



Excavation



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This guide is for Indara workers (including contractors), outlining the minimum criteria required for the effective planning and execution of excavation activities. Excavation includes any activity involving the removal of earth to create trenches, holes, or cavities, such as trenching, digging, or boring. This guide outlines the criteria that Indara requires to be effectively addressed and managed during the planning and execution of commissioned work activities. Workers are expected to integrate these criteria into their Health Safety Environment Quality (HSEQ) management systems and plans. As a minimum, Indara anticipates evidence of adherence to these criteria in workers' HSEQ management systems and plans.

CRITERIA FOR MANAGING EXCAVATION

DESIGNATED RESPONSIBILITIES AND AUTHORITY

- Responsibilities for overseeing excavation activities are assigned, ensuring competent individuals manage risk and safety during operations.
- A Permit to Work (PTW) system is implemented, ensuring all excavation works are authorised by a designated, competent person before commencement.

UTILITIES AND SERVICE LOCATIONS

- All underground services (e.g., gas, electricity, water, communications) must be identified and verified prior to excavation.
- Dial Before You Dig (DBYD) or equivalent service reports must be obtained and referenced.
- Services must be positively identified using non-destructive methods before excavation begins.

QUALIFICATION OF WORKERS

- All personnel involved in excavation must hold the relevant certifications and training, including excavation safety, plant operation, and trench safety awareness.
- Only certified individuals are permitted to undertake or supervise excavation activities.

PERMIT SYSTEM

- An excavation permit system is mandatory and must include assessment of ground conditions, services, and necessary controls.
- Permits are to be issued by competent personnel in accordance with relevant Australian legislation and standards.

GROUND STABILITY AND CONTROL MEASURES

- A ground stability assessment must be conducted prior to and during excavation.
- Appropriate controls (e.g., benching, battering, shoring) must be implemented based on soil type, depth, and environmental conditions.

ISOLATION OF ENERGY SOURCES

- Energy sources, including gas and electricity, that could pose a risk during excavation must be isolated and controlled as part of the PTW process.

ENVIRONMENTAL AND WEATHER CONDITIONS

- Weather conditions must be monitored, and excavation activities must be suspended during adverse conditions (e.g., heavy rain, flooding).
- Measures must be taken to manage water ingress and erosion.

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 SAFETY MEASURES

- Personal protective equipment (PPE) such as hard hats, high-visibility clothing, gloves, steel-capped boots, and respiratory protection must be provided and used.
- All excavation zones must be adequately illuminated to ensure safe working conditions.

 ACCESS AND EGRESS ROUTES

- Safe means of access and egress must be established in and out of excavation sites, including ladders or ramps as required.
- Workers must be briefed on access points and evacuation procedures.

 FALL PROTECTION AND EDGE PROTECTION

- Controls must be in place to prevent persons or equipment from falling into open excavations, including physical barriers, guardrails, or trench covers.
- Barricading and signage must be installed around open excavations.

 PUBLIC AND WORKER ACCESS CONTROL

- Control measures are implemented to restrict unauthorised access to excavation areas.
- Barriers, signage, and physical controls must be used to protect the public and non-essential personnel.

 HAZARDOUS ATMOSPHERES

- Excavations deeper than 1.5 metres or in confined spaces must be assessed for hazardous atmospheres.
- Atmospheric testing (e.g., for oxygen levels or flammable gases) must be conducted and monitored where required.

EMERGENCY AND RESCUE PREPAREDNESS **EMERGENCY RESPONSE PLAN**

- A comprehensive emergency response plan must be in place, covering potential scenarios such as trench collapse, utility strike, or worker entrapment.
- The plan must be communicated to all workers and contractors.

 RESCUE EQUIPMENT AVAILABILITY

- Appropriate emergency and rescue equipment, including ladders, harnesses, retrieval systems, and first aid kits, must be readily accessible.

 TRAINING AND FAMILIARITY

- Workers must be trained and familiar with excavation hazards, rescue procedures, and emergency protocols.
- Regular drills and toolbox talks should be conducted to reinforce response readiness.

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DOCUMENT CONTROL

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