

# First Responders for trench accident, called *Technical Rescue Teams*, must quickly determining the situation a rescue or recovery

by James McRay, NAXSA member Efficiency Production

When people hear the term *First Responders*, they immediately think of the police or fire departments. That is indeed correct; firefighters and policemen are the most common First Responders. However different type of First Responder, called *Technical Rescue Teams*, spring into action for very specific emergencies such as severe road accidents, extreme hazardous atmospheric conditions, and structural collapses possibly from an earthquake.

Technical Rescue Teams are also the first to respond to excavation accidents and trench cave-ins.

Technical Rescue Teams generally cover a larger Regional area than typical municipal fire or police departments. They are considered “low frequency, high risk.” In other words, Technical Rescue Teams may not respond to a 911 call very often, but when they do, they know it will be a unique rescue operation that they’ve trained for extensively; much more than a typical First Responder who rely on their frequent, but low-risk field experience.

## **Rescue or Recovery must be determined quickly**

Of all the emergencies that a Technical Rescue Team will respond to, excavation trench accidents are different in one critical way. “Almost immediately, the rescue team must make the massive judgment call on whether the situation is a rescue, or a recovery,” says Travis McKenney, Firefighter & Technical Rescue Technician with the Seattle-area South King Fire & Rescue.

The first thing the tech rescue team does when arriving at the accident site is assess the condition of the victim. Is the person fully buried or partially buried? Is the person responsive? Could the soil shift and cause suffocation? The answers to these questions determine whether the team swings into action quickly for an attempted rescue, or delicately prepares the operation for a body recovery.

If the rescue team does determine that a **Rescue** is possible, a set of procedures immediately take effect that must be followed to assure that no additional harm comes to the victim or the rescue team personnel as they work in what is already an unstable, and dangerous excavation space.

The team’s Rescue Group Supervisor and Safety Supervisor are responsible to make sure these steps are followed as the trench rescue progresses:

1. Make sure all needed resources are on hand, and obtain those which are not; including additional specialized personnel if required
2. Set-up atmosphere monitoring both topside and in the trench; take mitigating Confined Space actions if necessary
3. Assign one team member to have direct contact with the victim; to talk them through everything that is happening

4. Design an on-the-spot trench protection system for the rescue procedure; all rules of trench safety must be followed
5. Install the tools for creating a safe space around the victim; usually pneumatic and hydraulic shores
6. Once the excavation space is safe, THEN get hands on the victim
7. Stabilize the victim medically and physically before attempting extraction
8. Delicately remove dirt around the victim; usually by hand digging, but also vacuum excavation has become common practice in trench rescue

“Most importantly is to DO NO HARM to the victim or rescue personnel,” adds McKenney. “We want to mitigate problems, not create new ones.”

If the operation is determined to be a **Recovery**, than a different—but just as important—set of procedures are followed. “It usually progresses more slowly, because there is no need to put the rescue team at risk if the end result is a body recovery,” McKenney says, but adds, “Other important factors must be managed such as respectfully uncovering and removing the victim’s body; aiding in the investigation that is mandatory for every trench accident; plus provide on-the-scene counseling for the victim’s grieving family.”

#### **What the contractor can do while waiting for the rescue team to arrive**

There are several steps the excavation contractor can take before the rescue team arrives on site. “Call 911, of course,” insists McKenney. “Resources need to get on the road immediately, and that process actually begins while the contractor is on the call, not after,” he says.

After the 911 call is made, there are certain things the contractor can do to prepare the site for the rescue team; such as clearing the area of unnecessary equipment, making space for rescue equipment and setting up a staging zone, and making sure additional equipment such as a vacuum truck can get to the accident site.

“Be sure to shut down all equipment, but don’t let excavation operators or other key personnel leave the accident site,” says McKenney. “They may be utilized as a resource in the rescue operation,” he explains. Additionally, if the worksite is back from the main road, the contractor should plan to meet the rescue team and lead them to the accident site,” he says.

As for the trench cave-in, McKenney explains that there are certain things the excavation crew can do to shore up the collapsed trench from a safe distance, like putting in plywood along the side of a ruffling trench or tying a shovel to a long pole or two by four and try digging away the dirt from outside the trench.

#### **What the contractor should not do while waiting for the rescue team to arrive**

There are also a number of things a contractor should never do when a trench accident occurs. “Absolutely do not go into an un-shored trench to try to help the victim,” insists McKenney. “It’s true,

you can become a victim yourself; and I know this is a tough one as it's an emotional decision, but you can do more harm than good," he says.

The other never-to-do-but-often-is-done-anyway thing is use a backhoe or excavator to dig away dirt around the victim. Even if the backhoe is not digging close to the victim, the vibrations may cause the trench walls to shift or become even more unstable.

### **Why trench accidents occur**

There are many reasons why people are injured or killed in an excavation cave-in. "The industry is still very schedule driven, which puts pressure on contractors to possibly take shortcuts in getting pipe in the ground," says Tony Perrotti, General Manager with J.R. Hayes and Sons, Inc., a leading Construction Management company in the Seattle area. "Unfortunately, many times 'taking shortcuts' mean sacrificing safety in some way or another," he says.

"The most egregious disregard for trench safety I've found," McKenney explains, "is when a homeowner gets a quote from a professional to install a new well or something at their house, and says, 'That's too expensive, I'll do it myself.' They go out and rent a backhoe with a really narrow bucket, cut an eight foot deep trench and jump inside," he says; adding, "It gets back to the old adage, you don't know what you don't know, and many times the accidents we get called to, the victim had no idea even about the concept of 'trench safety.'"

However, it usually gets back to shoring, or the lack thereof. Contractors get into trouble when they think, *I'll just be in the trench for a few minutes, or I've done this a hundred times without any problems.*

"Of course, you still have those contractors who say, 'If I'm not laying pipe, I'm not making money;' but that generally comes from the top of an organization," concedes McKenney. "Sometimes a culture change needs to happen that really takes into consideration, again, Risk Management. Regardless of the reasons, contractors need to ask themselves, is it really worth the risk of injuring or killing an employee?"