

*The Simple Fact is...*

## Trench Shields Save Lives

*By David V. Dow, President, TrenchSafety and Supply, Inc.*

**E**very couple of months, we hear a story about a trench shield saving a life here in the Mid-south. It might be in a NUCA "Competent Person" or "Confined Space Entry" article, or it might be from a customer who comes by one of our locations to pick up a piece of equipment. Sometimes one of our sales people hears the story on a jobsite.



*Memphis, Tenn.*

The picture at left is the most recent story. This cave-in occurred on a jobsite in November in Memphis. A contractor was relocating a temporary sewer line to a job trailer. The two-man crew was working about 14 feet deep in the trench. Fortunately, there were a couple of trench shields in the hole, and the men were inside those boxes. Because dirt weighs between 90 and 140 pounds per cubic foot, we estimate that more than three tons of dirt collapsed around the trench shield alone.

The picture at right tells another story. This cave-in, in Fontana, Calif., during the summer 1999, involved two men working 20 feet deep when an estimated 200-ton wedge of dirt slammed against the three shields stacked on top of each other. Engineers at the job site estimated there was 3,000 pounds per

The picture at left is the most recent story. This cave-in occurred on a jobsite in November in Memphis. A contractor was relocating a temporary sewer line to a job trailer.

The two-man crew was working about 14 feet deep in the trench.



*Fontana, Calif.*

square foot pressing against the bottom shield. The force was sufficient to cause the 6"-thick sidewall to bow about a foot. The shield flexed back to its original shape after removal.

Much of the soil in the Mid-south contains a lot of clay. Trench walls will stand when a trench is seven or eight feet, or more, deep. But that's a mixed blessing. Certainly it makes it easier to work when the walls stand. But it also creates a false sense of security that the trench is safe without sloping, shoring, shielding.

### EXCUSES WE HEAR FOR NOT USING A PROTECTIVE SYSTEM:

- **"This job is going to take just a few minutes. And besides, we're in 'good dirt.'"**—Except when working in solid rock (which is rare), every trench will eventually collapse. It's simply a question of when. And when they do (and are unprotected with people in them) someone is going to get hurt or killed.
- **"Trench shoring and shielding add too much to the cost of the job."**—Actually trench shielding and shoring reduce costs, because they make it possible to dig a much narrower trench. Fewer trees, curbs and gutters, fire hydrants, sidewalks, etc. have to be removed, and less dirt has to be dug. Much less backfilling is necessary. Lastly, costs for restoring the surface are also reduced.

### BESIDES, IT'S THE LAW

It's also important to remember that by law, every trench that is deeper than five feet must be sloped, shored, or shielded unless you are working

*See "Saving Lives" on page 2...*

*“Saving Lives” from page 1*

in solid rock. (Note: In some states, trenches four feet or more in depth must be sloped, shored or shielded.) If the trench is less than five feet, it's up to the Competent Person on the site to make the decision. If there's a chance a cave-in might occur, shallower trenches must also be sloped, shored, or shielded.

Trenches continue to be a very high priority at OSHA. In addition to the human suffering that results from an accident on a jobsite, the finer can run into the hundred of thousands of dollars. And today, OSHA and others agencies are filing more criminal charges against contractors who fail to obey the law.

The bottom line? Slope, shore, or shield every trench.

## Recent Mid-South Cave-Ins

**LITTLE ROCK, ARK.**—A series of “miracles” were credited with saving the life of a 19-year-old pipe layer in a trench collapse. The first occurred when he instinctively reacted to a warning shout and managed to get his head inside a trench box as the dirt hit him. Then, a passerby leaped into the hole and kept his head clear of the mud and water that was oozing into the trench. The worker said he had just stepped out of a trench box to take a measurement about four feet away when the cave-in occurred. Emergency rescue personnel administered oxygen and intravenous fluids during the four-hour rescue.

Adding to the drama was a second cave-in and a backhoe teetering at the edge of the ditch just above the victim. Heavy rain during the rescue operation further destabilized the soil and drove rescuers from the trench, fearing yet another collapse.

