



Managing safety in Civil construction

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1. Planning for safety :

1.1 General:

Site safety planning should be managed and coordinated by the PC and should involve all employer should plan how to safety do the works over which they have control.

Safety plans should be regularly monitored and modified as necessary. On larger projects, safety planning may be jointly delivered by several on-site employers. The PC may be engaged as the overall project manager for the project and other employers (major contractors) may be engaged to manage separate sites within the project.

1.2 Site management:

Appropriate policies and procedures should be in place for managing site safety these can be part of an overall management system, provided the system effectively manages and controls the risks from the work being done.

A safety system should include processes for:

- Identifying persons with OHS responsibilities.
- Managing the health and safety of contractors and sub-contractors.
- Developing and manage consultation procedures for health and safety matters.
- Identifying hazards and control risks.
- Establishing the location of underground services.
- Developing site safety rules.
- Monitoring activities and enforcement of safety rules.
- Establishing site amenities and implement ongoing maintenance.
- Developing site specific induction for workers and others (eg delivery drivers and visitors).
- Ensuring only trained and competent workers are allowed to work on-site.
- Ensuring all plant (machinery and equipment) is safe and without to health before use.
- Identifying requirements for a mobile plant compound and vehicle parking.
- Developing traffic management plans.
- Identifying and control risks to the public.
- Developing emergency response plans for reasonably foreseeable emergency situations.



1.3 Other employers on-site:

Each employer on-site needs to effectively manage the safety of their workers, mobile plant and equipment.

Processes or procedures should be in place, including those to ensure:

- Safe work method statements (SWMS) are developed for all high risk construction work.
- Safe work procedures are developed for other tasks where there is risk to workers or the public.
- Workers are competent or are directly supervised by competent workers.
- The health and conditions of workers are monitored.

1.4 Work supervision:

Employers must supervise their workers and the work over which they have control. This includes directing and monitoring the work to ensure it is done safely.

To effectively supervise safety, it is important supervisors have:

- Knowledge of and experience in the work being done.
- An understanding of their role and expectations of them.
- An appropriate level of management and supervisor skills.
- An understanding of safety procedures, acceptable industry practices and this industry standard.
- For excavation work, experience in the type of excavation and ability to identify factors that could affect the safety of an excavation.
- For trenching (1.0 meters or deeper), successfully completed install primary ground support or trench shoring and safety training or hold a trenching permit.

1.5 Controlling the risks from hazards:

Hazards may include:

- Moving materials and equipment, or manual task.
- Rough ground.
- Falls (including climbing in and out of mobile plant and excavations).
- Close of mobile plant and other vehicles (including on-site or road).
- Excessive noise or dust.
- Utility services (e.g. power line and gas pipes).
- Weather condition and UV radiation.

1.6 preventing common injuries:

Plan how to manage the cause of common injuries, such as manual handling of materials or equipment, using high force, slips and trips, and falling into excavations, off ladders or from mobile plant.

Factors that increase the risk of injury when handling large, bulky or heavy items (e.g. generator sets, vibrating plates, pipes and houses) are:

- Poor planning.
- Poor storage or location of equipment.
- Moving over rough, boggy or loose surfaces and terrain.

Poor access to the work or storage areas.

Poor layout of storage areas.

Excessive distance item need to be moved.

Obstacles that have to be negotiated.

Location or design of storage on vehicles.

Using high force or sustaining awkward postures or movement.

1.7 Consulting workers:

Workers must be consulted on OHS matters that directly affect them.

This includes identifying hazards and risks, and determining risk controls.

If workers are represented by health and safety representative (HSR), the consultation must involve the HSR.

1.8 Health and safety coordination plan:

The PC must develop and maintain a health and safety coordination plan. This plan is not a safety management system but a document that outlines key site safety arrangements. It must be available on-site for inspection so all workers have ready access to information. The plan must include:

Names, positions and responsibilities of all people with specific health and safety responsibilities.

How the health and safety of workers is arranged and coordinated.

Site safety rules and arrangements for ensuring workers are informed of

1.9 Personal protective equipment:

Employers must ensure workers are supplied with appropriate PPE, including:

Hearing and eye protection (e.g. safety sun glasses, ear plugs).

Work gloves.

Protective head and footwear (e.g. helmets, safety boots).

High visibility clothing (reflective types for low light situations).



Clothing for the weather and work environment.

Any other required clothes.

Workers should also be instructed in the selection, safe use, maintenance and storage of any PPE provided.

