



021: Directional Boring

General concerns

Boring often takes place near train tracks. When a train comes through the work area, stay back at least twenty feet from either side of the train tracks.

Minimum personal protective equipment includes hardhat, safety glasses, work boots, gloves, and orange vest.

Wear respiratory protection and goggles when someone is mixing the bentonite or move upwind from the immediate area.

Monitor hydraulic hoses and electric cords for hazards. Do not walk on them at any time, and report any damage—no matter how minor.

Driller and Rodman

In addition to the minimum personal protective equipment, also wear insulating rubber gloves and insulating rubber boots.

Inspect equipment for any signs of damage or safety hazards, before operating.

Mark the location of all known utilities, so the bore stands the least chance of hitting a pipe or conduit. Verify per drawings and locating equipment.

Set the boring machine and outriggers to hold the machine in place.

Bond the boring machine to the nearest utility ground. Simply driving a rod creates an unbonded electrode.

Per Kirchoff's Law, the ground will not provide absolute protection. Electricity, contrary to popular belief, does not "take the path of least resistance." It divides proportionately among all paths. Grounding will reduce the magnitude of the shock potential.

Use a ground mat bonded to the boring machine.

Be alert for hydraulic leaks and electrical dangers—circumstances may have changed from when you first inspected the equipment.

Keep both feet on the ground mat, when boring operations are under way. This equalizes the electrical path between your feet.

If you hit an electrical source, keep both feet on the mat. Do not move until someone uses a meter to verify the condition is cleared. Typically, this means a utility person will shut off the breaker. Do not touch anyone or anything not already on the ground mat with you.

If you hit a gas line, have a crew member shut off the truck. Typically, escaping gas lacks enough oxygen for it to ignite. As the gas disperses, that will change and a dangerous situation will exist. Get everyone as far as possible from the gas leak, and call 911 and the gas company immediately. If you can smell gas, you are too close. If you cannot smell gas, you might still be too close. Try for a distance of 700 feet.

Driller only

Keep both hands on the boring machine. This equalizes the electrical path across your heart.

Discussion leader duties for this session:

Obtain a boring machine to demonstrate proper inspection and set-up.

What this Safety Talk covers:

The hazards and cautions involved in directional boring operations. The hazards include motor vehicle traffic, overhead and underground utility lines, and railroad operations.

Discussion notes :

