CURTIN UNIVERSITY

PROJECT DELIVERY GUIDELINES

EMERGENCY MANAGEMENT DESIGN GUIDELINES

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Curtin University

Details of revisions			
Level	*Details*	*Date*	*Initial*
1	*Document created from 20150513NewBuildsAndRedevelopments.docx*	*Mar-17*	*RPS*
1	*Inclusion of wording to allow departures from the existing guideline*	*Nov-19*	*RPS*
1	*Changes to responsible officer names and titles*	*Feb-20*	*KO*

CONTENTS

1 SCOPE

This Project Delivery Guideline provides assistance on the requirements and considerations designers must meet in relation to emergency management functions in new buildings or redevelopment of buildings at Curtin University.

Although relevant Australian standards and the Building Code of Australia are adhered to, it should also be acknowledged that there may be a requirement to go beyond these, in the interests of the University.

The Project Delivery Guidelines have been prepared in consultation with Curtin University subject matter experts and stakeholders. It is recognised that the subject matter of Guidelines will not always be suitable for all project elements and departures from the Guidelines may be required or desirable. Departures from Guidelines must be agreed upon in consultation with the relevant University Guideline subject matter expert. Departures must be recorded in a project register and recorded and reviewed in the Project Control Group meeting minutes under its own meeting agenda item "Project Delivery Guideline Departures". Where the University subject matter expert identifies that a departure adds ongoing value to the University, the subject matter expert will update the relevant Guideline.

1.1 CONTACT DETAILS

Irrespective of the nature and scope of an impending project, project team designers should make early contact with the Emergency Management team in order to establish the appropriate working relationship for the project with the team.

EMERGENCY MANAGEMENT

Emergency Management | Corporate Services

CURTIN UNIVERSITY

TEL | +61 8 9266 9910

Email | Emergency_Management@curtin.edu.au
Web | http://healthandsafety.curtin.edu.au/emergency_management/

2 BUILDING DESIGN

It is important to incorporate emergency management as a concept that should be included from the design stage of a new build or redevelopment. The following should be considered.

2.1 ACCESS AND EGRESS

The Building Code of Australia (BCA) Volume 1 – Section D states that a building must provide a means of being evacuated safely without being overcome by the effects of an emergency. It also goes on to state that there should be fire-isolated exits.

No point on a floor should be more than 20 m from a single exit. If two exits will be constructed, the maximum distance to one of those exits must not exceed 40 m. It is useful and important to have exits on separate sides of the building, or at either end.

There must also be clear access and egress routes for emergency services crews, for example, access from a nearby road for the fire truck and access to nearby hydrants.

2.2 DISABILITY ACCESS

The Curtin University Disability and Inclusion Plan aims to ensure people with disabilities have the same opportunities as other people to access Curtin's buildings and facilities.

During an emergency, lifts are not recommended to be used. Therefore it is important to consider potential exit routes for people with disabilities. It is essential that fire-isolated staircases are available on each level of the building and clearly signed to enable people with disabilities to shelter in this area if an emergency occurs.

2.3 ASSEMBLY POINTS/MUSTER POINTS

Assembly areas/muster points should be considered during the design phase of the project to ensure that emergency exits are leading out to the required safe areas and that these assembly areas can be accessed by different paths around the building.

It is also important to ensure there will be an assembly area available to the building occupants at a suitable safe distance from the building during construction and upon completion.

3 BUILDING CONSTRUCTION/REDEVELOPMENT

During the construction or redevelopment stage, Emergency Management staff need to revise emergency plans and communicate change to the relevant Chief Wardens, Safer Community staff and DFES based on the information received, in the areas listed below.

Warden Information Points (WIPs) need to be reviewed during a refurbishment to accommodate the change in operational need and not simply for building compliance. There may a necessity to relocate current WIPS or increase the quantity to address increased occupancy or alternative egress routes and exits from buildings.

3.1 CHEMICAL STORAGE

Many construction sites require the use of hazardous materials. Curtin University has developed procedures based on national standards for hazardous materials on campus. Contractors are advised to read the Contractor Safety Handbook and ensure that all chemicals are transported and stored in accordance with legislative requirements.

