



HANDLE RESOURCES AND
INFRASTRUCTURE
MATERIALS AND SAFELY
DISPOSE OF NONTOXIC
MATERIALS

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In this unit you will achieve the following understanding of 3 Elements.

- Element 1: Plan and prepare for handling resources and infrastructure materials and safely disposing of nontoxic materials.
- Element 2: Handle and remove waste
- Element 3: Conduct House Keeping Activities



Overview

REGULATIONS AND LAW

Regulatory and legislation requirements applicable to this unit of competency may include:

WORK HEALTH AND SAFETY ACT 2011 (QLD)

- Provide a balanced and nationally consistent framework to secure the health and safety of workers and workplaces.
- Sets out a duty of care for every person at a workplace.
- Protects workers and other persons against harm to their health, safety and welfare through the elimination or minimization of risks arising from work.

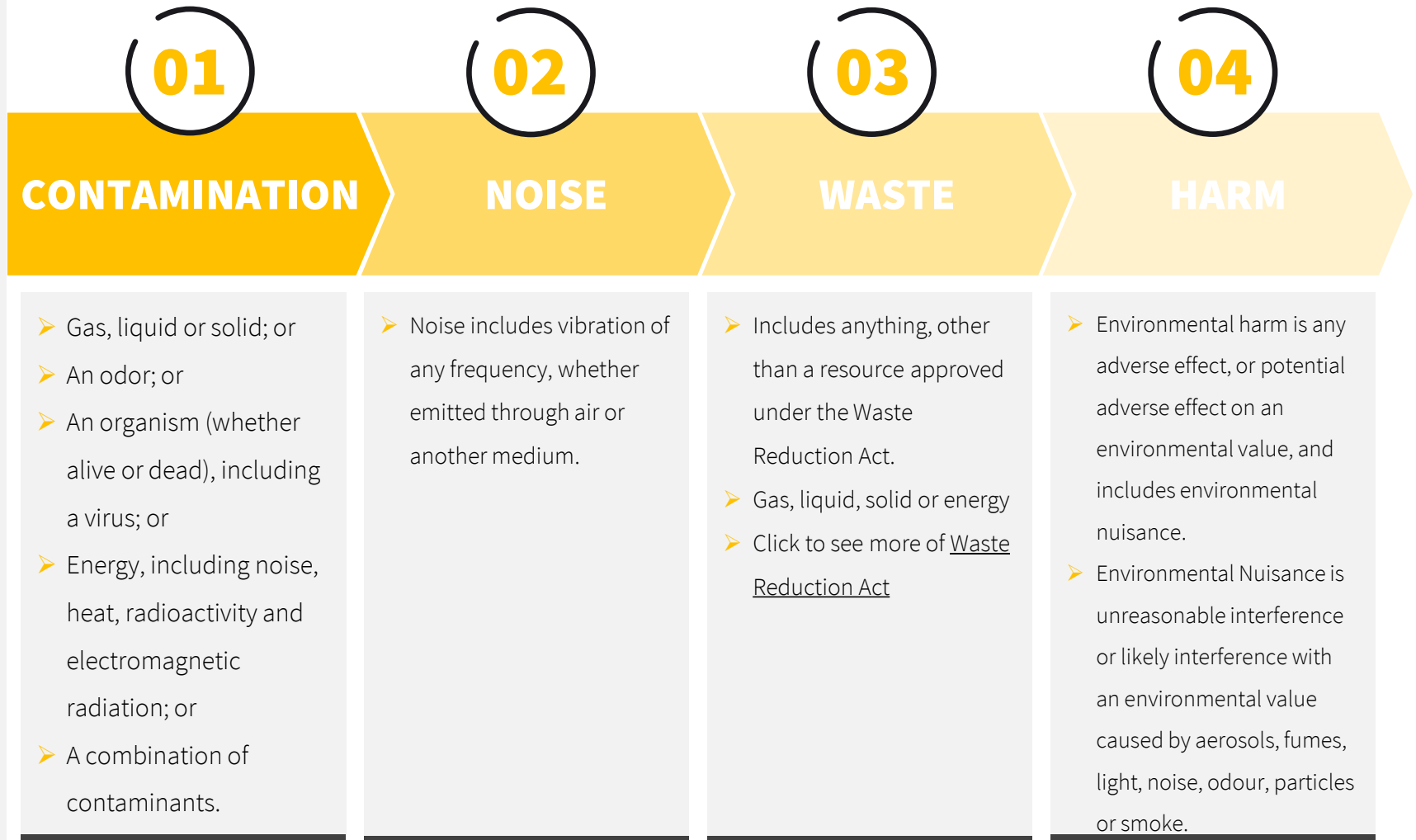
WORK HEALTH AND SAFETY REGULATION 2011 (QLD)

- The WHS Regulation specifies the way in which a duty under the WHS Act must be performed and prescribes procedural or administrative matters to support the WHS Act.
- Provides administrative and enforcement of health and safety by placing certain duties on a range of workplace parties.

