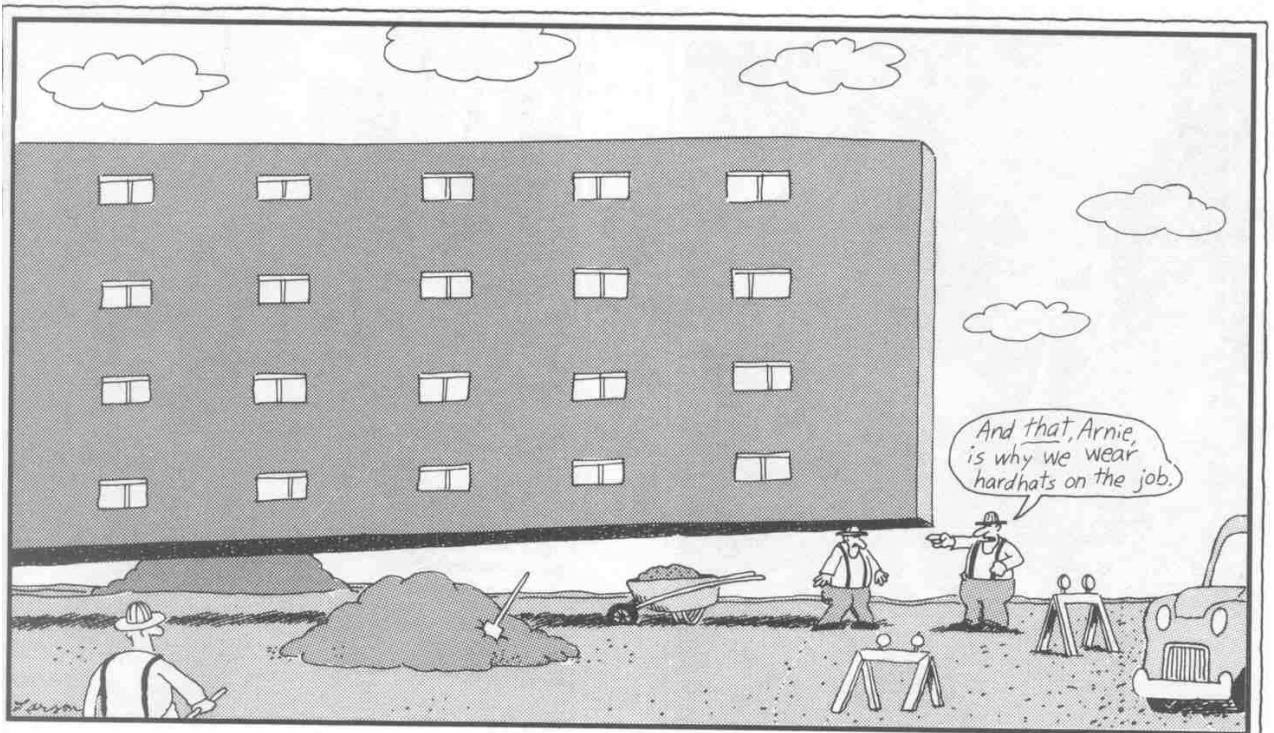


Construction Safety



A primer on construction site safety for CET students whether you are observing, managing or laboring.

History & Application

- **Williams-Steiger Act (1970) Code of Federal Regulations CFR-29 Part 1926 established:**

- **Occupational Safety & Health Administration (OSHA)**

- **OSHA standards apply to:**

- **All contractors who enter into contracts which are for construction, alteration, and/or repair, including painting and decorating.**

- **All subcontractors who agree to perform any part of the labor or material requirements of a contract.**

- **All suppliers who furnish any supplies or materials, if the work involved is performed on or near a construction site, or if the supplier fabricates the goods or materials specifically for the construction project, and the work can be said to be a construction activity.**

- **Major Premise is that no employer who performs any part of a construction contract shall require any employee to work in surroundings or under conditions which are:**

- **Unsanitary, and/or**

- **Hazardous, and/or**

- **Dangerous to health or safety**

Overview of the Four Major Safety Concerns

Whether laboring or supervising, these are all concerns on construction projects.

