Excavations of any depth can be very dangerous particularly from the threat of collapse of the sides of the excavation, live services (i.e. toxic or noxious gas services) being damaged during digging or when excavating near gas mains, old fuel tanks or excavating in chalk.

Excavation work should be properly managed to control risks.

**Before Excavation Work**

- All service utility supply companies should be contacted to gather information and colour drawings on the positioning, size and extent of the buried services.
- A risk assessment and method statement must be produced to cover the whole process, from identification of services through the penetration/excavation work.
- Area to be excavated must be scanned using a CAT (Cable Avoidance Tool) & Genny. The genny will increase the capacity of the CAT to 10 metres. It should be used at regular intervals throughout the task i.e. every 300 mm.
- If underground cables have been identified, ensure traced locations are clearly marked using marker points beyond excavation limits.
- A permit to dig (form C3-21) must be issued by an appointed person and be available at the work location.
- Ensure the excavator operator and others excavating have been briefed on the risk assessment, method statement and permit to dig.
- Ensure an up to date drawing of the site is available, showing the underground services in that area.

**During Excavation Work**

- **Assume the presence of services** when digging, even though nothing is shown on plans.
- Use detection devices and **keep a close watch for signs of buried services**, such as marker tape or tiles. Cables may be laid directly in the ground without markings, in cement-bound sand, in plastic or earthenware pipes or ducts, or may have a layer of tiles, boards or **coloured plastic tape** placed above them and this highlights the importance of adopting safe procedures.

**COLOUR MAKER / WARNING TAPE**

Note: Markers such as plastic tape, tiles, slab or battens may have been displaced and will not indicate the exact location of the buried service!
Hand digging methods shall be used in the immediate vicinity of the indicated line of cables. Usually, mechanical excavators and power tools should not be used within 500 mm in any direction of the indicated line of service.

Protect the services such as protection covers for cables, supports, etc.

Insulated tools should be used when hand digging near electric cables.

If the service is embedded in concrete or paving material, the service owner has to be contacted.

If an unexpected service is found or if a service is damage, stop the works/do not restart works and liaise with utilities.

Excavations must be adequately supported/battered to avoid collapsing.

As-dug material must be placed at least 1 metre from the edge of the excavation.

Provide safe access and egress into the excavated area.

Alert workers of the excavation area thank to suitable signage and protect them for falling into it by implemented secure rigid barrier (as per risk assessment).

Stop blocks must be used to prevent vehicles e.g. dumpers driving into the excavation.

The stability on the surface have to be checked when Plant will be adjacent to an excavation.

Excavations can be considered as confined spaces (refer to risk assessment).

Gas monitoring must be in place (i.e. when diesel operated plant is used in deep excavations)

Flame proof clothing must be worn when an electrical service has been identified in the excavated area.

Excavations must be inspected:

- daily before each shift starts for any signs of deterioration to the support system or ground conditions
- after heavy rain, damage
- when restarting work following periods when the area has stood unused.

The thorough examination of all excavations by the appointed person shall be conducted weekly and findings recorded in the excavation inspection register (form C3-22).

for more info contact H&S Team
Respect the rules to avoid damages like

Remember that most of fatalities buried in trench/excavation occurred in trenches less than 1.5 metres deep.