3.2 CHANGES TO EVACUATION ROUTES (INCLUDING NEIGHBOURING BUILDINGS)

Emergency Management should be notified and involved at any time that construction works impact or obstruct an area within the campus. If a path is closed and blocked, or an open area is fenced off for works and storage, this could impact on Emergency Services as well as the emergency plans of neighbouring buildings, affecting their assembly area and potentially the safe path that leads to it. Temporary assembly areas will be decided and temporary procedures and evacuation diagrams issued for the length of the works as per the requirements in AS3745-2010 - Planning for emergencies in facilities.

3.3 TEMPORARY LOSS OR ISOLATION OF ALERT SYSTEMS

Fire systems or parts of it are to be isolated prior to using equipment that produces heat, smoke, fumes, dust, or prior to any kind of work that may affect or damage fire systems. All contractors requiring an isolation of the fire system must apply via the fire alarm isolation request form at http://properties.curtin.edu.au/workingwithus/permits.cfm. The area of isolation should be considered to ensure it is adequate for the work being carried out.

When a fire isolation request is received as per section 8.6 of the Contractor Safety Handbook, Emergency Management needs to be notified. Once notified, they will then alert the relevant Chief Warden of the affected building to ensure the safety of the occupants while the work is carried out.

3.4 FALSE ALARMS

Under the Fire and Emergency Services Act 1998 (WA), the Department of Fire and Emergency Services (DFES) will charge a $750.00 fee for an attendance to a fire alarm activation that is deemed false by attending crews.

All contractors should familiarise themselves with the tips available from DFES on how to reduce false alarms. See the link below for further information. http://www.dfes.wa.gov.au/safetyinformation/fire/businessandindustry/Pages/FalseFireAlarms.aspx.

3.5 CHANGES TO THE BLOCK PLAN (ZONE MAP)

Any construction work that alters the fire alert system in any way may require the Block Plan (Zone Map) to be amended. It is very important that this map is kept up-to-date as wardens and responding emergency services crews refer to it to determine the location of the fire and potential safe access routes.

If construction has altered the system and a new map is required, the Curtin Fire Services Coordinator needs to be kept informed of the process and advised once a new map has been arranged. During this period, the Curtin Fire Services Coordinator should be called when there is an alert so they can inform DFES of the changes.

3.6 SITE EMERGENCY PROCEDURES

It is important that all contractors are aware of the Curtin University Emergency Management Plan and associated procedures. These are outlined in the Contractor Safety Handbook in section 10. In the event of a new build, and where there is no previously designated assembly area or evacuation plan, Emergency Management should be consulted to provide guidance in selecting suitable areas and ensuring procedures are in place.

All contractors are expected to respond to alarms and evacuate as required. This includes during the planned annual evacuation drills, which may occur at any time.

3.7 INCIDENT REPORTING

Contractors must report and record hazards, incidents and injuries that occur during any work in accordance with statutory provisions and University policy.

All incidents and hazards must be reported to the relevant Curtin Responsible Officer for the project, who is responsible for entering them into the C.H.A.R.M. reporting system.

All emergency contact details should be displayed on site and, during an emergency, Safer Community should be notified immediately on 9266 4444. If the emergency is life-threatening, call 000 immediately.

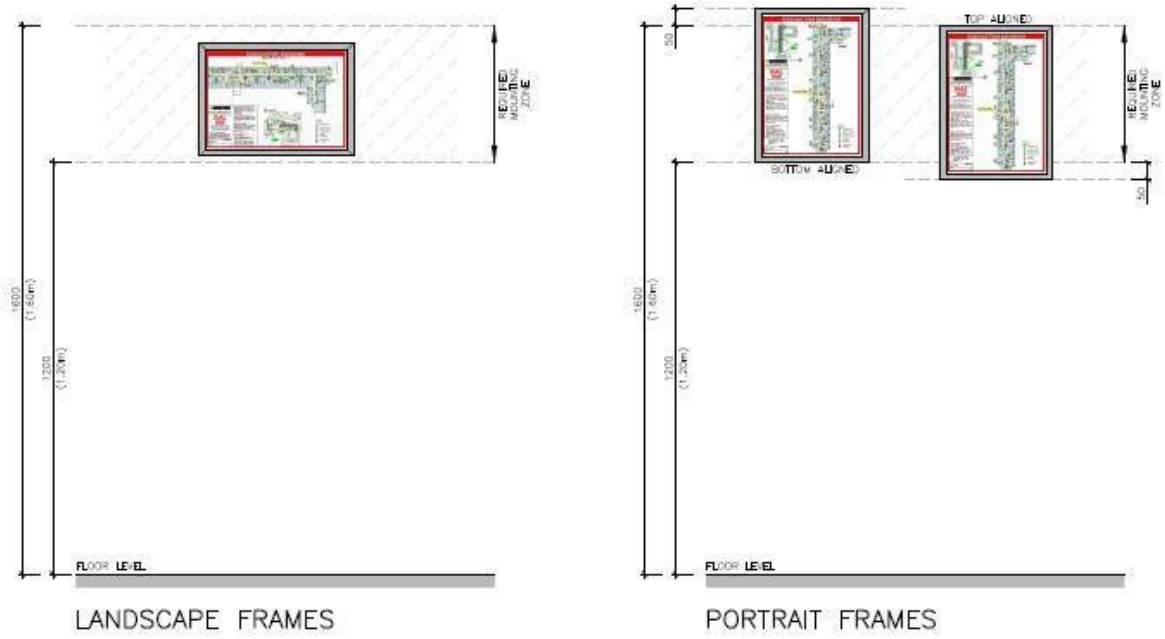
4 EMERGENCY PLANNING REQUIREMENTS

To ensure Curtin University is prepared to respond to any emergency event that may occur, Emergency Management aim to have comprehensive emergency plans and procedures already in place. Part of this emergency planning process is to ensure that Australian standards are adhered to, and that the relevant safety signs and equipment are in place and in working order prior to an emergency occurring. The following items are very important to the emergency management planning process.

4.1 EVACUATION DIAGRAMS

In accordance with AS3745-2010 - Planning for emergencies in facilities, evacuation diagrams must be displayed in locations where occupants and visitors are able to view them.

Clause 3.5.3 in the above-mentioned standard states that the diagrams should be positioned within a zone at a height not less than 1,200 mm and not more than 1,600 mm above the plane of the finished floor.



LANDSCAPE FRAMES PORTRAIT FRAMES

The standard also requires that the minimum size of an evacuation diagram that includes the minimum elements and optional elements (such as AED locations, first aid kits and emergency information) shall be A3 size (297 x 420 mm). The pictorial representation of the floor area must be a minimum of 300 x 200 mm.

4.2 EMERGENCY EXIT SIGNS

Exit signs of appropriate type complying with AS2293.3 – Emergency escape lighting and exit signs for buildings shall be installed in the locations determined necessary with the Building Code of Australia and must be clearly visible at all times when the building is occupied.

Section E4.5 of the Building Code of Australia states that an exit sign must be clearly visible to persons approaching the exit and must be installed on, above or adjacent to each door, external stairway, external balcony, or horizontal exit that provides exit on to a road or open space.

Section E4.6 further states that, if an exit is not readily apparent to persons occupying or visiting the building, then exit signs with directional arrows must be installed in appropriate positions in corridors, hallways and lobbies indicating the direction to a required exit.

AS 2293.1 Section 6.8.1 states that exit signs shall be mounted not less than 2 m and not more than 2.7 m above floor level.

The basic pictorial elements shall be as displayed as follows. (These elements are per ISO3864-1 - Graphic Symbols - Safety colours and safety signs. The minimum pictorial element height for any exit sign shall be 100 mm.

(a) Straight on from here
(Refer to Clause 3.3.4)

(b) Left from here

(c) Right from here

4.3 EMERGENCY LIGHTING

All emergency lighting shall be installed as per the Building Code of Australia and AS2293.3 – Emergency escape lighting and exit signs for buildings.

Every emergency light must be able to be identified with the identification symbol shown below. The symbol shall be located in a position where it is visible from below the light and shall be black and white in colour and no less than 10 mm in diameter.