Electrical Shock

Approximately 350 electrical related deaths occur each year.



Struck By

One in four “struck by” deaths involve a construction worker, more than any other occupation.



Falls

Falls from elevation account for one third of all construction deaths in construction.



Trenching

The fatality rate for excavation work is 112% higher than the rate for general construction.



Electric Shock



- **Avoid possible contact with power lines**

- Cranes
- Ladders
- Scaffold
- Long handled tools



- **Lack of Ground Fault Protection**

- GFCI should always be in use to prevent worker grounding.

- **Improper use of extension cords**

- Use factory mfgd. cords
- Use 3-wire grounded type
- Use cords rated for hard Construction usage.
- Use proper connections



Struck By Objects



- **Risks**
 1. Risks from falling objects when beneath overhead work
 2. Risks from flying objects from power tools, prying or pulling.
- **General**
 - Wear hardhats and safety goggles, face shields and other protective clothing when required.
 - Stack materials to prevent sliding, falling, or collapse.
- **Power Tools, Machines, etc.**
 - Make sure you are trained in the proper operation of powder actuated tools.
- **Cranes and Hoists**
 - Avoid working underneath loads being moved.
 - Stay out of barricaded hazard areas.
- **Overhead Work**
 - Secure tools and materials to prevent them from falling on people below.
 - Stay out of barricaded hazard areas.



Struck By Vehicles



- **Risks**

1. Struck by traveling public.
2. Pinned or crushed by moving/overturning equipment.
3. Struck by swinging/moving equipment.

- **On Site**

- Always be vigilant when working around heavy equipment.
- Don't walk between vehicles or behind backing equipment.
- Do not ride on vehicles not intended for carrying personnel.
- **DO NOT** operate equipment for which you are not trained.

- **In Traffic**

- Wear proper high visibility clothing.
- Stay in marked work zones.
- Stay alert for stray & errant traffic.

Falls



- **Risks**

1. Falling from Unprotected edges higher than 6 feet
2. Scaffold Collapse
3. Ladders shifting or sliding
4. Falling on sharp items



- **Methods of Protection**

- Work only in high areas with proper guardrails
- Use personal fall arrest systems
- Ensure rebar is capped or bent
- Use ladders according to Mfg. instructions
 - 3 feet over landings
 - Secure bottoms from slipping
 - Secure top from shifting
 - Erect at proper angle



Trenching

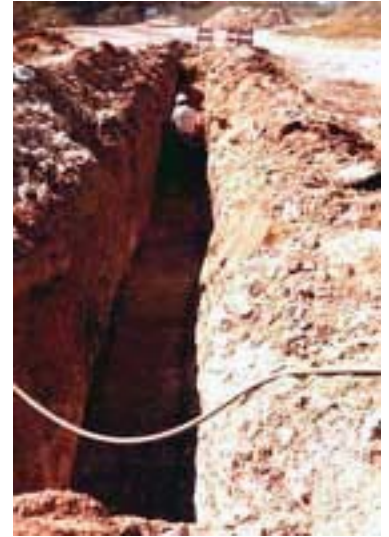


- **Risks**

1. Collapse of trench walls
2. Drowning
3. Toxic Fumes/lack of oxygen

- **Protection**

- Trenches deeper than 4 feet require means of egress within 25 feet (Ramps, ladders or stairs)
- Work only in trenches that have protective systems
- Spoils piles should be 2 feet back from trench



Personal Safety Rules of Conduct

- Wear correct worksite clothing plus basic safety gear (hardhats, safety shoes, eye and ear protection).
- Do not operate equipment.
- Learn the safety procedures that apply to your work.
- Stay out of dangerous places and confined spaces if you're not trained to do so.
- Never place yourself in danger when alone on site.
- Do not assume situations are safe.
- Trust your instincts. If it feels unsafe it probably is.
- Ask questions before getting into trouble.
- Get out of the way.
- Take charge of unsafe conditions. Report unsafe work conditions to those in danger or to supervisors. Safety is everyone's responsibility.
- Attend OSHA training.
- Never stop learning about safety.