Excavation Safety Meeting Kit

Excavation General Safety Talk

According to the Bureau of Labor Statistics, from 2013-2017 there were 97 trenching fatalities in the construction industry – an average of 19 per year, from a low of 10 deaths in 2014 to a high of 33 in 2016 [BLS, 2019]. Excavations are a common sight on construction sites all across the United States. This work can come with numerous hazards, but excavation work can be made safe by following basic safety guidelines.

THE MAIN HAZARDS ASSOCIATED WITH EXCAVATION WORK INCLUDE:

- Surface encumbrances.
- Excavation collapse. (cave-ins)
- Loose rock or soil.
- Contact with underground services and/or overhead power lines.
- Falling loads – Materials falling onto people working in the excavation.
- Mobile equipment – People and vehicles falling into the excavation.
- Vehicular traffic – People being struck by plant machines.
- Undermining of nearby structures.
- Access/egress to/from excavation.
- Hazardous atmospheres.
- Ground water. (drawing)
- Accidents to members of the public.
- Poisonous gases collecting in an excavation
- Falls into the excavation

OSHA EXCAVATION SAFETY MEASURES

- Inspect trenches daily before work begins.
- Check weather conditions before work, be mindful of rain and storms.
- Keep heavy equipment away from trench edges.
- Be mindful of the location of utilities underground.
- Always wear proper protective equipment.
- Don’t work beneath raised loads.
- Conduct atmosphere tests. If low oxygen and toxic gases were detected, workers must not enter the trench.
- Protective systems like benching, sloping, shoring and shielding must be created. Planning and implementation of safety measures must be done by a competent person.
- Use a checklist to perform regular self-inspections – download free excavation safety checklists here.

NIOSH TOP EXCAVATION SAFETY TIPS

- Train a specific individual to oversee each excavation job and properly enforce specific safety regulations.
- Have an expert examine soil stability before the dig.
- Trenches over 20 feet in depth need a site-specific, professionally engineered protective system.
- Develop and have employees practice a trench collapse emergency plan.
- Before work begins and throughout each workday, the job foreman or the safety enforcement employee should recheck the excavation site for soil and safety apparatus stability, especially after a storm.
- Trench exit ladders should never be over 25 feet away from the workers inside.
- Notify subcontractors of the trench location and make sure they keep vehicles and other heavy equipment at a safe distance from the trench.
- Closely monitor the trench for hazards other than cave-ins such as noxious gases, or unstable edges.
- Teach employees about trench collapse warning signs.

CAVE – INS

Employers can help reduce injuries and fatalities caused by cave-ins.

1. Never enter an unprotected trench.
2. Park heavy equipment as far from trench edges as possible. Keep soil or other materials at least two feet away from the sides of the trench.
3. Find out where utilities are located underground before crews start digging.
4. Inspect trenches daily before work begins and after storms or other events that may cause changes to the trench.
5. When exposed to traffic, workers can prevent accidents by wearing highly visible clothing such as traffic safety vests.
6. Educate workers on the dangers involved in excavation and on proper safety precautions.
7. Never work beneath suspended loads of materials.
8. When the trench is more than four feet deep, test atmospheric conditions before work begins.
9. Create systems to protect workers and prevent collapses.
    - Benching – Building steps into the sides of an excavation
    - Sloping – Angling the trench wall away from the excavation
    - Shoring – Installing supports such as aluminum hydraulics to prevent soil movement
    - Shielding – Protecting workers with trench boxes or other protective equipment
10. Provide safe entrances and exits to the trench. OSHA requires that ladders, steps, or ramps be used whenever a trench or excavation is more than four feet deep and that all employees work within 25 feet of these provisions at all times.

FINAL WORD

No worker’s life should end in a trench. Cave-ins during excavations are some of the most common and grisliest causes of worker fatalities in construction, yet they are entirely preventable. With proper training, procedures, and supplies, employers can help to prevent these accidents.