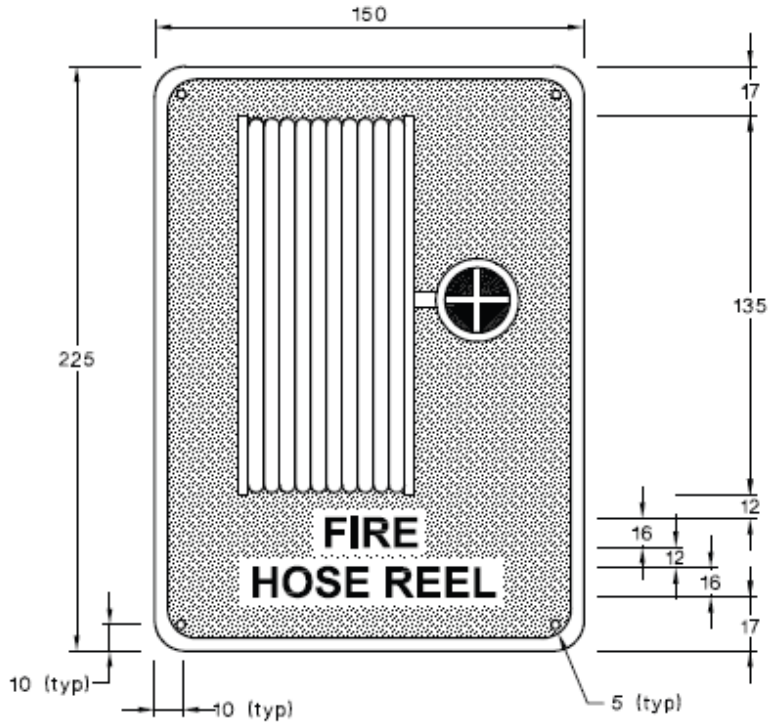
Section E4.2 of the Building Code of Australia (BCA) has very specific requirements for where and when emergency lighting must be installed.

4.4 FIRE HOSE REELS

Fire hose reels are selected and distributed according to the level of Class A fire hazard likely to be encountered. AS2441-2005 – Installation of Fire Hose Reels describes in detail the requirements for fire hose reels and how many are required in an area.

All fire hose reels should be located along the normal paths of travel to an exit and in readily accessible positions in accordance with the requirements of the Building Code of Australia.

A location sign must be provided above or adjacent to a fire hose reel that is located in a recess cavity or an obscure location. They should be positioned to be clearly visible to a person approaching the location. Signs must have symbol, border and letters in white on a red field and be of the size and shape below.

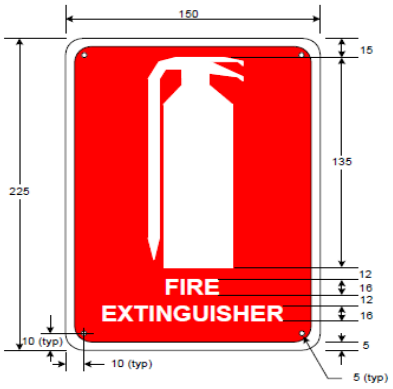


DIMENSIONS IN MILLIMETRES

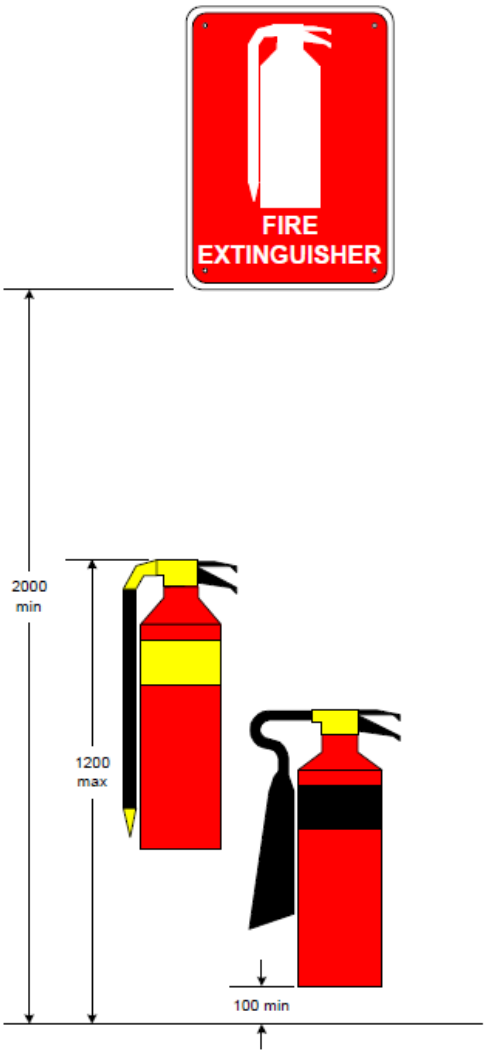
4.5 FIRE EXTINGUISHERS

AS2444-2001 - Portable fire extinguishers and fire blankets - Selection and location provides guidance on where fire extinguishers should be located within a building and provides guidance on how to determine how many are required.

All extinguishers must have their locations clearly indicated by placement of a location sign as shown below.