1.10 **Powered construction equipment:**

Powered equipment (mobile plant and non-handheld powered equipment) must be mechanically sound and in a safe condition. Ensure:

- Maintenance records are up-to-date and available.
- Operator instructions and a summary of a maintenance records (e.g. manual, services book or decals on smaller plant) are with the equipment.
- Functional controls are permanent and legibly marked (unless function is obvious).
- Legible warning and safety signs / stickers are correctly positioned.
- All necessary guards are in place.
- Protective devices are fitted (e.g. seat belts, rollover protection, handrails).
- All required safety equipment is provided (e.g. first aid kit, traffic cones).
- Risk controls in place, including manual tasks related to the plant.
- Risk assessments for the equipment are current.
- If required, road registration and any road authority transport permits have been granted.

1.11 **First aid and site facilities:**

Employers should ensure their workers have access to appropriate first aid and site facilities.

First aid:

This includes having trained first aiders and sufficient first aid kits available. First aid equipment should be regularly inspected, maintained and stored hygienically.

Contact numbers, locations of emergency services and the nearest medical facility should be recorded and displayed where workers can see them.

Site facilities:

Employers must provide adequate facilities for the welfare of workers at workplaces under their management or control (e.g. washrooms, lockers and dining areas). The minimum level of amenities depends on the number of workers on-site, site location, the type of work being undertaken and duration of work.

Employers must consult with workers when making decisions about the adequacy of facilities. If the PC is providing facilities for all workers on the site, each employer should confirm they are suitable.

2. Site set-up and operation:

Site set-up and operations includes all of these important items:

- Safety management.
- Supervision.
- Layout of facilities and storage sheds.
- Electrical power.
- Site security.
- Investigating incidents, injuries and near misses.
- Emergency response plan.

3. Power lines and electrical equipment:

When operating mobile plant near powerlines the SWMS must detail how you will do the task safely, including how you will comply with the requirement of the (no go zone) rules.

No part of mobile plant or its load should come closer than 6.4 meters of pole-mounted powerlines or eight meters of a tower-mounted line, unless complying with (no go zone) rules. Supervisors should monitor the site to ensure excavation works do not alter the ground levels and decrease safety clearance under powerlines.

For work near pole-mounted powerlines (see using earth moving equipment near overhead electrical assets).

For work near transmission towers or within the tower easement, contact asset owner.

When work near electrical equipment, allow adequate clearance around sub-stations, service pillars and lighting poles. Powerlines and electrical equipment is considered live unless the asset owner confirms in writing electricity has been isolated.

4. Contact with power lines:

If there is a risk that plant could make accidental contact with overhead powerlines, operators and other workers should be trained in emergency procedures necessary to protect them from electric shock.

If plant contacts powerlines, remove it from service until inspected by a competent person and verified as safe for use. For example, tyres can explode many hours after the incident from a pressure build-up caused by burning inside the tyre casing. Wheeled plant should be parked in an

isolated area or have an exclusion zone around the plant for 24 hours. All tyres should then be removed from rims and expected for internal damage before verifying the plant is safe to use.

Contact with powerlines is an incident that must be reported to work safe. The asset owner and energy safe should also be informed.

9. **Underground services:**

Identify underground services before doing mechanical excavating or ground penetration work. Dial before you dig is a service that provides information on all known underground services. This includes registered pipe lines, water and sewerage pipes, electrical and telecommunication cables, and other underground obstructions that the asset owner has registered with the service. An enquiry also alerts owners to work being done near their assets.

Where there is limited information available on underground services seek advice from the relevant asset owners or use another method (e.g. cable location device to identify the asset location). Hand dig or use non-destructive excavation to prove the asset location before starting mechanical excavation.

Never mechanically excavate closer to the asset than the distance specified in undertaking work near underground assets.

10. **Other high risk work:**

- The risks of workers falling from any height, including falls into excavations or from plant, should be addressed.
- Preventing falls into excavations and excavation collapse.
- Trenches and pits can be confined spaces because of the limited means of entry/exist and risk of engulfment and poor ventilation of possibility to presences of toxic gases or vapors, or the accumulation of carbon monoxide if near road traffic.
- If using explosives, verify the shot fire has an appropriate work safe license.
- Working in, over or adjacent to water.
- if work generate dust, we can spraying water to protect health.

V. Some of safety instrument in civil construction works:

Type of personal instruments protective in below images:







