Guideline for the management of public health risks associated with temporary toilets in Western Australia

Public Health Act 2016 (WA)





This guideline was prepared by:

Environmental Health Directorate
Public and Aboriginal Health Division
Department of Health of Western Australia
PO Box 8172
Perth Business Centre WA 6849

Tel: (08) 9222 2000

Email: publichealthact@health.wa.gov.au

Web: www.health.wa.gov.au

This document is only available electronically and can be downloaded from the WA Department of Health's website www.health.wa.gov.au

Disclaimer

This document provides general guidance on aspects of the *Public Health Act 2016* (WA). This guideline is not a substitute for reading the *Public Health Act 2016* (WA) and should not be regarded as legal advice.

Legal advice relevant to the user's circumstances should be obtained when necessary. It is the responsibility of users to inform themselves of any updates to the guideline and the relevant legislation applying, and to ensure that they rely on information that is current.

All information and content in this material is provided in good faith by the WA Department of Health and is based on sources believed to be reliable and accurate at the time of development. The State of Western Australia, the WA Department of Health and their respective officers, employees and agents do not accept legal liability or responsibility for the material, or any consequences arising from its use.

Glossary of terms

Term	Explanation
Accessible	having features to enable use by people with a disability.
Accessible temporary toilet	A temporary toilet designed for use by people with a disability including wheelchair users.
Accessible adult change facility	A toilet and change facility that caters for users with high support needs and their carers where they require additional space, assistance and specialised equipment such as hoists to allow them to use toilets safely and comfortably.
Ambulant	Has the meaning given in Australian Standard (AS) 1428.1-2021 as follows: having features to enable use by people with a mobility disability but are able to walk.
Ambulant temporary toilet	A temporary toilet designed for use by people with a mobility disability but who are able to walk, including people who use a walking frame or crutches.
Construction site	Has the meaning given in the Work Health and Safety (General) Regulations 2022 regulation 5 as follows: a workplace where construction work is being carried out.
Construction work	Has the meaning given in the Work Health and Safety (General) Regulations 2022 regulation 289 as follows: any work carried out in connection with the construction, alteration, conversion, fitting-out, commissioning, renovation, repair, maintenance, refurbishment, demolition, decommissioning or dismantling of a structure.
Sewage	Has the meaning given in the <i>Government Sewerage Policy 2019</i> as follows: any kind of sewage, faecal matter or urine, and any waste composed wholly or in part of liquid.
Temporary toilet	A portable toilet of a temporary nature that is designed and constructed so that it may be connected to the sewerage system on a temporary basis, or it is connected to a sewage storage tank.
Urinal	A urinal can be standalone or incorporated into a bank of toilets. A urinal may be an individual unit such as the wall hung variety or a continuous urinal trough.
Worker	Has the meaning given in the Work Health and Safety Act 2020 section 7 as follows: a person is a worker if the person carries out work in any capacity for a person conducting a business or undertaking. This includes a person working as an employee, contractor or volunteer.

Table of Contents

1.0 Purpose	1
1.1 Scope	1
1.2 Who should use this guideline	1
2.0 Background	1
2.1 Risks to public health	2
2.2 General public health duty	3
3.0 Public health risks and temporary toilets	3
4.0 Responsibilities and roles	2
5.0 Standards for temporary toilet facilities	Ę
5.1 Performance criteria	Ę
5.2 Single standalone temporary toilets	6
5.3 Multiple toilets within a transportable unit	7
5.4 Location of temporary toilets	7
6.0 Temporary toilets for people with a disability or mobility issues	7
6.1 Ambulant temporary toilets	7
6.2 Accessible temporary toilets	3
6.3 Temporary accessible adult change facilities	3
6.4 Location of temporary toilets for people with a disability or mobility issues	Ç
6.5 Signage	Ç
7.0 Hygienic provisions	10
8.0 Service, maintenance and cleaning	10
9.0 Wastewater collection, transport and removal	11
9.1 Sewer connection	11
9.2 Sewage holding tank	11
10.0 Wastewater overflow response	11
11.0 References	12

1.0 Purpose

This guideline is issued by the Chief Health Officer of the Department of Health of Western Australia in accordance with the *Public Health Act 2016*. It provides information and guidance on best practice for the purpose of managing the public health risks associated with temporary toilets. This guideline outlines what the associated public health risks are, identifies how these risks can be adequately managed by appropriate toilet design, construction, performance and cleaning. This guideline does not provide mandates for when a type of toilet design must be provided.

1.1 Scope

This guideline applies to all forms of temporary toilets, including single standalone cubicles, multiple toilets (or urinals) within a unit, accessible toilets, ambulant toilets and accessible adult change facilities.

Temporary toilets are sanitation facilities for the safe removal of human waste (faeces and urine). Temporary toilets may also provide handwashing facilities that generate wastewater.

A temporary toilet is a portable toilet of temporary nature that is designed and constructed so:

- it is connected to a sewage storage tank; or
- it may be connected to the sewerage system on a temporary basis.

The intent of the storage tank or sewer connection is to prevent raw sewage coming into contact with people using the facilities or in proximity to the facilities.

Toilet technologies that are used for temporary toilets include freshwater flush, open closet (straight flush) and chemical recirculating flush.

This guideline does not apply to temporary shower facilities.

1.2 Who should use this guideline

This guideline should be used by any person conducting a business providing temporary toilets for hire in Western Australia. This guideline should also be used by any other person or organisation that needs to operate, hire or provide guidance about temporary toilets across a time period.

For specific guidance regarding temporary toilets at public events, refer to the Department of Health's <u>Guidelines for concerts</u>, events and organised gatherings.

For specific guidance regarding temporary toilets at workplaces and construction sites, refer to the following codes of practice developed by the Department of Mines, Industry Regulation and Safety:

- Managing the work environment and facilities Code of Practice
- Code of Practice on how to manage the risks associated with construction work.

2.0 Background

Previously the public health risks associated with temporary toilets were managed under the Health (Temporary Sanitary Conveniences) Regulations 1997) and the Health (Construction Work) Regulations 1973. These regulations, which were created under the Health (Miscellaneous Provisions) Act 1911, were reviewed as part of the implementation of the Public Health Act 2016. The Department of Health completed wide-ranging community consultation to seek the views of industry and the public to determine the future management of temporary

toilets.

The discussion paper entitled 'Managing sanitation provision and maintenance at construction sites and mobile, temporary or remote worksites under the *Public Health Act 2016*' was released in June 2018 for an 8 week consultation period. The feedback received from public consultation was collated into a consultation summary report, which found the majority of the respondents were in support of the repeal of the *Health (Construction Work) Regulations 1973* and Part 3 of the *Health (Temporary Sanitary Conveniences) Regulations 1997* and the replacement of those regulations with a guideline.

A second consultation occurred in July 2018. The discussion paper entitled 'Managing the public health risks associated with temporary toilets' was released for an 8 week consultation period. Based on the consultation summary report of feedback, the Department of Health determined it is possible to manage the public health risks and concerns that were raised in the consultation through the general provisions of the *Public Health Act 2016*. A guideline was deemed as a suitable option to set out the generally accepted practices relating to the design and construction of temporary toilets, previously managed under Part 2 of the *Health (Temporary Sanitary Conveniences) Regulations 1997*. As a result, the *Health (Construction Work) Regulations 1973* and the *Health (Temporary Sanitary Conveniences) Regulations 1997* were repealed and replaced with this guideline.

2.1 Risks to public health

The *Public Health Act* 2016 prescribes a range of offences for conduct that causes, or may cause, a serious or a material public health risk. Under the *Public Health Act* 2016:

Serious public health risk

- a) means a public health risk involving potential harm to public health that is irreversible, of a high impact or on a wide scale; and
- b) includes a public health risk declared by the regulations to be a serious public health risk; but
- c) does not include a public health risk declared by the regulations not to be a serious public health risk.

Material public health risk:

- a) means a public health risk involving potential harm to public health that is neither trivial nor negligible; and
- b) includes a public health risk declared by the regulations to be a material public health risk; but
- c) does not include a public health risk declared by the regulations not to be a material public health risk.

As defined in the *Public Health Act* 2016, **harm** includes physical or psychological harm to individuals, whether of long-term or immediate impact or effect.

In cases where matters are a nuisance or amenity problem but are not likely to result in harm, the serious and material public health risk provisions will not apply.

2.2 General public health duty

General Public Health Duty – Public Health Act 2016

"A person must take all reasonable and practicable steps to prevent or minimise any harm to public health that might foreseeably result from anything done or omitted to be done by the person."

The general public health duty specified in Part 3 of the *Public Health Act 2016*, requires that a person must take all reasonable and practicable steps to prevent or minimise any harm to public health that might foreseeably result from anything done or omitted to be done by the person.

In assessing what is reasonable and practicable, regard must be had to the objects of the *Public Health Act 2016* and to a range of other matters. A person will not breach the public health duty if they act in a manner or in circumstances that accord with generally accepted practices.

Detailed and specific guidance on the different enforcement options provided by the *Public Health Act 2016* are available in the *Public Health Act 2016* Handbook for local government.

This guideline may be used to clarify the application of the general public health duty and provide industry specific information on what might constitute reasonable and practicable steps to prevent or minimise harm to public health.

3.0 Public health risks and temporary toilets

What is a public health risk?

A risk to public health is something that is known to cause or potentially cause disease or harm to the public health or wellbeing of humans.

The public health risk associated with temporary toilets relates to the management and disposal of raw sewage. The design and performance of temporary toilets to prevent contact between people and human waste products are important considerations for effective management of the risk.

A temporary toilet should:

- adequately provide the ability for people to use a toilet.
- remove the waste products to a suitable storage tank or sewer connection.
- store sewage collected in a safe manner.
- allow for the removal of sewage from a site to prevent contamination of the area it is located in.

Temporary toilets also require adequate servicing and cleaning at appropriate intervals to prevent harmful microorganisms spreading from contact with surfaces within the toilet cubicle area.

Using appropriate toilets and hand washing – preferably with soap and water – prevents the transfer of bacteria, viruses and parasites found in human excreta which otherwise may contaminate the soil, water resources and food. It also decreases the risk of contact transfer of diseases by infected persons.¹

The World Health Organization's Guidelines on Sanitation and Health² define a safe sanitation system as a system designed to break the disease transmission cycle by separating human excreta from human contact at all steps of the sanitation service chain, from toilet capture and containment through emptying, transport, treatment (in-situ or off-site) and final disposal or end use. The main transmission cycle of concern is faecal-oral disease transmission through faeces, fingers, flies, fluids and food.

The inappropriate performance of temporary toilets can mean that contact with human waste can occur. The main risk is either indirect or direct contact with pathogenic (disease-causing) microorganisms within human waste that can cause illness.

Pathogenic microorganisms of concern include bacteria, viruses and protozoa. The diseases they cause vary in severity from mild gastroenteritis to severe and sometimes fatal diarrhoea, dysentery, hepatitis, cholera or typhoid fever. Contact with many pathogenic microorganisms can be reduced by the provision of adequate hand washing facilities and by ensuring that the toilet is designed, constructed and maintained correctly to enable the removal of human waste.

4.0 Responsibilities and roles

Temporary toilets are captured by different forms of legislative and policy tools depending on where and why they are provided. These guidelines are intended to inform best practice where temporary toilets are used in any capacity. The table below provides a summary of the key roles and responsibilities of different agencies regarding temporary toilets.

Organisation	Roles and responsibilities
Department of Health	 Administer the Public Health Act 2016. Administer the Health (Miscellaneous Provisions) Act 1911 Provide guidance for managing public health risks associated with temporary toilets in accordance with this guideline. Approve sewage holding tank applications in accordance with the Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974 regulation 4A.
Department of Mines, Industry Regulation and Safety (DMIRS)	 WorkSafe WA (part of DMIRS) assists the regulator in the administration of the Work Health and Safety Act 2020 (WHS Act), which provides a framework to protect the health, safety and welfare of workers in Western Australian workplaces, and of other people who might be affected by the work. Undertake regulatory activities to ensure temporary toilets at a workplace are provided and managed in accordance with the WHS Act, the Work Health and

	 Safety (General) Regulations 2022 and the Work Health and Safety (Mines) Regulations 2022. Provide practical guidance on how to achieve the standards of work health and safety required under the WHS Act and subsidiary legislation. Relevant documents include the Managing the work environment and facilities Code of Practice and the Code of Practice on how to manage the risks associated with construction work. Administer the Plumbers Licensing and Plumbing Standards Regulations 2000 under the Plumbers Licensing Act 1995 to regulate sanitary plumbing work.
Department of Water and Environmental Regulation	 Administer the Environmental Protection (Controlled Waste) Regulations 2004 under the Environmental Protection Act 1986 (WA) to regulate the transportation of sewage on roads in Western Australia. Administer the Environmental Protection (Unauthorised Discharges) Regulations 2004 under the Environmental Protection Act 1986 to regulate the discharge of sewage into the environment.
Local government authorities	 Undertake regulatory activities to ensure temporary toilets at events are provided and managed in accordance with this guideline and the Guidelines for concerts, events and organised gatherings. Conduct enforcement action if necessary to manage public health issues in accordance with the Public Health Act 2016. Implement and enforce key parts of the Building Act 2011 and regulations. For example the removal of temporary toilets at a building site after the completion of the building work in accordance with the Building Regulations 2012 regulation 41(4). Approve sewage holding tank applications in accordance with the Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974 regulation 4.

Table 1: Summary of key roles and responsibilities of different agencies regarding temporary toilets

5.0 Standards for temporary toilet facilities

Temporary toilets should be designed and constructed to comply with best practice principles. Appropriate design and construction of temporary toilet facilities helps minimise the public health risks identified in Section 3 of this guideline.

5.1 Performance criteria

Temporary toilet facilities should be designed and constructed to meet the following performance criteria:

- fit for purpose
- built of a material that is corrosion resistant, smooth, impervious and washable
- built to withstand the conditions on-site for the duration of use (e.g. built not to break or fail during extreme weather events)
- safe and durable during lifting and transporting
- able to sufficiently contain the volume of waste products in situ and when transporting
- capable of allowing waste to be safely removed through the period of use
- fitted with an adequately sized sewage holding tank that is watertight, well maintained and does not leak under the Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974
- fitted with the ability to withstand an increased weight during lifting of the toilet and all its equipment (including the storage tank) at full capacity
- fitted with adequate ventilation
- fitted with adequate lighting either natural or artificially sourced (adequate means illumination levels that allow visibility with the door closed during the day or night)
- installed to provide privacy for users
- fitted with an emergency release lock capable of locking from within the inside of each cubicle
- fitted with doors that are capable of being removed from the outside in the event of an emergency
- provides appropriate accessibility supports
- has appropriate signage.



5.2 Single standalone temporary toilets

The Hire and Rental Industry Association's *Guidelines for the provision of portable toilets on construction sites and at events where connection to a sewer is not practical* (HRIA Code of Practice) is a national code of practice for portable toilet use. The HRIA Code of Practice provides

minimum construction standards for single portable toilets which should be followed in Western Australia.

Single standalone temporary toilets should comply with the HRIA Code of Practice construction specifications, including for: 4

- walls, floor, door and roof
- internal requirements e.g. minimum cabinet size dimensions
- weight bearing requirements for the floor
- waste storage tank
- door closing and locking mechanisms
- toilet seat requirements
- supplementary equipment (such as urinals, wash hand basin, soap dispenser, lighting and lifting points).

5.3 Multiple toilets within a transportable unit

Multiple toilets can be located within a transportable unit which can be delivered to a site and used on a temporary basis. This style of temporary toilet may provide multiple hand wash basins, toilet stalls or urinals in one large temporary structure with walls, floor and a roof. The *National Construction Code 2022* Volume 1 clause F4D8 provides guidance for the design and construction of multiple connected permanent sanitary compartments and should be followed as a best practice guide for the design and construction of multiple connected temporary sanitary compartments.⁵ The wastewater is typically held in a sewage holding tank located underneath the toilets which requires the facilities to be raised to allow effluent to gravity feed into the holding tanks under the units.

5.4 Location of temporary toilets

Temporary toilets should be located in an appropriate location that is:

- conveniently located (i.e. not located too far away from the users)
- safe to access
- accessible for all users
- on a level and stable surface during the period of use
- within the lot boundaries.

6.0 Temporary toilets for people with a disability or mobility issues

People providing temporary toilets should consider broader accessibility needs of people using these facilities. The Department of Health's consultation found that appropriate temporary toilets for people living with disability were not always provided³. The different types of temporary toilets include ambulant, accessible and change facilities.

Where only ambulant toilets are provided as the toilet for all people with a disability or mobility issues – problems may arise due to lack of space, lack of transfer aids, height of items and flushing and washbasin mechanisms.

The following information relates to the types of temporary toilet that may be provided to meet the requirements of people living with a disability.

6.1 Ambulant temporary toilets

An ambulant toilet is specifically designed for people who can walk but have reduced mobility (i.e. they are not designed for people who use wheelchairs). They are designed for people who require a larger internal space than a standard toilet, for example, people with sensory loss, arthritis or people who use a walking frame.

Design and construction requirements suitable for ambulant temporary toilets are detailed in AS 1428.1-2021 Design for access and mobility, Part 1: General requirements for access – New building work⁶, including the minimum space, dimensions or gradients for the provision of:

- circulation space
- cubicle space
- doors (including locking mechanisms)
- grabrails
- signage
- toilet pans
- toilet paper dispensers.

Information on providing ambulant toilets with greater levels of accessibility than the minimum requirements is detailed in AS 1428.2 – 1992 *Design for access and mobility, Part 2: Enhanced and additional requirements – Buildings and facilities*⁷.

6.2 Accessible temporary toilets

An accessible temporary toilet is a facility designed to meet the needs of a range of people with disabilities such as people who use wheelchairs, people requiring assistance from carers and people who have sensory impairments. They include features such as lower mirrors and washbasins, grab rails, easy flush facilities and braille signage.

The Australian Standards (AS) 1428.1-2021⁶ provides guidance for the design and construction of permanent accessible toilets.

AS 1428.1-2021 provides specific requirements for the design, dimensions and installation of the below features, to ensure accessibility:

- backrests
- circulation space
- doorways
- an exclusion zone
- fixtures and fittings (i.e. soap dispensers and hand drying facilities)
- flushing controls
- grab rails

- locking devices
- shelves or bench tops
- signage
- height of switches (e.g. for light)
- toilet pans and toilet seats
- toilet paper dispensers
- washbasins
- water taps.

The requirements in AS 1428.1-2021 should be followed as a best practice guide for the design and construction of accessible temporary toilets. If two or more accessible sanitary facilities are provided, at least one should be of the opposite hand.

6.3 Temporary accessible adult change facilities

An accessible adult change facility is a toilet and change facility that caters for users with high support needs and their carers where they require additional space, assistance and specialised equipment such as hoists to allow them to use toilets safely and comfortably.

Design and construction requirements for accessible adult change facilities are detailed in Specification 27 of the *National Construction Code 2022* (NCC) Volume One, including for:⁵

- general requirements
- hoists
- toilet pans, seats, backrests and grabrails
- washbasins and taps
- fixtures and fittings

- change tables
- changing rails
- doors and door controls
- signage
- operating instructions.

A full copy of the requirements for the design of an accessible adult change facility and the equipment, fixtures and fittings that must be included in each facility, can be accessed for free on the <u>Australian Building Codes Board's website</u>.

The requirements in the NCC Volume 1 Specification 27 can be followed as a best practice guide for the design and construction of temporary accessible adult change facilities.

6.4 Location of temporary toilets for people with a disability or mobility issues

Special consideration should be given to the siting of toilets for people with a disability or mobility issues, to ensure that they are accessible for the people that require their use. Facilities should be on a flat terrain and, where possible, on an easily trafficable surface for someone using a wheelchair or mobility aid. Placement alongside curbs or other obstacles or on grass or gravel should be avoided wherever possible.

Where ramps are provided for accessing accessible and ambulant facilities, care should be taken to ensure that the ramp is not blocked by an outward opening door and where a side on ramp is provided, the ramp should be large enough to provide adequate turning space for wheelchair users.

Further information regarding ingress and egress can be found in AS 1428.1:2021⁶.

6.5 Signage

End users should be able to determine whether temporary sanitary facilities are appropriate for their needs and signage should reflect that. Best practice guidance can be found in the NCC Volume 1⁵ and AS 1428.1:2021⁶. Signage should indicate left handed or right handed access and distinguish between ambulant and accessible toilets. Following best practice enables people to determine the suitability of the temporary toilet for their particular needs.









Examples of appropriate signage depicting left or right side transfers facilities.



Examples of appropriate signage for accessible changing facilities.

