

**BENGKEL AUDIT UNTUK
REKABENTUK SEJAGAT BAGI
PROJEK-PROJEK JKR**



HOW TO READ PLANS?

25th – 26th June 2019

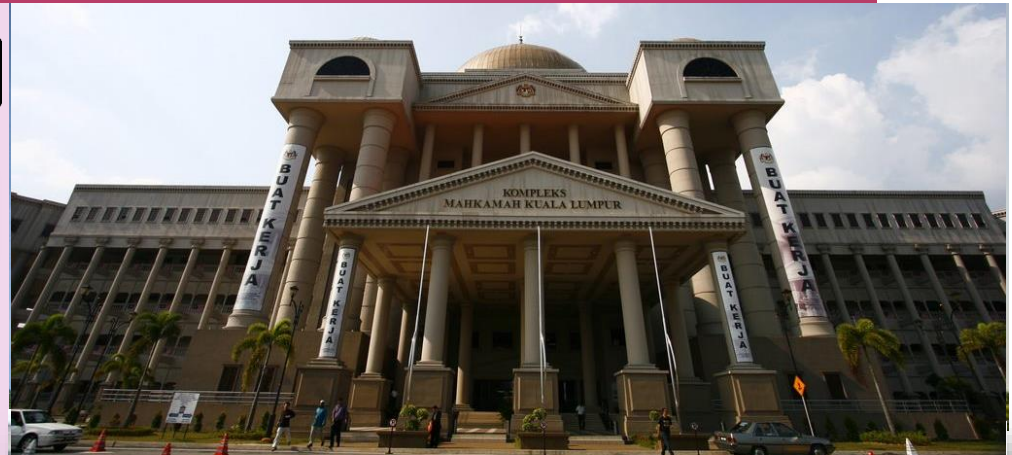
Jabatan Kerja Raya, Kuala Lumpur

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OBJECTIVE

- To explain to non-architects how to interpret and use architects' drawings and in particular to identify those features of buildings that make them accessible to disabled people.
- To be used by people such as members of access groups, facilities managers and occupational therapists, but will be helpful to anyone who needs to understand plans.
- To provide the necessary information to monitor planning and building regulation applications, to advise building control officers and to discuss design proposals with architects and clients.
- To be the value of occupational therapists advising on house adaptations and to the many others concerned for and involved with the built environment in their local communities.



WHAT PLANS ARE FOR?

◉ FOR CLIENT/USER

- ◉ These will vary from sketches to fully coordinated plans for final approval. For example, housing or hospitals will probably contain a great amount of detail, while for commercial or industrial developments they may be only outline proposals with fitting out details.

◉ FOR PLANNING APPLICATIONS

- ◉ The planning process determines whether proposals can be carried out and considers use, appearance, parking etc. By far the commonest type of application is for change of use, say from a shop to an office. The application form may have only a site plan attached to it, which will remind you where it is but tell you nothing whatsoever about the layout.

◉ FOR BUILDING REGULATIONS

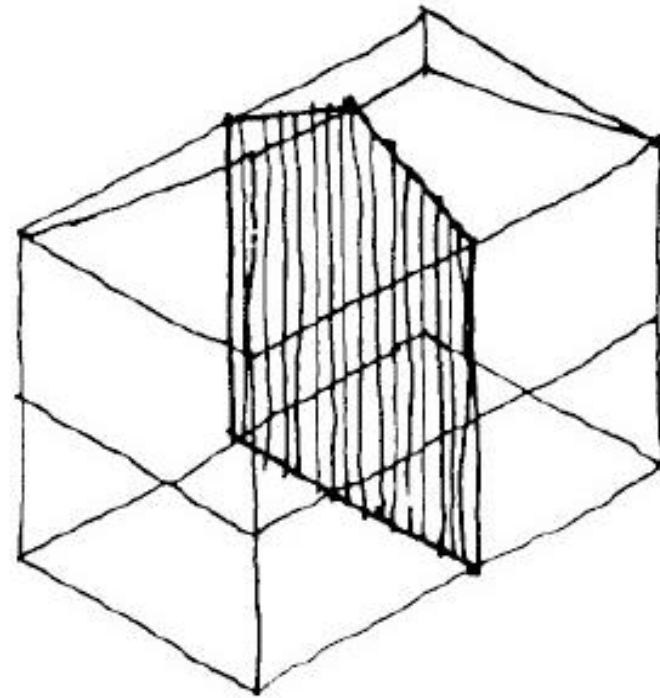
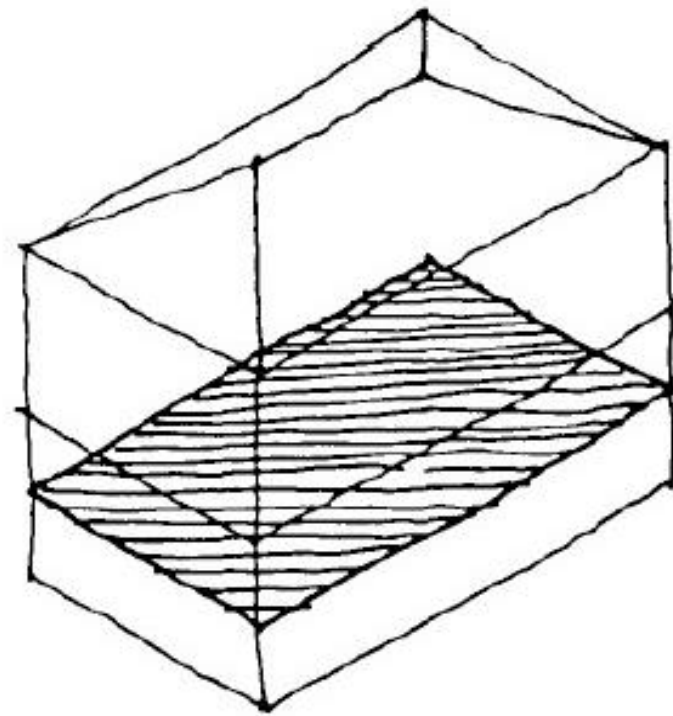
- ◉ The building regulation process is concerned with **how the proposals** will be carried out and considers detailed aspects of the building such as structural soundness, fire protection, thermal insulation, ventilation, drainage and, since 1985, accessibility.