ENVIRONMENTAL PROTECTION ACT 1994

In Queensland, the principal law is the Environmental Protection Act (1994) and the administering Authority is the Environmental Protection Agency. Under the Act there is a requirement for due diligence. Due Diligence is the process of systematically evaluating information, to identify risks and issues.

Environmental Contamination and Environmental Harm and Nuisance



SAFE WORK METHOD STATEMENTS (SWMS)

Safe work method statements (SWMS) assist a PCBU to consider how certain activities will be carried out safely. The following should be noted:

- SWMS must be easy to understand, signed and dated;
- SWMS must be amended if there is a change in the activity and a copy must be given to the principal contactor;
- All persons affected by changes must be advised of amendments to the work method statement.



DEFINITIONS

JOB SAFETY ANALYSIS (JSA)

- A job safety analysis is a procedure which helps integrate accepted safety and health principles and practices into a particular task or job operation. In a JSA, each basic step of the job is to identify potential hazards and to recommend the safest way to do the job.
- Identifies hazards and potential hazards that may be encountered while working.

WORK INSTRUCTIONS

- **Work Instructions** are documents that clearly and precisely describe the correct way to perform certain tasks that may cause inconvenience or damage if not done in the established manner. That is, describe, dictate or stipulate the steps that must be followed to correctly perform any specific activity or **work**.
- Before commencing any job, you will need to receive specific work instructions. These are often presented to employees in the form of a Works Order. The instructions may vary according to the size of the task or project and there may even be some circumstances where no work instructions are given e.g. emergencies.
- Issues or concerns can be communicated to the team at once in a toolbox/site meeting.



DEFINITIONS

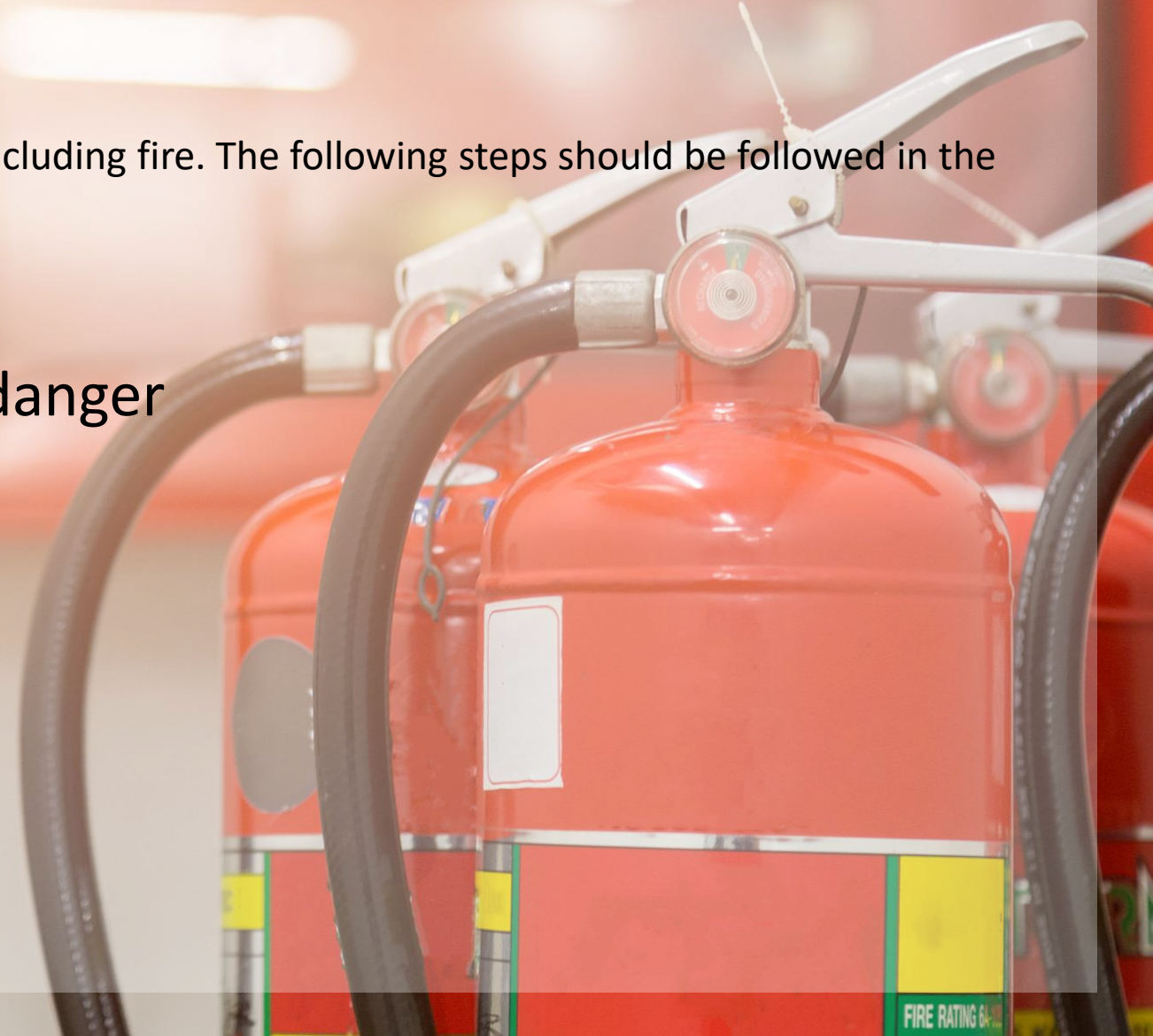
ENVIRONMENTAL MANAGEMENT PLAN (EMP)