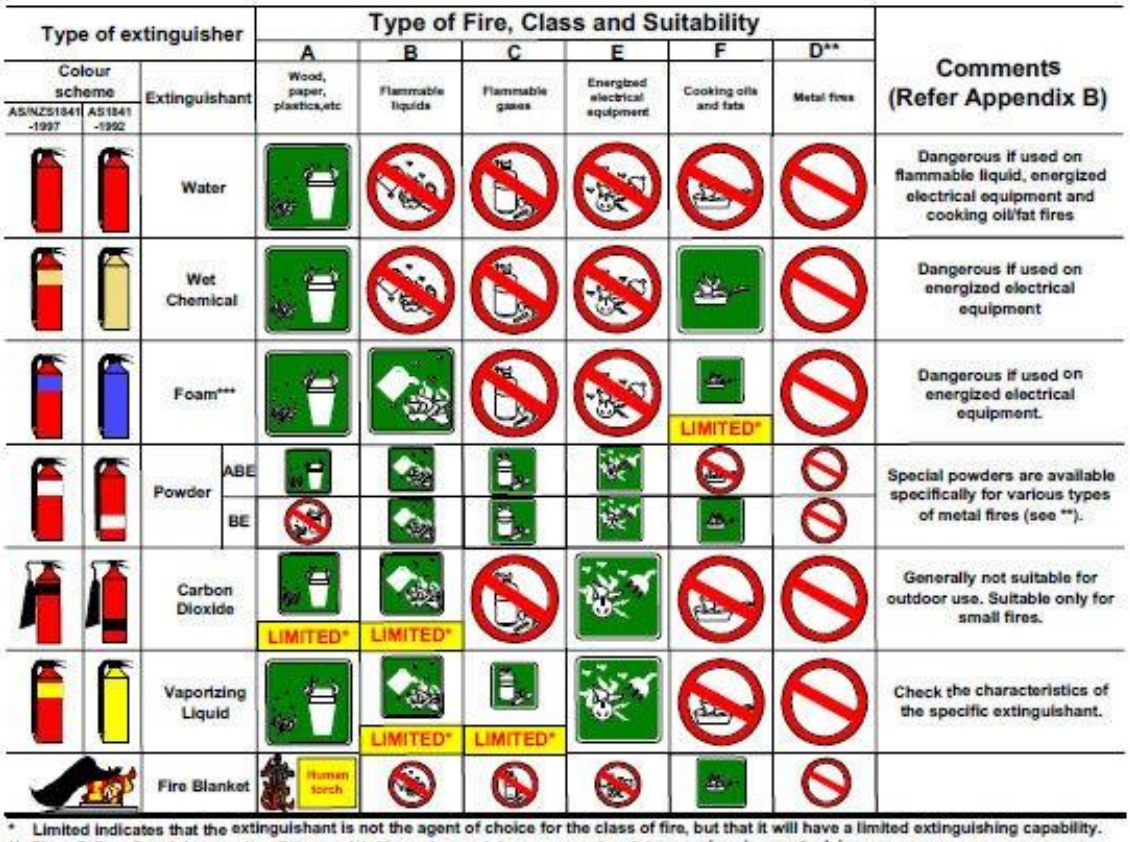


They are also required to be mounted at the appropriate height as shown below.



All extinguishers, or extinguisher location signs must be clearly visible from a distance up to 20 m in all directions of approach.

When selecting the type of extinguisher for an area, an assessment of the hazards that could result in fire should be conducted. The list below from DFES provides information on the appropriate extinguisher for an area.



Distribution of fire extinguishers should be in accordance with the hazard present in the area to be protected rather than the size of the area. The Fire Services Coordinator in conjunction with Emergency Management can provide guidance on where fire extinguishers should be located and the number required. At times this may be above the recommended standard in the interests of safety at the University.

5 REFERENCES

Building Code of Australia – Class 2 to Class 9 Buildings – Vol 1 Amdt 13

AS3745-2010 – Planning for emergencies in facilities – Amdt 2

AS2444-2001 – Portable fire extinguishers and fire blankets - Selection and location

AS2293.3 – Emergency escape lighting and exit signs for buildings

AS1670.1 – 2004 – Fire detection, warning, control and intercom systems – System design, installation and commissioning

AS2441-2005 – Installation of Fire Hose Reels

ISO3864-1 – Graphic Symbols – Safety colours and safety signs

Curtin University Contractor Safety Handbook

Curtin University Emergency Management Plan

Fire alarm isolation request

DFES – False fire alarms

Contractor EM Notice