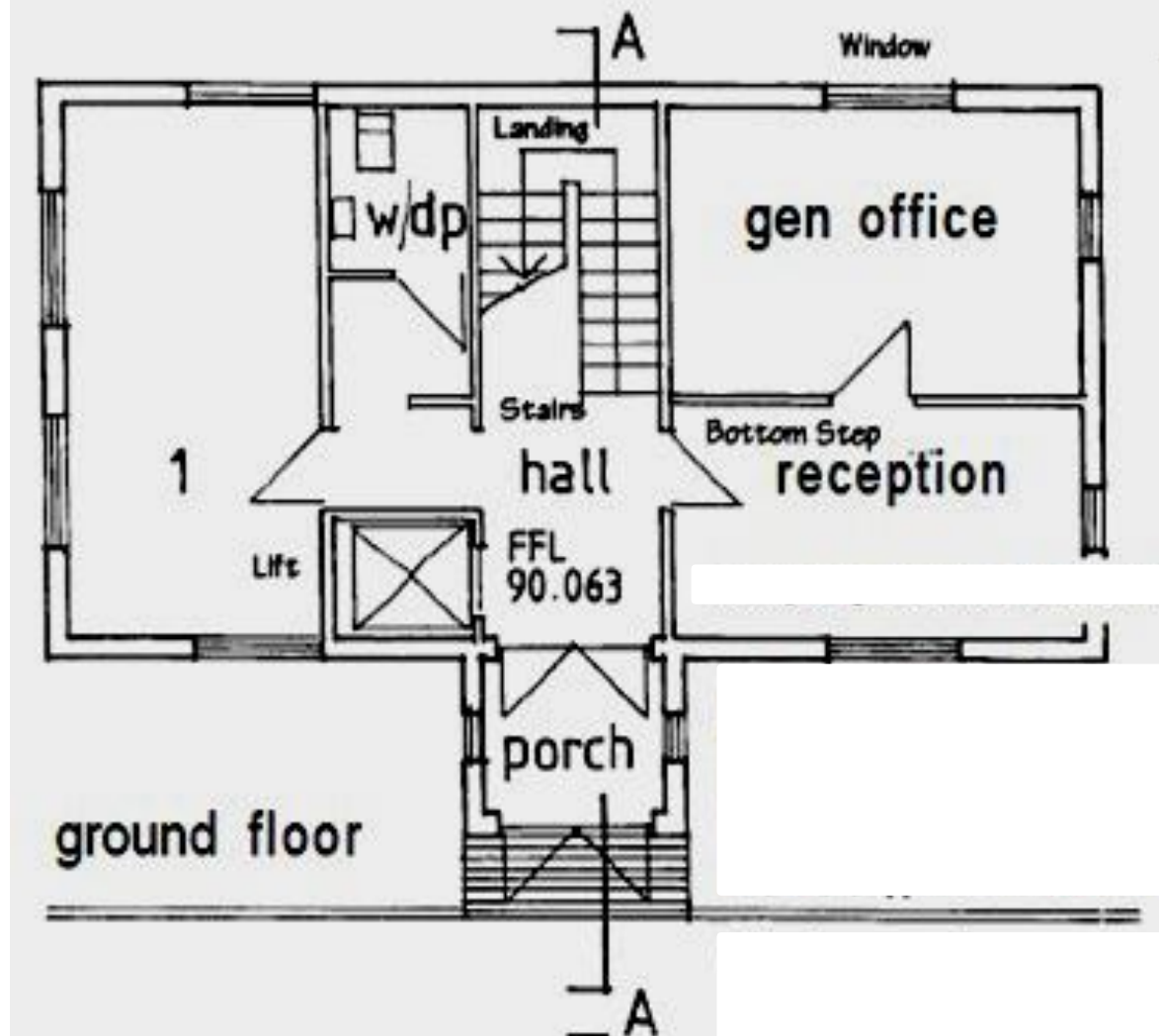
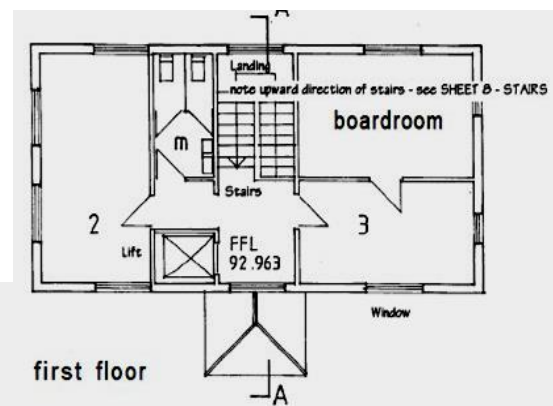


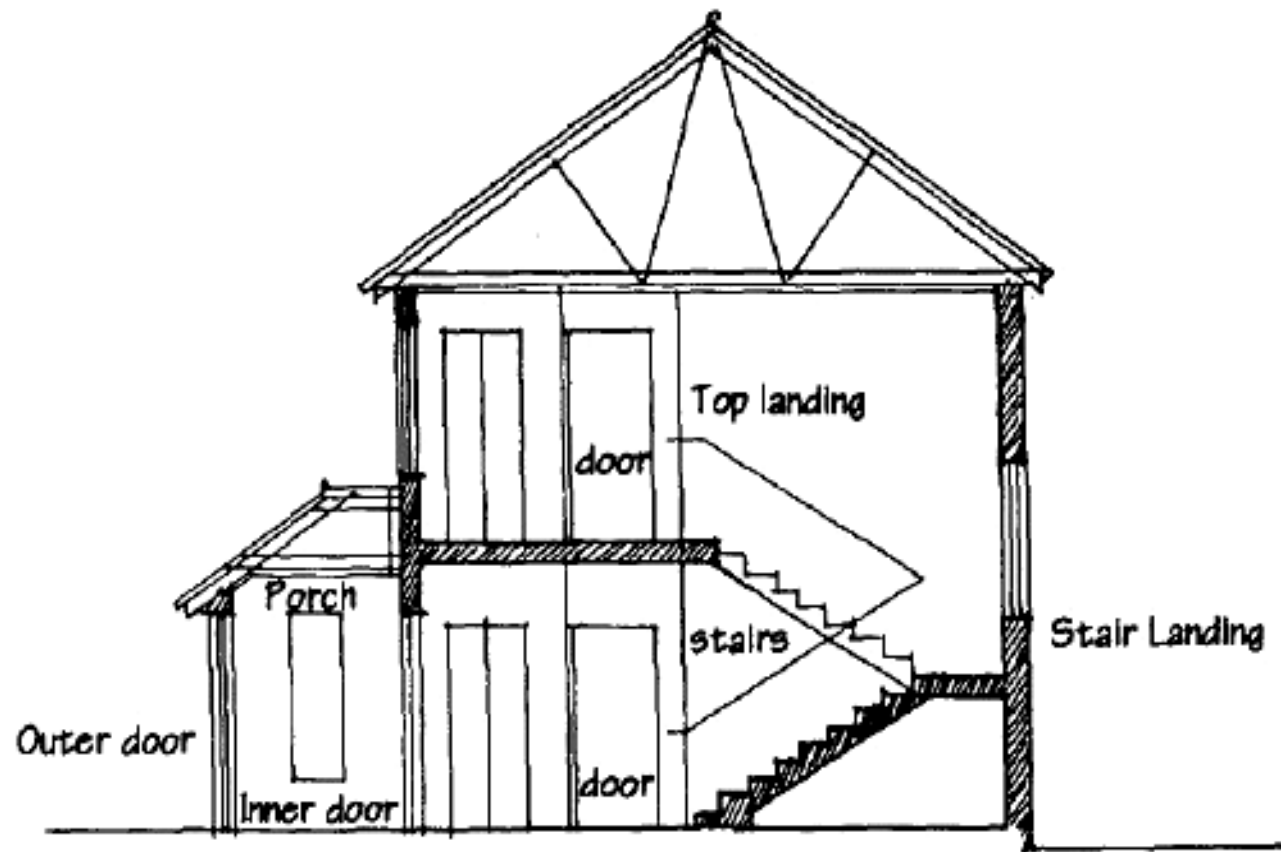
- ◎ **Plans and Sections** are like slices cut through a building at certain chosen points

