



Excavations

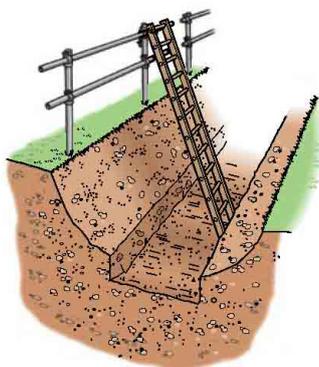
What are excavations?

Excavations are man-made cut, cavity, trench, or depression in the earth's surface formed by earth removal.

Excavation hazards Cave-ins, entrapment, and damage to underground utility infrastructure.

When does a trench or excavation become a confined space?

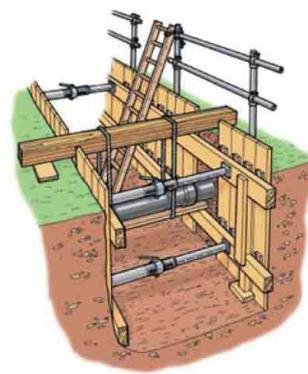
When it is deeper than 1.2 meters due to limited access and egress. Safety precautions that apply to confined space entry, such as air monitoring and ventilation, also apply to trench operations when there is potential for organic vapors and other airborne compounds that are heavier than air which can displace oxygen inside an excavation. Protection measures against cave-ins or sliding material must be installed when working in or around a trench greater than 1.2 meters.



A simple trench with sides sloped to 45° (guard rails on right hand side omitted for clarity)



Trench sheets with timber walings, screw props, puncheons and sole plates



An example of a shored excavation with ladder access and supported services (guard rails on left hand side omitted for clarity)

Excavation Safety

- Have a Permit to Work, task specific risk assessment and method statement.
- Plan for emergency situations and provide safe access and egress.
- Do not block exit points in case of an emergency.
- Use a competent person who is knowledgeable in assessing soil conditions and what sloping and shoring to use.
- Preplan the location of the spoil pile as well as any new material on site.
- Place excavated materials at least 0.6m from the edge of any excavation.
- Identify overhead power lines, underground utilities and pipelines before digging.
- Use safety monitors, barricades, flagging and guardrails where appropriate.
- Ensure that vibrating equipment/vehicular traffic do not cause a cave-in.
- When conditions change in or around the excavation, employees must not enter the excavation until a competent person has re-inspected it, and determined it to be safe for employees to re-enter.

Reference Sources

- [KAUST OHSMS, Procedure for Operational Control \(Excavation Work\)](#)
- [OSHA Fact Sheet Trenching and Excavation Safety](#)
- [Video from WorkSafeBC: A guide to Safe Work Practices](#)