- An Environmental Management Plan (EMP) is a site or project specific plan developed to ensure that appropriate environmental management practices are followed during a project's construction and/or operation.
- Addresses clean up management, noise control and waste management.

FIRE EMERGENCY

Workers must be trained for an emergency procedure including fire. The following steps should be followed in the event of a fire emergency;

1. Remove people from immediate danger
2. Alert people of emergency
3. Confine fire and smoke
4. Evacuate to the assembly area



PERSONAL PROTECTIVE EQUIPMENT (PPE)

The following is a list of personal protective equipment, which you should use on site for your own safety when handling materials.

- Long sleeved shirt and long trousers;
- High visibility vest;
- Hard hat;
- Steel capped safety boots;
- Gloves;
- Safety glasses;
- Hearing protection; and
- Sunscreen.



Safety Vest



Hard Hat



Safety Boots



Safety Goggles



Safety Gloves



Safety Glasses



Ear Muffs



Applying Sunscreen

SIGNS, SYMBOLS AND SAFETY MEASURES

Signs and symbols are an important form of safety communication on a construction site. They typically relate to the identification of the work environment; give directions in respect to work conditions, attitude, dress and emergency. Signs are positioned for people to be able to read and obey them. It is important that safety measures are implemented when handling materials this includes relevant signage, barricading and PPE.

In Australia there are four basic categories of sign:

- Regulatory signs (prohibition, mandatory, limitation or restriction types);
- Hazard signs (danger and warning types);
- Emergency information signs (exits, equipment, first aid types); and
- Fire signs (location of fire alarms and fire fighting equipment).

The use of colour on a sign can communicate a priority order:

- Red signs mean “do not”
- Blue signs mean “must do”
- Yellow signs mean “be aware”
- Green signs provide “information”

SAFETY DATA SHEET (SDS)

A safety data sheet (SDS) – previously called material safety data sheet (MSDS) - provides information which allows for the safe handling and use of substance/ materials in the workplace. It describes:

- The identity of the product e.g. formulation or chemical name
- The properties and uses of the product Health hazard information precautions for use
- Safe handling information
- First aid instructions
- Methods for safe disposal
- Identify materials/substances that the product is incompatible with
- It is important that all waste material is removed from the construction site. This may include: construction materials, oils and fuel, garbage materials such as empty containers, wrappings, excavated soils and rock



DEFINITIONS

TRAFFIC CONTROL PLAN (TCP)

- **Traffic control plans** (TCP's) are detailed drawings that show the layout of temporary road signs and devices to warn and guide **traffic** past, around and through the work site safely. A TCP is part of a work health and safety (WHS) requirement of a worksite
- Outline requirements for site isolation and signage for vehicles.

EMERGENCY PROCEDURES



DEFINITIONS

- Even if control measures have been put in place, a leak, spill or uncontrolled release of a hazardous chemical may still occur. Emergency procedures should be established, and used, if appropriate, to enable the source of a release to be safely identified and repairs to be made. All persons not directly concerned with the emergency should be excluded from the area of contamination.
- Outline what to do in the event of fires and other accidents.