- ◎ A **Plan** is usually at a level which cuts through windows and doors, is above worktops and other fittings

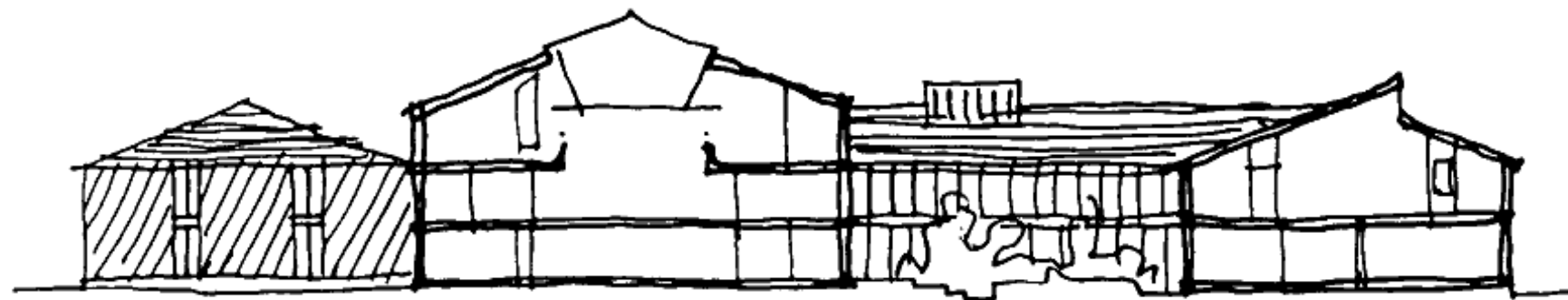
- ◎ A **Section** will cut through some walls, floors, stairs on the line shown but show others as an internal elevation







section **AA**



SCALE

- ◉ To ensure consistency and avoid confusion plans are usually drawn to a scale, that is the ratio between the dimensions as represented on paper and the actual existing or intended dimension. For example, a scale (ratio) of 1:100 means that one unit on paper represents 100 actual units.

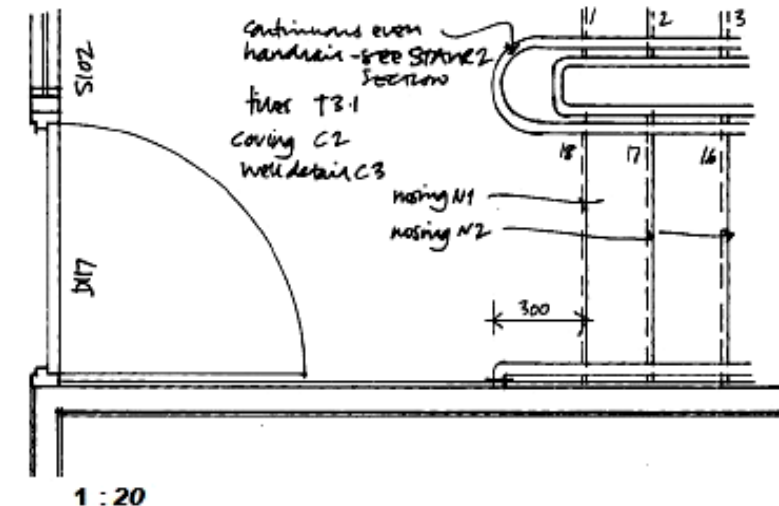
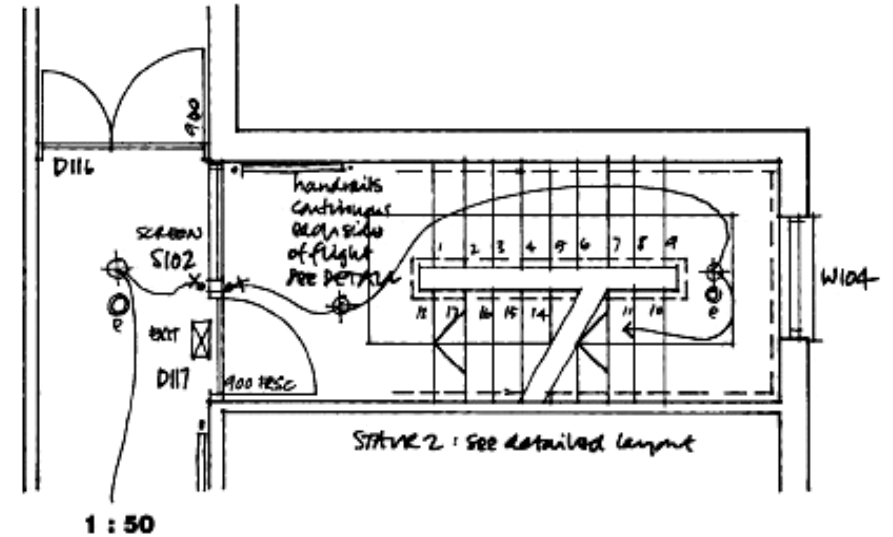
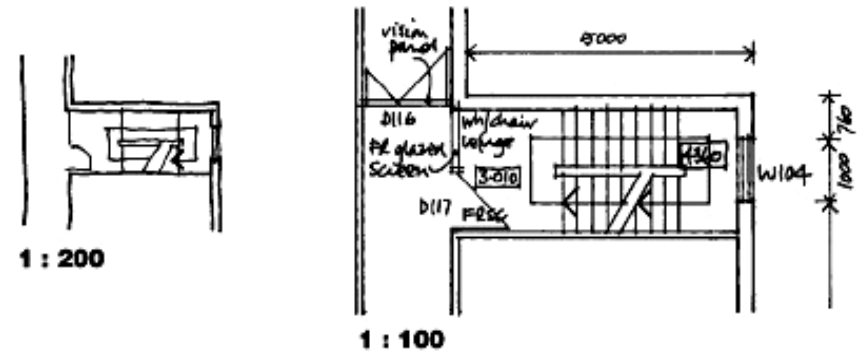
- ◉ **CHOICE OF SCALE**

