

TIP sheet

Excavation

T004 – MARCH 2006



Planning

Managers and supervisors must ensure that excavation work is planned:

- In consultation with persons doing the work and utility owners.
- To eliminate hazards - refer to [excavation hazards table](#) on page 2.
- To control identified and foreseeable risk to acceptable levels.

Safe Work Method Statements (SWMS) and work procedures

There must be a written SWMS developed for any activity involving excavation that is:

- At a depth of greater or equal to 1.5m
- Involves the use of explosives
- Near traffic or mobile plant
- Over or adjacent to water, or a risk of drowning exists
- In or around gas or electrical installations
- In tunnels
- High risk construction works, or if the cost exceeds \$250,000

You must follow safe work procedures and your supervisor's instructions. This includes wearing the correct PPE, obeying the VMP and TCP.

Competent person

A competent person must be appointed to supervise all excavation work:

- At a depth of more than 1 metre,
- Work in tunnels
- Work on caissons and cofferdams
- Compressed air work in an excavation or
- Any high risk excavation work.

A competent person is a person who has acquired through training, qualification, or experience, or a combination of these, the knowledge and skills enabling that person to perform the specified tasks. This should include:

- The ability to detect conditions that could result in cave-ins, failures in control measures, hazardous atmospheres, confined spaces and their associated hazards
- An understanding of zones of influence
- The authority to take prompt corrective action to eliminate existing and predictable hazards to stop work when required.

Regular inspection

As part of their duties, the competent person must regularly inspect and review the excavation. A checklist of factors the person should review is included in this TIP Sheet.

- These inspections should be scheduled in advance, and be as often as determined necessary by the risk assessment
- The outcomes of these inspections should be used to trigger any review of work practices and SWMS.

Shoring, benching & battering

An adequate system of safety must be used to control risks arising from:

- Falling or dislodgement of earth/rocks or other materials
- Instability or collapse of the excavation or an adjoining/nearby structure
- The inrush of water or sewer
- The placement of excavated material and movement of vehicles

This may involve shoring, benching, back filling, battering, use of caissons or cofferdams, or a combination of any of the above. If there is any risk of earth, rock or other material dislodging, or falling from a height of more than 1.5 metres, shoring is mandatory.

Barricading and securing the excavation

Barricading and securing of an excavation must be adequate to ensure the safety of pedestrian and plant traffic, road users, workers on site and members of the public.

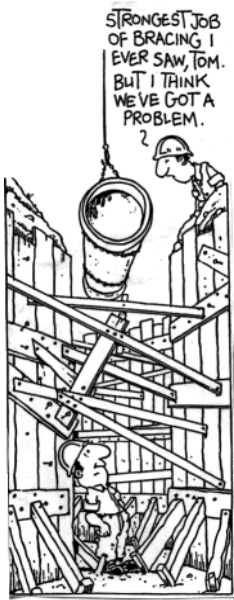
See [OHS Regulation](#) – CI 235 and NSW WorkCover Position Paper on Fencing. It may include:

- External fencing of the site perimeter
- Clear marking of the excavation, especially in poor visibility areas, including the use of warning signs and flashing lights.
- Barricades or hoarding around trenches, pits or excavations within the site
- Covering of cable pits, road openings or pile holes

All excavation works must be regularly inspected. The competent person should perform this inspection. Trenches 1 metre or more deep require mandatory regular inspection; see [OHS Regulation](#) - CI 242.

Working alone

Do not work alone in or around an excavation ranked as high or medium risk. Make sure help is nearby and that this person is not working within the area around the excavation that may slip or collapse.



Access and egress

There must be safe access & egress available to you in the excavation at all times. The Ladders (fixed or mobile) should be:

- Regularly placed in long trenches or large excavations (at no more than 30 metres apart),
- Clean, serviceable and regularly inspected. See ladder checklists, and
- Secured against movement

For work involving caissons or cofferdams, access and egress provisions should be included in the design drawings.

Review

Safe work procedures and SWMS must be reviewed, in consultation, whenever there is a change that may cause new hazards. For example, if:

- There is rain
- There are changes in vehicle movements around the excavation
- Hazardous substances are found during excavation
- An old excavation or utility services are identified/uncovered

In the event of an emergency

Enact the planned recovery system, if appropriate and safe, and prevent others from being injured, where possible.

Reporting of incidents

All incidents are to be reported to the OHS Helpdesk 1300 131 469.

If the incident presents an immediate threat to life or major damage to plant and equipment (based on advice from the Helpdesk):

- The incident must be reported to WorkCover (this will be done by the OHS Help Desk), and
- The incident may be classified as a non-disturbance occurrence and advice by WorkCover must be obtained prior to touching the affected site.

References

- [OHS Regulation](#) Part 8.5 – Excavation Work
- [WorkCover COP](#) – Excavation
- [RTA OHS Policy 2.9](#) – Excavation
- WorkCover Position Paper – Fencing
- [Checklist - G22](#) - Annexure H13



Unsafe trench – an example of what not to do

Excavation hazards table

Excavation factors	Risks	Rating
The nature and condition of the ground or working environment	Contaminated Soil	1
The possibility of flooding or water inrush from any source	Drowning	1
The proximity of under or above ground electricity cables, gas mains or other utility services	Possible gas, water or electricity services in area to be excavated	1
Whether the excavation is, or will become during works, a confined space	Asphyxiation, explosion	1
The proximity of any previous or planned excavations	Wall collapse	1
The presence of mobile plant and its effect on stability and proximity to the edge of the excavation	Wall collapse or plant falling in	1
The placement of excavated materials and their effect on stability, access, egress and depth	Wall Collapse	1
The proximity of other buildings or structures to the planned excavation	Collapse of adjacent structure	2
The possibility of the fall or dislodgement of earth, rock or other material	Possible injury from falling debris to workers	2
Surrounding vehicular traffic and ground vibration	Public vehicle entering excavation	2
Vehicular and pedestrian traffic over a covered excavation	Vehicles/bicycles lose traction on excavation cover, pedestrian/vehicle falls into excavation due to cover coming loose	2
Potential exposure to hazardous substances	Presence of NG or LPG	2
Access and egress		
Static Loads		
Depth of Excavation		
Security of the site		