**BYRAM, MISS.**—A worker installing storm drain in an unshored 15-foot-deep trench became the object of a two-hour rescue after the trench caved in. He suffered only minor injuries. One fire official said it took 40 minutes to shore the trench and uncover the worker's head. Paramedics administered oxygen as the rescue proceeded. OSHA investigators arrived at the site during the rescue.

**JACKSONVILLE, ARK.**—One man was killed and a second injured when an unshored trench caved-in on them as they were installing a sewer line from a treatment plant to a new subdivision. The survivor was buried up to his waist, but the body of the other man was found under 14 feet of dirt.

**UTICA, MISS.**—A 41-year-old man installing pipe to drain water from a low-lying area was trapped for two hours when the unshored trench collapsed. Recounting the accident several months later, he savored the memory of a shovel slapping the back of his head as he lay buried in a hunched position with his head between his arms. The man suffered permanent injuries and is no longer able to work.

**OZARK, MO.**—One worker was killed and another seriously injured when a trench collapsed on them as they were preparing to install shoring. One side caved in, pinning the men against a concrete wall, and burying them to their necks. A coroner's report said soil compressing his chest killed the one man. The survivor was trapped about 20 minutes. An OSHA investigator noted that the soil had been disturbed during construction of the concrete wall.

**CHATTANOOGA, TENN.**—In a 15-hour rescue that made headlines across the country, a 26-year-old worker was pulled from a 15-foot-deep trench. He was buried under five feet of dirt, but was able to create an air pocket with a bucket and the pipe he had been installing. Rescuers pumped oxygen into the air pocket. When finally pulled from the trench, he was suffering from kidney, lung, and respiratory failure. One of his legs later had to be amputated. He was hospitalized for about five months.

**LOUISVILLE, KY.**—A worker was trapped for five hours and another for an hour and a half after an 8-foot-deep trench collapsed. One suffered from leg injuries and the other was badly bruised. A fire official at the scene said the trench had not been shored. OSHA investigators recommended \$12,500 in penalties against the men's employer for at least four safety violations:

- Not training employees to recognize and avoid unsafe conditions,
- Not providing a ladder or other safe exit from the trench,
- Having excavated material piled within two feet of the edge of the trench, and
- Not having daily inspections by a competent person.

## Excavation Safety News

Published quarterly by

**TrenchSafety and Supply, Inc.**

3000 Ferrell Park Cove • Memphis, TN 38116

(901) 346-5800 • (800) 865-5801 • (901) 346-1060 FAX

*This newsletter provides a brief overview of safety regulations and systems. It is not intended to provide specific legal or engineering advice. Please refer to OSHA CFR 29, Part 1926, Subpart P, “Excavation and Trenches,” to other governmental regulations, and to manufacturers' instructions for specific information.*

Copyright © 2000, TrenchSafety and Supply, Inc.

*Expanding our role as your educational source...*

## TrenchSafety Offers Motorgrader and Asphalt Paver Classes

**T**renchSafety and Supply has expanded its educational programs, and now offers classes on the safe and efficient use of laser-controlled motorgraders and asphalt pavers.

Company owners, estimators, project managers, superinten-



dents, grader checkers, and machine operators will all benefit from the new courses.

Each topic will be covered in six hours: four hours of classroom time and two hours of actual “hands-on” use of the machines.

The schedule for the new classes is shown in the box below.

Cost is \$65 per person, and includes lunch. Each class will begin at 8:30 a.m. in TrenchSafety’s classroom in Memphis.

These course curriculum, which applies to virtually all machine-control manufacturers, is based on classes created by Topcon Laser Systems, the world leader in lasers and machine control.

### UNDERGROUND COURSES ALSO AVAILABLE

TrenchSafety has long provided “Competent Person” and “Confined Space Entry” training. More than 4,500 people have completed the NUCA-approved training programs. See the schedule below for the upcoming “CP” and “CSE” classes.