- ◉ This depends on the scale and nature of the project, the stage it has reached and on the type and amount of information to be shown on a particular drawing. For example from 1 :200 or 1 : 100 for outline plans of a larger project to 1:50, 1 :20 for a house or intricate parts of large building, or to 1 : 1 0 , 1:5 even 1:1 (full size) for building details.



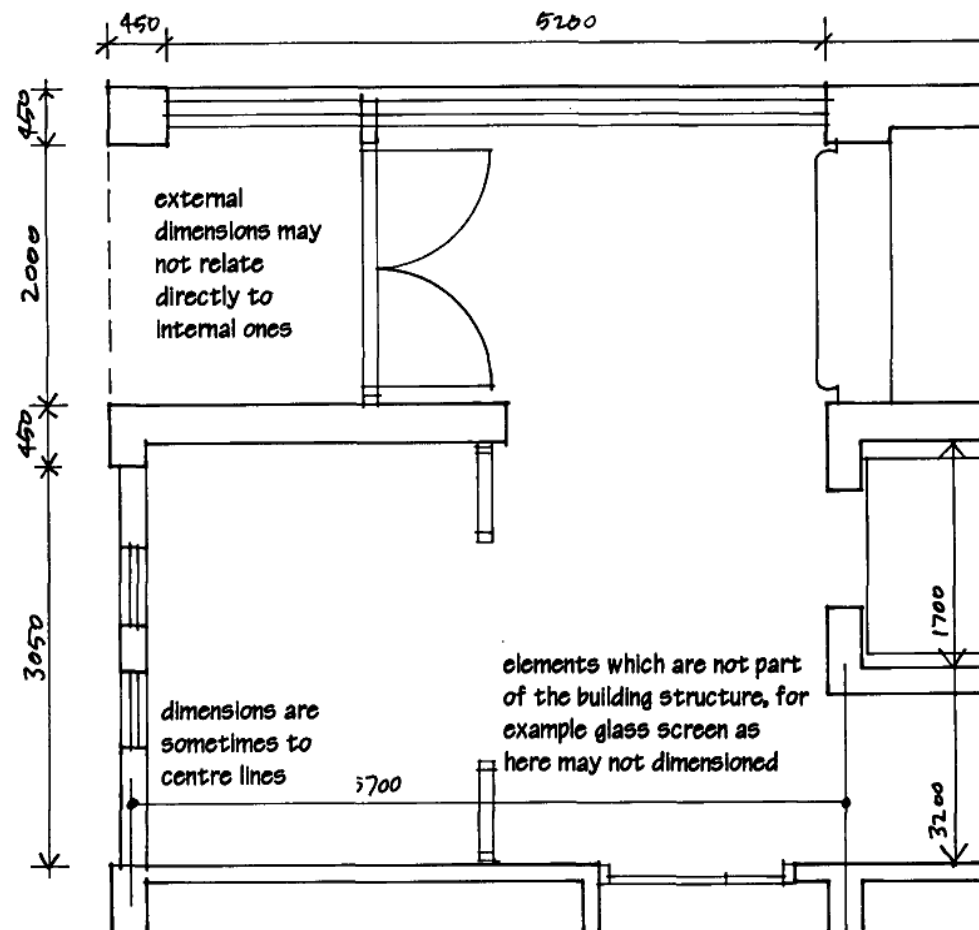
SCALE

Usual metric scales		Imperial equivalents
1:500	Smaller Scale ▲	
1:200		
1:100		
1:50	Larger scale ▼	
1:20		
1:10		
1:5		



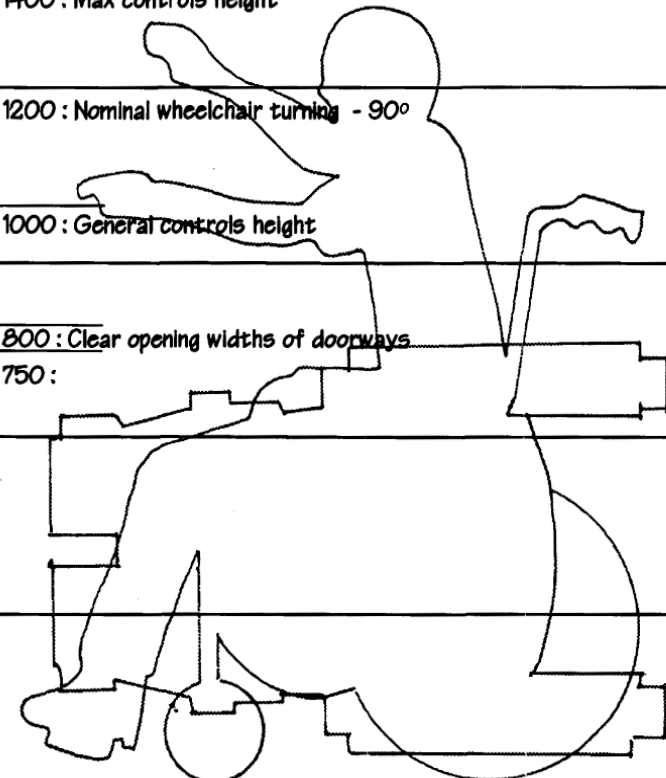
DIMENSIONS

Dimensions are added to a drawing to suit its purpose or the stage reached in the project - from overall dimensions in the early stages to detailed dimensions to enable work to be accurately carried out and fit together. Dimensions will not always be complete for purposes of checking certain corridor widths or door openings.



