Life Saving Rules

04

Excavations

Life Saving Rules 04: Excavation

Excavation and trenching are amongst the most dangerous activities performed during construction work. The dangers include:

- Striking buried services
- People, equipment or materials falling into excavation
- Collapse of:
  - Excavation/trench walls; and
  - Adjacent structures
- Flooding and contaminated ground
- Toxic and asphyxiating atmospheres; and
- Mechanical and overhead hazards (e.g., power lines)

Life Saving Rule:

- When performing working involving excavation and trenching activities, **YOU MUST**:
  - Survey the site to identify and mark underground services
  - Inspect the excavation prior to starting work or after changes to condition to confirm its stability
  - Prevent collapse using suitable method (e.g., trench box)
  - Provide safe and secure means of access and egress
  - Use barriers and signage to prevent unauthorised access

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Excavation work creates multiple hazards that workers should be aware of. These hazards include and are not limited too:

- Soil instability
- Surface Obstructions
- Underground installations
- Hazardous atmospheres

If excavation work is not properly managed, this can result in increased risk too:

- Contractors
- Employees
- Visitors
- Other personnel

These risks can be fatal if control measures are not in place. Risks include and not limited too:

- People falling into excavation site.
- The excavation site collapsing and burying and/or injuring people working within them.
- Materials falling from excavation sides
- Electrocution from poor installation of cables within excavation site.

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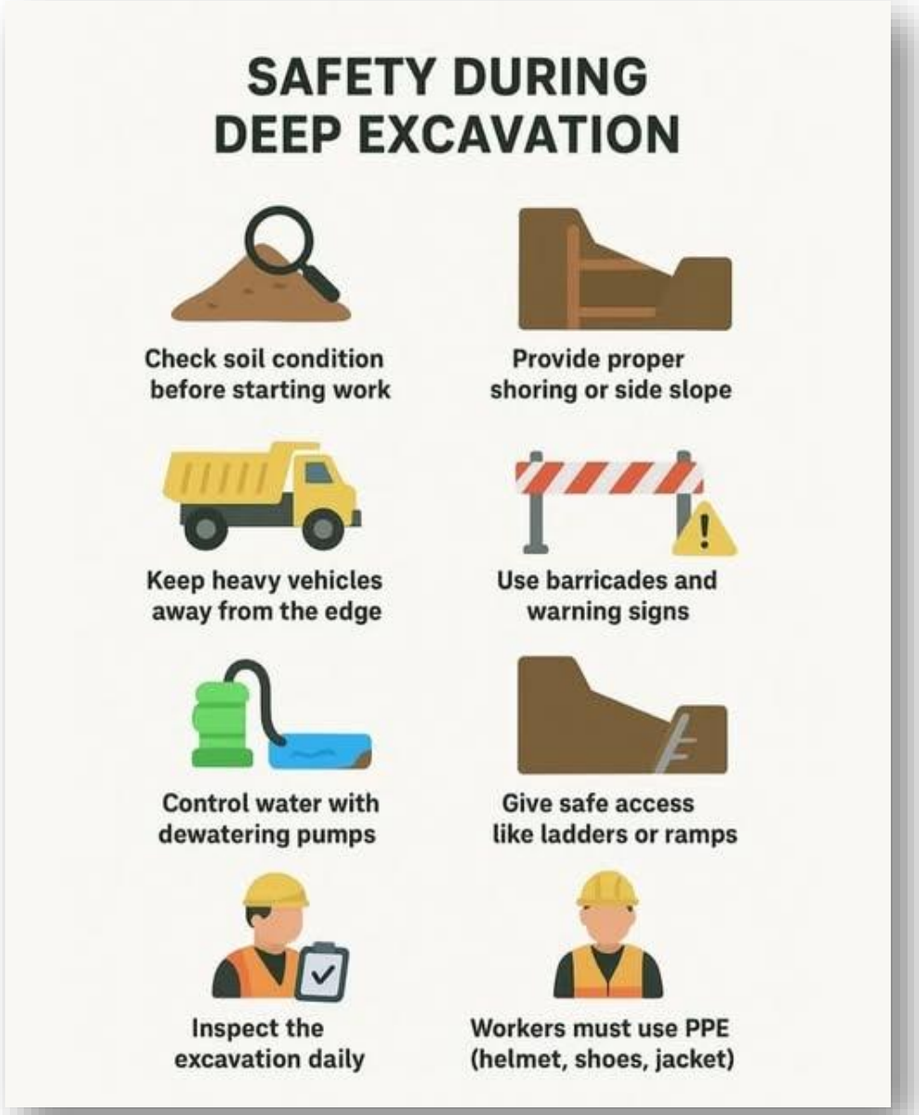
To achieve good practice when completing excavation work, all competent personnel should ensure:

- A safe method of working e.g., Clearance Certificate, RAMS and Permit to Work .
- Equipment to be used should be fit for purpose and certified where applicable.
- Those involved in excavation should be trained and competent and wear required PPE.
- Competent personnel should inspect the excavation site daily, after any rainfall, soil change or any other time as needed during the shift.
- A pre-job safety brief should be conducted with those involved in the work and with other affected personnel.
- Define and clearly indicate the travel route of equipment.
- Restrict access and erect warning notices in areas where overhead power lines are located.
- All hazards relating to the excavation activities have been properly evaluated and the appropriate risk control measures implemented.
- All materials and equipment should be stored a minimum of 0.61 meters away from excavation sides and not restrict access and egress.
- All unplanned events should be reported and investigated. All excavation activity should be monitored and conform to requirements defined in work control procedures.
- Safe access and egress should be properly provided.



Life Saving Rules 04: Excavation

How dangerous are cable strikes?

- When underground cables are damaged, people can be killed and injured by:
  - Electric shock
  - Electrical arcs (causing an explosion); and
  - Flames
- Always treat underground cables as LIVE, until proven isolated from electrical supply or disconnected

Planning to avoid the risk of a cable strike:

- Contact the owner of the cable(s) and ask for information about their buried cables:
  - Distribution Network Operator (DNO)
  - Highway Authority; and/or
  - Network Rail
- When necessary, request that the operator isolates the cable from the supply source
- Review site plans and drawings for information about buried cables
  - High-voltage cables may be shown on a separate plan to low-voltage cables
- Before excavations are started cables must be:
  - Accurately located
  - Identified (e.g., high or low voltage, etc.); and
  - Clearly marked on the surface
- Use a cable detecting devices (i.e., CAT Scanner):
  - To locate and accurately mark cable routes; and
  - Verify the routes throughout the course of the excavation
- Following determination of cable positions and routes use safe digging practices to expose cables :
  - Dig trial holes using hand tools (hand dig) to confirm the actual positions and routes of the cable
  - Use insulated tools when hand digging near electrical cables
  - Excavate alongside the cable rather than directly above it; and
  - Finally expose the cable by horizontal digging as the force applied to hand tools can be more effectively controlled

If in doubt STOP WORK and seek advice