Preparing an Emergency Response Plan

(to be planned before work commences so procedures can be followed without delay)

The emergency response plan should be prepared in consultation with the workers at the workplace and emergency service agencies where appropriate.

The issues which should be addressed in an emergency plan include the following:

- Locations of first aid kit and fire extinguisher
- Phone numbers of key personnel i.e. fire department doctors etc.
- locations of the hazardous chemicals, personnel, equipment and emergency control rooms at the workplace, and
- Evacuation arrangements.

TOOLS AND EQUIPMENT

Select tools and equipment to carry out tasks that are consistent with the requirements of the job, and check them for serviceability and rectify or report any faults. Tools and equipment may include:

- Brooms
- Hoses
- Shovels
- Rakes
- Wheelbarrows
- Pallet Trolleys
- Wet and Dry Vacuum
- Material Hoist
- Forklift

Pallet Trolleys

A pallet trolley is a tool used to lift and move pallets.

The front wheels are mounted inside the end of the forks, and as the hydraulic jack is raised, the forks are separated vertically from the front wheels, forcing the load upward until it clears the floor. The pallet is only lifted enough to clear the floor for subsequent travel.

Wet and Dry Vacuum

Wet and dry vacuum cleaners are a specialised form of the cylinder/drum model cleaners that can be used to clean up dry or liquid spills. They are generally designed to accommodate both wet and dry soilage; some are also equipped with a switch or exhaust port for reversing the airflow, a useful function for everything from clearing a clogged hose to blowing dust into a corner for easy collection.

Materials Hoist

Hoists are used in construction to raise and lower loads and personnel on a platform or in a cage. Originally, they carried materials only and used a winch to raise and lower loads. Later they were built within a purpose-built tower and were capable of moving both personnel and materials. Some large models even incorporated a crane jib at the top of the tower for lifting loads that did not fit in the hoist cage.

Forklift

Forklift trucks refer to an industrial lift truck equipped with a vertically elevating load carriage frame. Horizontal load forks (or a similar lifting mechanism) project from the front of the frame. Forklift trucks can be powered by electric motors or internal combustion engines running on petrol, diesel or LPG fuels.

TOOLS AND EQUIPMENT

Maintenance and Inspections

It is essential that tools and equipment are checked for serviceability, and any faults are rectified or reported prior to commencement. This requires you to follow all workplace protocols for rectification and reporting applicable to your organisation. These protocols will require you to complete forms, place signage on equipment, and report faults to supervisors.

Remember: before you use any equipment identify if there is a maintenance schedule, ensure that there are no discrepancies and that it is signed off.

DEFECTIVE EQUIPMENT PROTOCOL



STOP

1

TAG

2

REPORT

3

RECORD

4

HAZARDOUS MATERIAL

Identify hazardous materials for separate handling. Hazardous materials are those materials that pose a health risk to humans and animals or cause irreversible damage to the environment and may include toxic chemicals, asbestos and radioactive materials. GHS (Globally Harmonised System) is the system in place to classify hazardous chemicals.

Many chemicals are accompanied by a HAZCHEM Code. This is a three digit, alphanumeric code which provides initial emergency response information about:

- Appropriate, compatible fire suppression media
- The likelihood of a violent reaction and other response advice
- Spills containment or dilution
- Personal protective equipment.

The Safety Data Sheet (SDS) can also be used to determine the HAZCHEM Code of a substance. Alternatively the ADG CODE may be used. This is Australian Code for the Transport of Dangerous Goods by Road and Rail Transport (Australian Dangerous Goods Code or ADG Code) which is available at the National Transport Commission.

Remember! Hazardous Material should always be handled separately from other materials!

SAFELY STORE/STACK UNUSED MATERIALS

Certain types of building materials, if they are stored in the wrong conditions for any length of time, can quickly be damaged to the point of becoming useless. The following information describes how these building materials should be stored to prevent them becoming damaged.

- **Plywood, Particle Board and MDF'**

Material boards should be stored in dry conditions. Storage sheds or workshops will protect from extreme weather conditions. Particle board sheeting correctly stacked with each sheet separated by packers to keep sheets straight, allow even air flow and allow easy removal. Stack boards horizontally in even, stable stacks.

- **Natural Timbers**

Hardwood - Lengths should be stacked in proper racks that evenly support the timber to prevent bowing or sagging and prevent unplanned movement or shifting. Should be placed on packers.

Softwood - Should never be stored outside as they will quickly rot due to water or moisture and they are highly prone to termite attack.