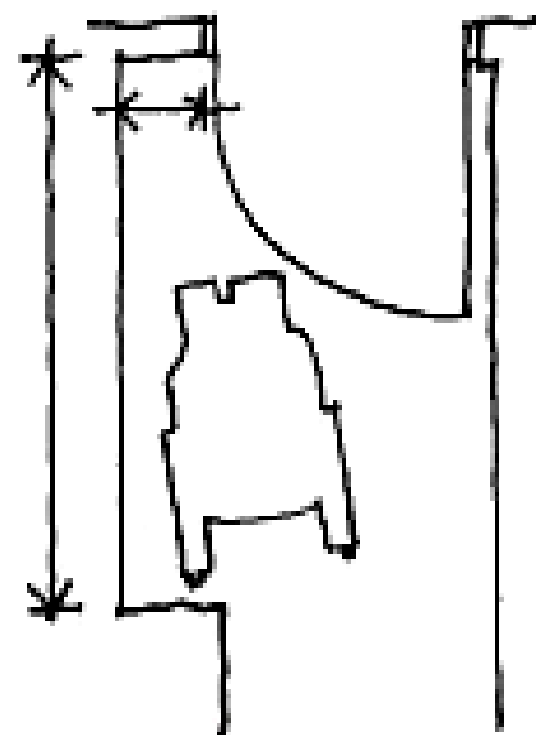
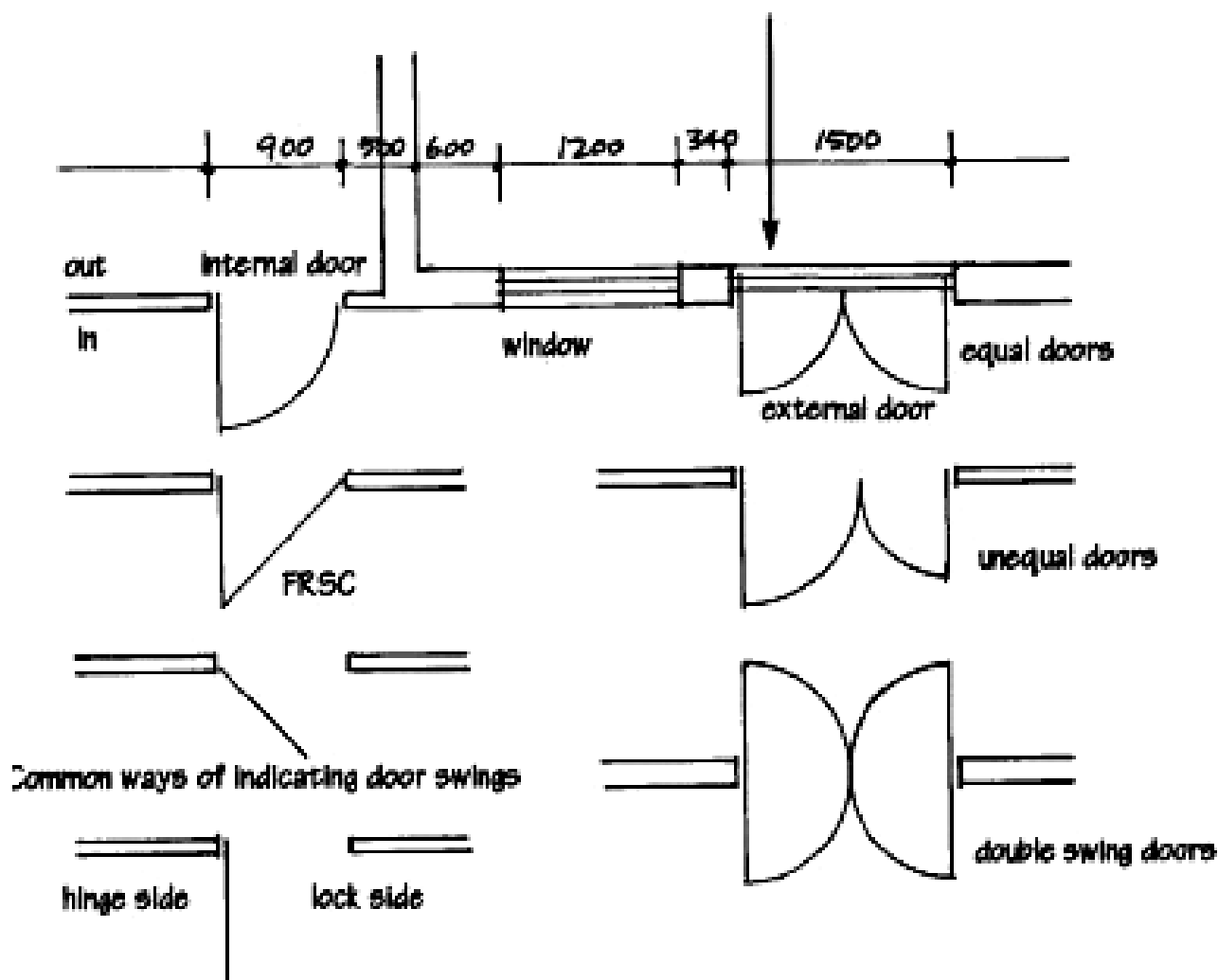
ERGONOMICS

Feet and Inches			
Nominal conversion based on 1" : 25mm, 6" : 150mm, 12" : 300mm			
More exact conversion based on 1" : 25.2mm			
7'0"	2100	2132	
			2040 : Standard door heights
6'6"		1981	1981 :
6'0"	1800	1828	
5'6"	1650	1663	
5'0"	1500	1524	1500 : Nominal wheelchair turning circle - 180°/360°
4'6"	1350	1361	1400 : Max controls height
4'0"	1200	1219	1200 : Nominal wheelchair turning - 90°
3'9"	1125	1134	
3'6"	1050	1060	
3'3"	1000	982	1000 : General controls height
3'0"	900	914	
2'9"	825	832	800 : Clear opening widths of doorways
2'6"	790	762	750 :
2'3"	675	680	
2'0"	600	610	
1'9"	525	529	
1'6"	450	454	
1'3"	375	378	
1'0"	300	304	
9"	225	228	
6"	150	152	
3"	75	76	