#### Training Class Schedule

##### Motorgrader Control—\$65

- Wednesday, March 15 — Memphis
- Thursday, April 13 — Memphis

##### Asphalt Paver Control—\$65

- Thursday, March 16 — Memphis
- Thursday, May 18 — Memphis

##### Competent Person—\$85

- Tuesday, January 18 — Memphis
- Thursday, February 10 — Jackson, Tenn.
- Thursday, March 9 — Memphis
- Thursday, April 20 — Memphis
- Thursday, May 25 — Memphis

##### Confined Space Entry—\$85

- Thursday, January 13 — Memphis
- Thursday, May 4 — Memphis

Call **TODAY** to register and reserve classes for your staff.

**VISA & MasterCard accepted.**

**TRENCHSAFETY AND  
SUPPLY, INC.**

**(901) 346-5800 or (800) 865-5801**

### YOU'RE REALLY IN MANUFACTURING

The construction industry—the largest industry in the world—is also the least automated. Machine control brings automation to our industry. Further, contractors are actually

manufacturers. You manufacture roads, bridges, landfills, dams, etc. These classes will help you and your team be more productive...and your business more profitable.

### WHY HAVE MACHINE CONTROL?

- You are faced with a very challenging business environment.
- You have difficulty finding trained personnel.
- Labor costs are on the rise.
- Material costs are on the rise.
- Operating costs are on the rise.
- And you confront tighter bids and lower margins with every passing day.

### THE BENEFITS ARE SIGNIFICANT

- Increased on-site safety.
- Increased efficiency and production.
- Tighter control of material costs.
- Reduced engineering costs.

### CLASS SPECIFICS

The grader training course will include a review of conventional methods of establishing and maintaining grades, operation of lasers and non-contact controls, and a “how-to” section on the use of these systems on various job site applications.

The paver course will include a review of the basic principles of paving, operation of lasers and non-contact controls, and sonic averaging systems and applications.

**TrenchSafety and Supply, Inc.**  
3000 Ferrell Park Cove  
Memphis, TN 38116

Bulk Rate  
U.S. Postage  
**PAID**  
Memphis, TN  
Permit No. 465

## Address Service Requested

## Who IS Responsible for Jobsite Safety?

**T**he law says every employer. Some details will prove helpful.

**WHAT IF YOU'RE THE GENERAL (PRIME) CONTRACTOR?** The prime contractor, according to OSHA, "assumes all obligations" and "in no case...shall be relieved of overall responsibility for compliance with the requirements of the part for all work to be performed under the contract." This included work being done by all subcontractors at your jobsites.

**WHAT IF YOU'RE A SUBCONTRACTOR?** Again, the law states, "with respect to subcontracted work, the prime contractor and any subcontractor...shall be deemed to have joint

responsibility." The subcontractor "of any tier" is still responsible for the safety of workers involved in his part of the job.

**WHO CAN BE FINED?** The general contractor, the subcontractor, and even the owner of the project, are subject to enforcement and fines when it can be shown they "could have had (such) knowledge with the exercise of reasonable diligence." The standard says: "Where joint responsibility exists, both the general (prime) contractor and his subcontractor or subcontractors, regardless of tier, shall be considered subject to the enforcement provisions of the Act."

### *EMPLOYMENT OPPORTUNITIES...*

## We Need a Few Good People

**T**renchSafety and Supply is a growing company with excellent opportunities for enthusiastic, hard-working people!

We have just acquired a facility in Lonoke, Ark. (20 miles east of Little Rock), and we have immediate staff opportunities there, as well as in our headquarters office in Memphis. All inquiries will be kept in the strictest of confidence. FAX your résumé to **(901) 767-1472**, or e-mail it to [dvdow@usit.net](mailto:dvdow@usit.net)

### Job Openings...

**OUTSIDE SALES** – Two positions available. You will be based in Lonoke (Little Rock), and work primarily with customers in central Arkansas. Construction-related outside sales experience is required.

**FULL-CHARGE BOOKKEEPER** – You will be responsible for various accounting and administrative functions. This person will report to the owner, and is located in Memphis.

**DRIVER/FIELD SERVICE REPRESENTATIVE** – You will be based in Memphis, and will deliver and pick-up equipment, and will work with customers in the field. Class A Commercial driver's license is required.