Softwood timber should be stacked in "pyramid piles", and on level stable surfaces.

- **Plasterboard Products**

Always store plasterboard on a flat surface and in dry conditions. Where possible, keep the boarding inside the original packaging until it is to be used. Store plasterboard in an area where it cannot be stepped on, or where other materials cannot be accidentally dropped onto it.

- **Cement/Lime/Plaster Products**

Must be stored in dry, warm conditions. They must be stored inside and under cover. Packaged in lined paper bagging. Bagged material should not be stored on the ground or floor, but should be stored on proper wooden pallets to keep them dry.

- **Materials on Pallets**

Heavier objects should always be stacked first on the pallet to prevent crushing of lighter objects and to provide a stable pallet stack. Light weight objects, such as cartons should be tied down or fitted with webbing/netting to prevent them falling off the pallet whilst they are raised, lowered and moved. Light weight objects can be stacked together.

- **Paints**

Paints should be stored in clean dry conditions. They should be kept in an area where they cannot be physically damaged. Paint should be kept in clean dry conditions to prevent water or dirt entering the containers. After opening, tins must have the lids properly sealed down otherwise any remaining paint will spoil inside the tin/container.

- **Plastics**

Some plastic materials may become brittle when exposed to sunlight, particularly plastic products designed for internal use only - such as laminates, plastic switches and fittings. Therefore, plastic products should be stored under cover and away from extreme heat or direct sunlight. Care must also be taken when unloading and stacking to avoid cracking or chipping.

- **Bricks/Concrete Blocks**

Must be set on firm stable surfaces to prevent the load from shifting and collapsing. Stacked in rows where each layer is at right angles to the preceding layer to create an interlocking effect. This prevents the stack from “spreading” and allowing bricks to fall. NEVER stack in columns. Store in relatively low but wide stacks rather than in narrow tall stacks as this provides greater stability.

- **Pipe/Round Bar/Conduit**

Large diameter pipe and round bar should be piled in layers separated by strips of wood packing or by steel bars. If wood is used to separate the pipe/round bar, then wooden blocks or chocks should be positioned at both ends to prevent the material from rolling and undermining the stack. If steel bars are used, the end of each bar should be turned up to create the same chocking effect.

- **Drummed Material**

Drums containing liquids or semi-liquid products should be stored on a rack, not stacked. If drums must be stacked, then they should be stacked on pallets in an upright position on a clean, stable surface. Never stack drums directly on top of one another. If drums have to be stacked up, always separate the drum layers with sound wooden pallets.

DUST SUPPRESSION PROCEDURES

Use dust suppression procedures to minimise health risks to work personnel and other materials from workplace traffic or access.

Dust suppression procedures may include but are not limited to:

- Using water and surfactant sprays to suppress dust.
- Washing vehicles' wheels before they leave the premises can also help to control dust.
- Material to be transferred or transported should be covered or contained.
- Stockpile heights and areas should be limited, and removal should take place from the downwind side.
- Alter loading and unloading procedures to the downwind side of storage piles.
- Physical barriers can be erected, depending on the size of the stockpile.
- Simple wind breaks can also be erected to minimise dust generation.
- Mulched green wastes can be temporarily laid over the stockpile and removed when required and retained for later landscaping purposes.

CLEANING WORK AREA

Clear work area and dispose of or recycle materials in accordance with project environmental management plan.

Cleaning up correctly is just as important as any other task involved in construction. Cleaning up means all debris and waste materials must be collected and removed to the waste storage area and sorted for recycling. Unused materials must be cleaned and returned to the storage area and stacked or stored neatly. Report faults in logbook or site records. The work area must be left clean, safe and secure on completion of the task.



The construction process has particular environmental impacts and mitigation options at each level of work: site establishment and setup; construction work activities; and site restoration after the completion of work. To guard against these environmental impacts ensure that the Environmental Management Plan is adhered to when clean-up activities are undertaken.

WORK SCHEDULES

Work schedules are necessary to ensure safe workplaces and deadlines are met.

If changes and amendments effect the current work schedules, this needs to be communicated to the whole team. Concerns and ideas can be put forward, where new plans and tasks can be explained to all team members.

COMMUNICATION

WORK GOALS

The following skills and attributes should be practiced throughout the workplace to achieve realistic and positive work goals.

- Clear Communication
- Demonstrating flexibility
- Planning and preparation
- Showing an interest and willingness to learn and further improve skill sets
- Maintaining and prioritising an organised work site
- Discussing and sharing ideas to find solutions