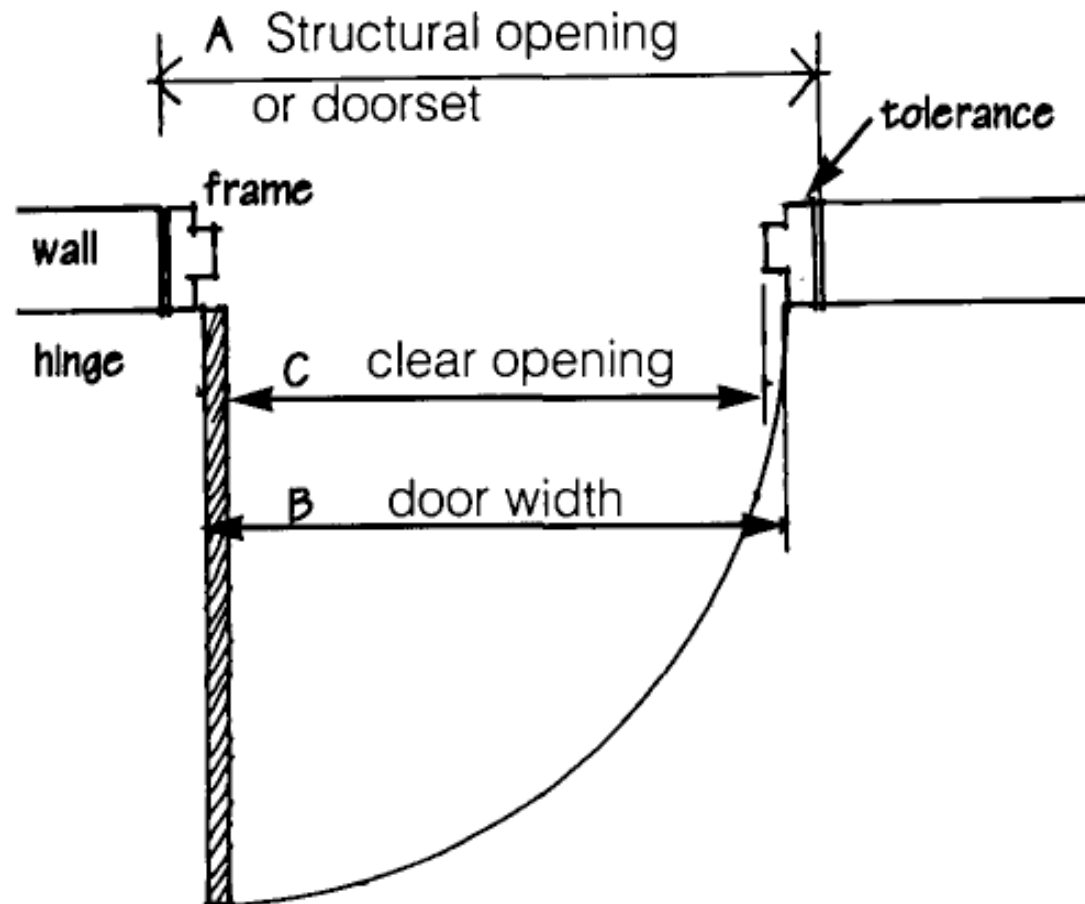
DOORS AND WINDOWS

Dimensions are usually to structural openings – e.g. the brickwork, concrete, column



Critical dimensions to make approach to a door easier in a wheelchair or with a walking aid

Double doors: if each leaf is equal in size then 1800 is the minimum doorset width to ensure that only one leaf needs to be opened for passage by a person with a walking aid or in a wheelchair. If doorset is less than 1800 wide look for unequal leaves the larger of which is wide enough for passage.

