hazards extend beyond cave-ins
 - ✓ Water can quickly change soil stability
 - ✓ Utility strikes can be catastrophic
 - ✓ Conditions can change throughout the workday
 - ✓ Daily inspections are critical
 - ✓ Never enter an unprotected trench
 - ✓ Every worker has a responsibility to recognize hazards
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Knowledge Check

1. True or False:

A trench that appeared safe in the morning cannot become hazardous later in the day.

True

False

2. Name two factors that can contribute to trench collapse.

3. Why is water accumulation dangerous in a trench?

4. Who is responsible for identifying excavation hazards and taking corrective action?

5. True or False:

Workers should never work beneath suspended loads.

True

False



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Employee Acknowledgement

I have participated in this trench safety training session and understand the topics discussed.

Employee Name: _____

Signature: _____

Date: _____

Instructor Verification

Instructor Name: _____

Signature: _____

Date: _____

Attendance Record

Name: _____

Signature: _____

Date: _____

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National Trench Safety Month Training Series

Week 1 – Understanding Trench Hazards