



IGO GROUP SAFETY STANDARD 18 - EXCAVATION AND GROUND PENETRATION

INDEPENDENCE GROUP NL





CONTENTS

1.	INTENT	3
2.	APPLICATION.....	3
3.	RISK ASSESSMENT	3
4.	PLANNING EXCAVATIONS AND GROUND PENETRATIONS	3
4.1	EXCAVATION PLANNING.....	3
4.2	UNDERGROUND SERVICES.....	4
4.3	TRENCHING AND OTHER EXCAVATIONS.....	4
4.4	SECURING THE WORK AREA	5
5.	EXCAVATION PERMIT	5
6.	EXEMPT AREAS & ACTIVITIES	5
7.	ENVIRONMENTAL & HERITAGE CLEARANCE	5
8.	RELATED DOCUMENTS	5
8.1	COMMON MANAGEMENT SYSTEM STANDARDS.....	5
8.2	HSES STANDARDS AND GUIDELINE	5
9.	DOCUMENT CONTROL.....	6

1. INTENT

This Standard details the requirements to minimise and control the hazards associated with excavation and ground penetration activities.

2. APPLICATION

This standard shall apply to all IGO sites and projects (exploration, construction and development) and to all IGO employees, contractors (including sub-contractors) and visitors to IGO sites and projects. All IGO sites and projects shall comply with the provisions of this standard and all relevant legislative requirements for the location.

This standard does not address the management of day to day open pit or underground mining operations for the extraction of waste or ore material. Nor does it address the management of road grading and drain maintenance activities, the management of misfires, or the design of underground ground support.

3. RISK ASSESSMENT

Sites shall conduct a risk assessment related to excavations and ground penetration in accordance with **CMS ST-03 Risk Management**.

A JSEA shall be undertaken prior to each excavation and shall involve personnel directly involved in the work to more effectively identify hazards and select risk controls.

4. PLANNING EXCAVATIONS AND GROUND PENETRATIONS

4.1 Excavation Planning

A JSEA must be completed and approved prior to all excavations and ground penetrations. The JSEA must be accompanied by documentation on the following:

- The location of any adjacent buildings, structures or mining works and whether they may be affected by the proposed works (this may require formal assessment by competent person)
- The identification and location of utilities and essential services such as gas, electricity, water, communications etc. and whether they may be affected by the proposed works. This includes overhead utilities that may be affected by the excavation or penetration activities.
- The identification of any impacted or nearby cultural heritage sites, vegetation or habitats of significance etc.
- Providing a description of the methods to be used to undertake an initial examination of the area (e.g. to confirm that the location of utilities and essential services is correct)
- Providing a description of the excavation methods to be used to undertake the work
- Providing a description of the standard work procedures and controls that apply in respect to benching, shoring, placement of spoil, ground support, traffic ability near the edges of open excavations, prevention of falls, access and egress from the excavation, ventilation systems, dewatering systems etc.

- Providing a description of the methods to be taken to prevent wildlife from being injured or trapped in the excavation
- An Emergency Plan to address unexpected incidents such as ground slip, flooding, gas leaks and the rescue of workers from the excavation.

Additional detail shall be provided where:

- The work is proposed to be undertaken by machinery
- Services are known or expected to exist within 30m of the work.

4.2 Underground Services

Sites shall maintain plans detailing the location of all buried essential services. The plans shall be kept and maintained as required and be accessible by each mine worker required to access them. A survey shall be undertaken, and plans updated, in the event of new services installations, or modifications to existing services.

Prior to commencing work the person responsible for the excavation shall obtain the most current underground essential services information and provide this to any person engaged to carry out excavation work. Underground essential services information, means the following information about underground essential services that may be affected by the excavation:

- the essential services that may be affected,
- the location, including the depth, of any pipes, cables or other plant associated with the affected essential services,
- any conditions on the proposed excavation work.

Locations of buried services shall be verified with detection equipment in accordance with approved procedures and once verified, these services shall be marked.

4.3 Trenching and other excavations

Excavation of trenches 1.5 metres deep or greater must ensure, so far as is reasonably practicable, that the work area is secured from unauthorised access including:

- risks to health and safety arising from unauthorised access to the work area, and
- the likelihood of unauthorised access occurring.

The risk to any person arising from the collapse of the trench must be minimised by ensuring that all sides of the trench are adequately supported by doing one or more of the following:

- shoring by shielding or other comparable means,
- benching,
- battering.

An alternative to the above is permitted if a geotechnical engineer provides written advice stating that all sides of the trench are safe from collapse. The written advice:

- may be subject to a condition that specified natural occurrences may create a risk of collapse, and
- must state the period of time to which the advice applies.

No unauthorised person shall be permitted to enter an excavation while excavation equipment is operating.

Where a worker enters a trench of any depth and there is a risk of engulfment, adequate control measures shall be put in place.

4.4 Securing the Work Area

Any excavation that is at least 1.5m deep must be secured from unauthorised access (including inadvertent entry). Refer to the **IGO GSS7 Barricades, Barriers and Signage**.

5. EXCAVATION PERMIT

Sites shall have an Excavation and Ground Penetration Permit as part of their Permit to Work process, and unless exempted, excavation and ground penetration works shall be undertaken under the control of an Excavation and Ground Penetration Permit.

A Excavation and Ground Penetration Permit shall only be issue following the completion and approval of a JSEA.

6. EXEMPT AREAS & ACTIVITIES

Site shall, by risk assessment, identify work areas or activities that are exempted from the requirement to have a JSEA and or Excavation and Ground Penetration Permit in place (e.g. mining areas). Such areas and activities must be subject to Safe Work Procedures established to manage the risk of injury, equipment damage, or environmental damage.

7. ENVIRONMENTAL & HERITAGE CLEARANCE

Outside declared mining areas, environmental and cultural heritage clearance shall be obtained prior to the issuing of an Excavation and Ground Penetration Permit. Refer to **IGO GES 10 Environmental and Cultural Heritage Clearances**.

8. RELATED DOCUMENTS

8.1 Common management system standards

- CMS 3 Risk Management
- CMS 12 Management of Change

8.2 HSES standards and guideline

- IGO GSS 15 Energy Control and Isolation
- IGO GSS 17 Confined Space

- IGO GSS 10 Ground Control and Inrush
- IGO GSS7 Barricades, Barriers and Signage
- IGO GES 10 Environmental and Cultural Heritage Clearances

9. DOCUMENT CONTROL

No amendments to this document may be made without the approval of the document owner.

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