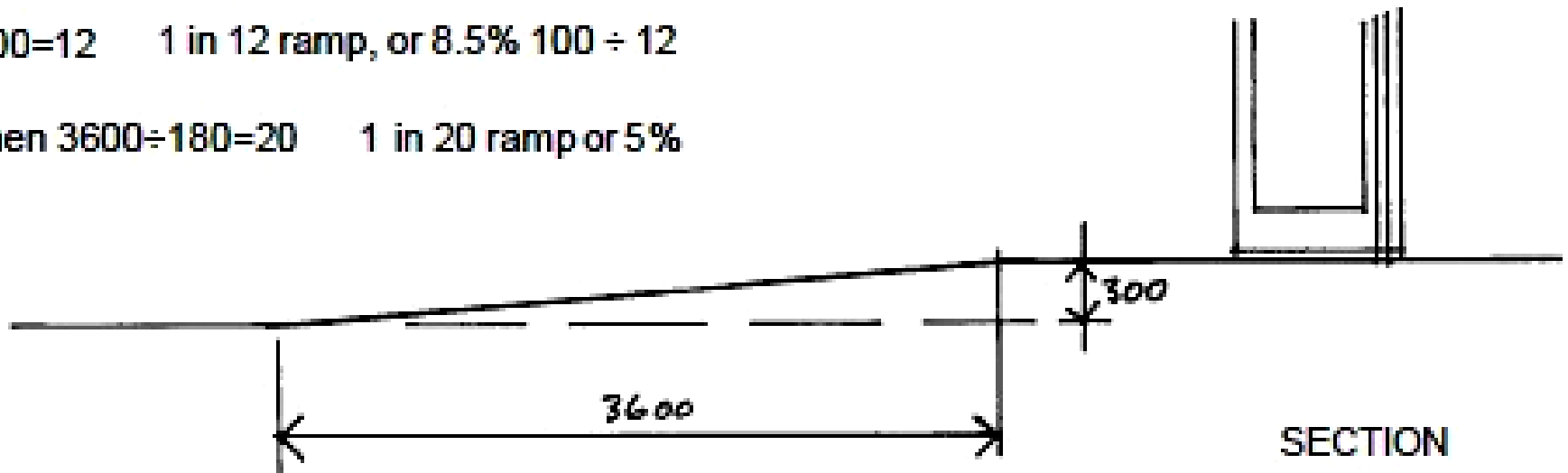


RAMPS

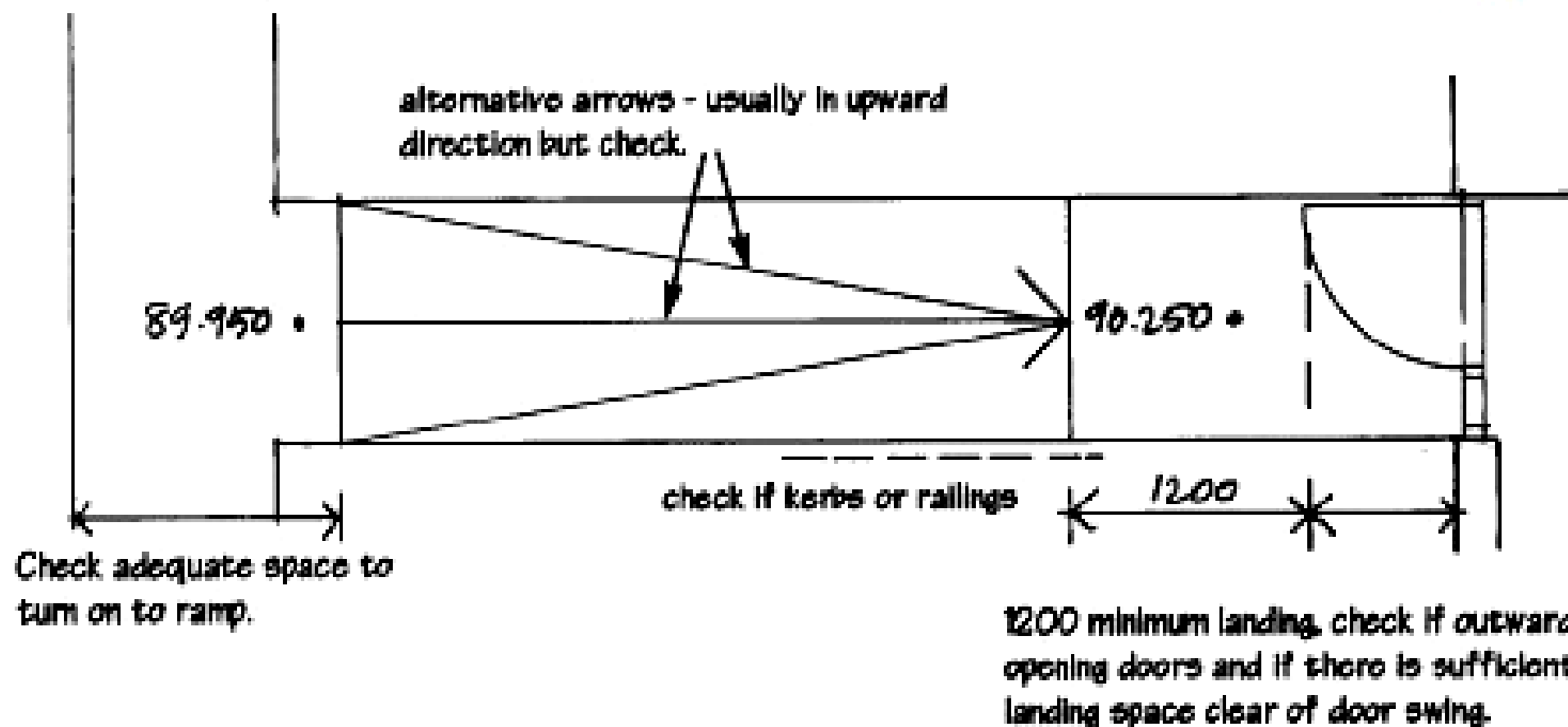
Divide length by difference in level

eg $3600 \div 300 = 12$ 1 in 12 ramp, or 8.5% $100 \div 12$

If 180 rise then $3600 \div 180 = 20$ 1 in 20 ramp or 5%



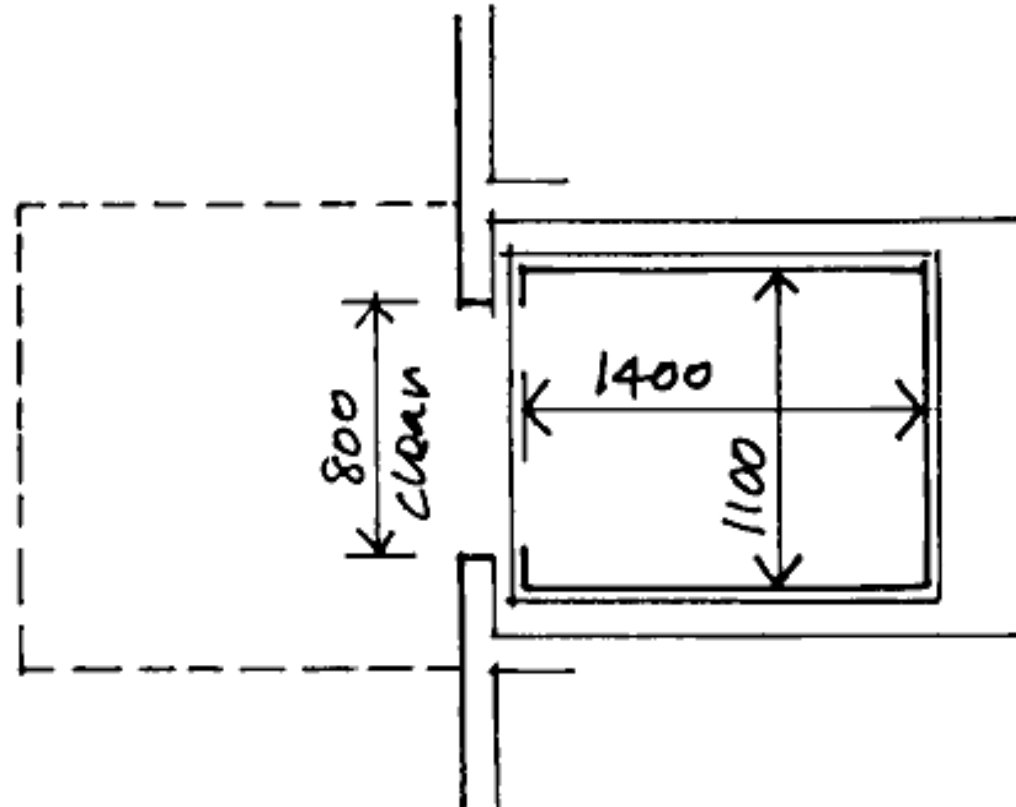
PLAN



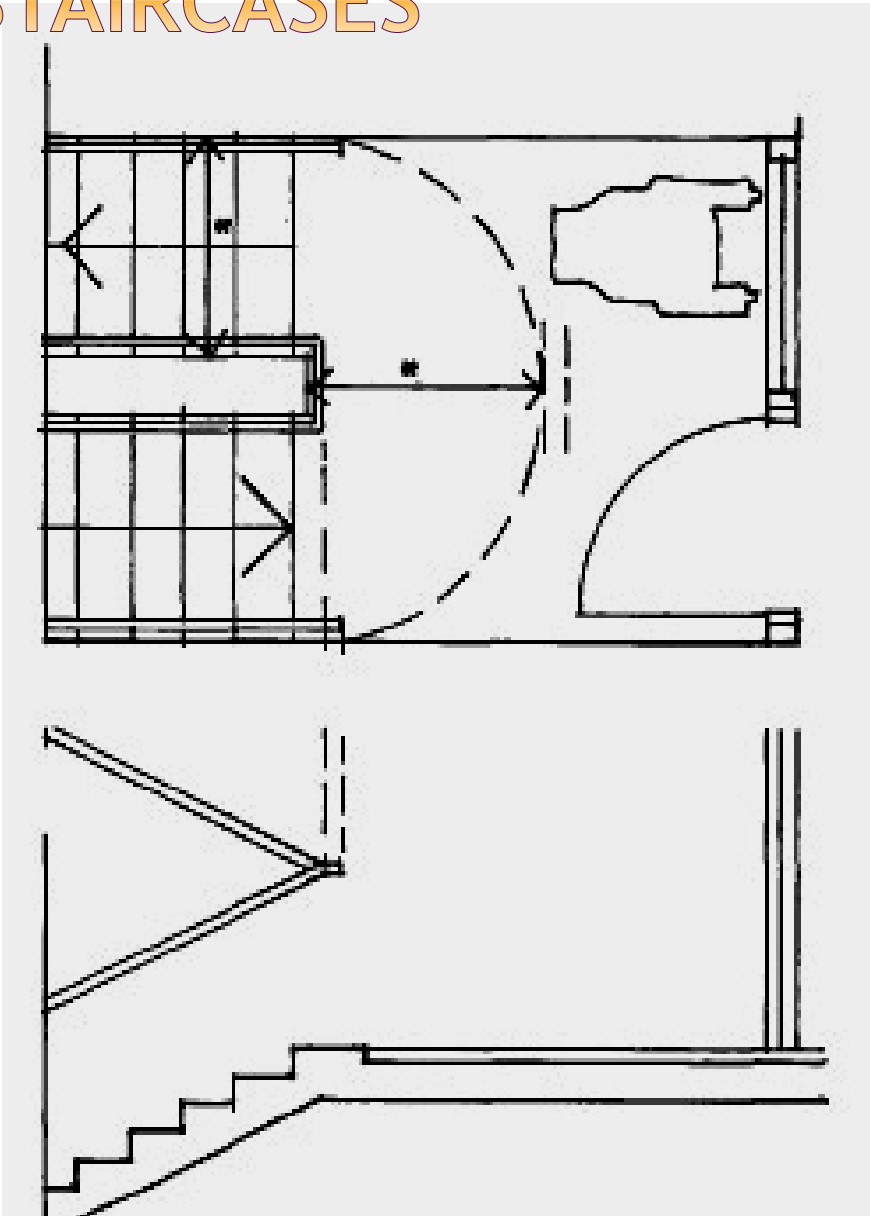
LIFTS

Lift car will not always be shown and size of lift shaft is not safe guide. An internal car size of 1400 x 1100 indicates a standard eight person lift, suitable for a wheelchair user. On plans check whether lift serves all floors especially basement and top floor (take care to identify plant rooms). Check for doors on opposite or different sides at different floor levels. A door in the long side will make entering and leaving difficult for a wheelchair user unless car size exceeds 1400 x 1100.

There should be unrestricted space in front of lift, 1500 x 1500 in distinctive floor finish.



STAIRCASES

