

Safe Work Instruction - Trenching and Ground Support

DO NOT complete this activity unless you have been inducted in its safe use and operation by an Authorised Experienced Operator

This SWI may not cover all possible hazards and risks and should be referred to as a control measure in the risk assessment process. Additional training may be required for high risk plant. Site and task may change required PPE.

PERSONAL PROTECTIVE EQUIPMENT



Eye protection must be worn



Long and loose hair must be contained or covered.



Hearing protection must be worn



Foot protection must be worn



Hand protection must be worn



Head protection must be worn



High visibility clothing must worn

POTENTIAL HAZARDS AND RISKS

- ⓘ Electrical Shock or Burn**
Electrical shock or burn from plant contact with live electrical conductors
- ⓘ Crushing**
Crushing due to trench collapse
Crushing due to plant tipping or rolling over
- ⓘ Other**
Exposure to toxic fumes
Exposure to hazardous chemicals
Drowning
Injury due to fall from heights
Exposure to atmospheric contamination
Injury due to plant malfunction or misuse
- ⓘ Manual Task Injury**
Manual task injury from incorrect manual handling techniques
- ⓘ Slip, Trips, Falls**
Slip, trip, fall due to uneven or slippery work surfaces
Slip, trip, fall due to steep working surfaces

PRE-OPERATIONAL SAFETY CHECKS

- ✓ Complete site specific risk assessment
- ✓ A second site specific risk assessment must be completed after the trench has been dug to determine any risks with respect to ground conditions and depth of trench
- ✓ Subsequent risk assessments are to be completed if the work activity and/or the method used, conditions or staff change, after collapses or falls of materials and after adverse weather conditions
- ✓ All workers on site shall be involved in planning and preparation. At a minimum, the following shall be considered during the planning and preparation stage
 - Assessment of risks
 - Method to prevent injuries (control measures)
 - Assessment of ground conditions and working environment including past contamination by chemicals and/or toxic waste
 - Suitable and safe access to and from the workplace
 - Area of excavation work appropriately defined, barricades and/or sign posted
 - Work does not affect the structural integrity of adjoining buildings or structures, roads or footpaths, or plans in place to address. For

example, replace footpath upon completion of work

- Security of the site when unattended
- Emergency and rescue procedures
- Consider applicability of Confined Space Work requirements
- ✓ Work must be examined prior to commencement of work at regular intervals to ensure that the excavation and its supporting systems are stable and intact. The risk assessment should determine the intervals of inspection.
- ✓ Ensure workers have "Dial Before You Dig Plan" before commencement of work and are aware of the position of electricity, gas and water services
- ✓ Always operate within the prescribed safe working distances of overhead power lines, utilising a spotter if required

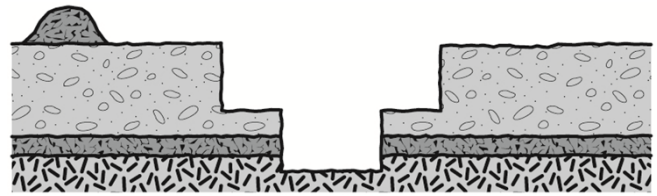
OPERATING PROCEDURES TRENCHES LESS THAN 1.5 METERS IN DEPTH

- ✓ Trenches less than 1.5 meters in depth should be risk assessed and the following steps taken to prevent possible collapse
 - All pre-excavated material (from old services/trenches etc.) to be removed from trench walls

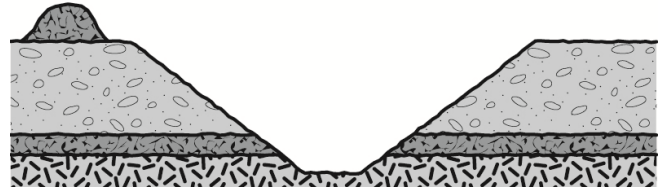
- If unable to remove all pre-excavated material, trenches are to be excavated so that they are twice as wide as they are deep, plus pipe O/D (e.g. 240mm pipe, 1.0 meter deep = 2.240 meter wide trench)
- Pipe to be centrally located in trench
- Competent observer on-site at all times monitoring hazards and the effectiveness of controls

TRENCHES OVER 1.5 METERS IN DEPTH

- ✓ Any trench over 1.5 meters in depth requires approved shoring, benching or battering if employees will be required to enter the trench to work/complete tasks.
- ✓ Shoring is not required if, having regard to the nature and slope of the side of the excavation and other relevant circumstances, there is no reasonable likelihood that earth, rock or other material will fall or dislodge from a height of more than 1.5m and bury, trap or strike a person that is in the excavation
- ✓ Excavated material should be placed at a minimum 1000mm from the edge of any trench
- ✓ Shoring shall be used in **WATER CHARGED** ground at all times
- ✓ If other potential water sources exist which could create the risk of drowning, for example, gravity sewers, sewer rising mains or water pressure mains, isolation procedures are to be followed to prevent ingress into the trench
- ✓ If liquid is leaking into the trench from a pipe break or rain etc. the liquid should be pumped out to prevent water levels from rising to dangerous levels
- ✓ If there are static loads within the zone of influence, for example, structures, spoil piles, or plant, consideration should be given to removing or reducing the loads from near the excavation. If this is not possible, additional shoring may be necessary
- ✓ If there are dynamic loads within the zone of influence, for example, traffic or plant, consideration should be given to providing stops or barriers to prevent the approach of machinery near the edge of excavation
- ✓ If trench is not battered, a suitable ladder for safe entry and exit shall be used. The ladder shall extend from the base of the trench to at least 1 metre above the top of the trench. The ladder must be secured both top and bottom against movement



BENCHING



BATTERING

ENDING OPERATIONS

- ✓ Ensure that trenches are properly secured overnight, isolate the area to prevent injury to the public
- ✓ If excavations are less than 1.5 meters deep use star pickets and well strained, sound para webbing.
- ✓ For excavations greater than 1.5 meters deep, the trenches need to be boarded over as well as para webbed
- ✓ Remove ladders when no one is in trench
- ✓ Immobilise plant to prevent unauthorised use

DO NOT

- ✗ Do not use if plant is faulty. Attach a DO NOT OPERATE tag and report fault to your supervisor
- ✗ Do not commence excavation prior to completing the risk assessment
- ✗ Do not work outside the protection of the ground support system if working in the excavation
- ✗ Do not operate heavy plant and vibrating equipment near the edge of the trench
- ✗ Do not operate motorised equipment (generators etc.) near the edge of the trench as toxic gases may enter the trench

*Plant in this SWI refers to any machinery, equipment, appliance, container, implement and tool.