7.0 Hygienic provisions

All temporary toilets should be regularly maintained and provided with the following hygienic provisions:

- hand washing facilities (preferably a basin with soap, potable and flowing water) which capture wastewater, or the supply of alcoholic hand sanitiser
- hand drying facilities e.g. paper towels or air hand dryer
- toilet paper for each toilet in a suitable toilet paper dispenser
- means to dispose of waste
 - o female sanitary units should be provided for locations with female users
 - o waste bins to dispose of rubbish.

8.0 Service, maintenance and cleaning

Temporary toilets are to be maintained in a sanitary and operational condition while in use. Regular

servicing should occur on a schedule in accordance with the supplier's instructions and information with consideration for the frequency of use. If a maintenance issue arises, the person responsible for the site is to fix or replace the toilet as soon as practicable. The HRIA Code of Practice summarises best practice and acceptable standards for frequency of pump and reset of temporary toilets, depending on whether the location is at a construction site or event.⁴

Temporary toilets should be regularly monitored and cleaned. A regular cleaning schedule should be implemented to ensure all surfaces are cleaned and disinfected. Consumables (including soap, toilet paper, paper towels and hand sanitiser) should be regularly restocked. Waste containers should be regularly emptied. The schedule of cleaning required may depend on the storage capacity of the toilets, the flush volume and the frequency of use.

9.0 Wastewater collection, transport and removal

Information on wastewater requirements can be found under wastewater systems on the <u>Department of Health's website</u>. .

9.1 Sewer connection

Certain temporary toilet designs allow for a direct connection to an existing sewer for disposal of wastewater. This type of temporary toilet should be used on sites where a sewer connection is available.

If a sewer connection becomes available, it is recommended that the temporary toilet on site is replaced with one that is connected to the sewer within two weeks after the connection becomes available.

9.2 Sewage holding tank

A sewage holding tank can be used to capture wastewater from the toilet, temporarily storing it in a sewage holding tank which does not leak, is impervious and a suitably large enough size to store the volume of waste being produced. For current guidance regarding performance standards, application for use, design standards, operation and maintenance of sewage holding tanks, refer to the Department of Health's <u>Guidance for the use of sewage holding tanks associated with temporary ablution blocks</u>.

10.0 Wastewater overflow response

A wastewater overflow from a temporary toilet could be an overflow, leak or spill of sewage. In situations where a wastewater spill occurs on site, the person responsible for the site is to ensure that the issue is dealt with immediately. The responsible person on site has a duty to prevent the escape of sewage into the environment.

When a sewage holding tank or temporary toilet is moved from its intended location for any purpose, appropriate measures should be taken to ensure there is no overflow or spillage of wastewater.

In the event of a wastewater overflow, the latest version of the Department of Health's Wastewater Overflow Notification and Response Procedures should be followed. This document is available on the Department of Health's website.

11.0 References

- 1. Centre for Disease Control and Prevention. (2020). Handwashing: Clean Hands Save Lives. Retrieved from: https://www.cdc.gov/handwashing/why-handwashing.html
- 2. World Health Organization. (2018). Guidelines on sanitation and health. Retrieved from: https://www.who.int/teams/environment-climate-change-and-health/water-sanitation-and-health/sanitation-safety/guidelines-on-sanitation-and-health
- 3. Department of Health. (2017). Survey Findings on Accessible Temporary Toilets in WA.
- 4. Hire and Rental Industry Association. (2021). Portable Toilets Code of Practice. Retrieved from: https://hireandrental.com.au/wp-content/uploads/2021/11/Code-of-Practice-Portable-Toilets-Nov-2021.pdf
- 5. Commonwealth of Australia and the States and Territories. (2022). National Construction Code Volume One. Retrieved from https://ncc.abcb.gov.au
- 6. Standards Australia. (2021). AS 1428.1:2021 Design for access and mobility. Part 1: General requirements for access New building work. Retrieved from: https://www.saiglobal.com/online/
- 7. Standards Australia. (1992). AS 1428.2:1992 Design for access and mobility. Part 2: Enhanced and additional requirements Buildings and facilities. Retrieved from: https://www.saiglobal.com/online/



This document can be made available in alternative formats on request for a person with a disability.

© Department of Health 2024

Copyright to this material is vested in the State of Western Australia unless otherwise indicated. Apart from any fair dealing for the purposes of private study, research, criticism or review, as permitted under the provisions of the *Copyright Act 1968*, no part may be reproduced or re-used for any purposes whatsoever without written permission of the State of Western Australia.