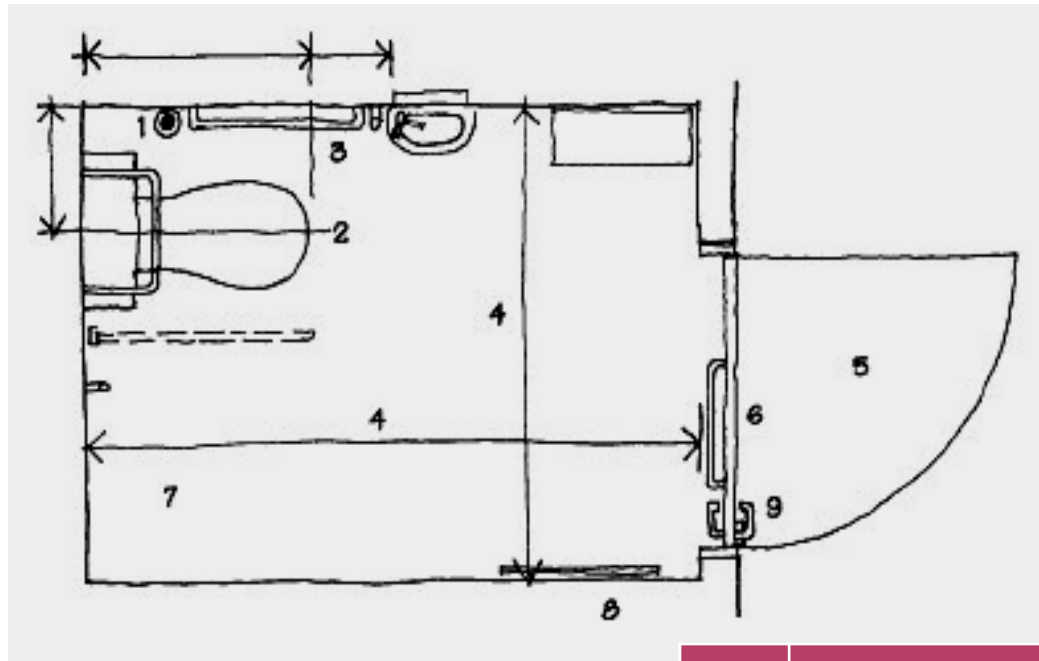


At access landings a 'place of refuge' may be provided (where a disabled person needing assistance to negotiate the stairs may safely wait).

This must be clear of stair route and of door swing. Check smooth transition of handrail where it returns up next flight - it will need to continue beyond top and bottom risers as shown here.



TOILETS



No.	Legend
1.	emergency control - activate/ response
2.	centre lint of wc. 25 check access to fittings. controls from seated
3.	Grab rail
4.	clear internal dimensions
5.	check width of passage - for turning, and direction of approach

No.	Legend
6.	Door set width given in Malaysian Standard
7.	Check this space is clear of fixtures - pipe work Ducts
8.	door can be here
9.	door can be alternative pattern eg bifold / sliding
10.	but maintain clear opening and internal dimensions clear of door swing and fittings.

THANK YOU

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