



School Design Guidelines SDG – 021-2

Guidelines and Standards for Sanitary Facilities in Primary Schools

May 2012

Planning & Building Unit
Department of
Education and Skills
Tullamore, Co. Offaly.

Telephone: (057) 9324300
Fax: (057) 9351119

Web:
www.education.ie
www.energyineducation.ie

PLANNING and BUILDING UNIT

Guidelines and Standards for Sanitary Facilities in Primary Schools

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Contents:

1	Introduction	3
1.1	Purpose	3
1.2	Design Guidance Suite	3
1.3	Application	3
1.4	Further Information	3
1.5	Technical Reference	3
1.6	Diagrams	4
2	Health & Safety	5
2.1	Statutory Regulations	5
2.2	Design Team Duties	5
3	Compliance	6
3.1	Building Regulations	6
3.2	Building Control (Amendment) Regulations 2009 (S.I. No. 351 of 2009)	6
3.3	Irish and International Standards	6
4	General Standards	7
4.1	General Design Standards	7
4.2	Accessible Sanitary Facilities	8
4.3	Requirements for Waste and Water Services	8
4.4	Requirements for Lighting Services	10
4.5	Requirements for Ventilation Services	10
5	Room Layouts	11
5.1	Classrooms	11
5.2	General Purpose Room	11
5.3	Sanitary Appliance Provision	11

1 Introduction

1.1 Purpose

- (a) This document sets out the required standard of performance to be used in the design of Primary school sanitary facilities with an emphasis on achieving build quality; value for money; safety in design, construction and use; effective management and operation of the building; life cycle costing; and timely completion of the project. The minimum standard is set out in the current Building Regulations.
- (b) This document, in conjunction with other relevant design guidance, is intended both as a design aid for the Client* & Design Team and as part of a set of reference documents for the evaluation of design submissions.

** In the case of Community and Comprehensive Schools and some Primary Schools the Minister for Education and Skills is the Client, but for the purposes of this document the term "Client" shall also encompass the School Authorities.*

1.2 Design Guidance Suite

- (a) This document is part of a suite of Department of Education and Skills [DoES] School Design Guidelines for Primary and Post Primary schools. The full suite of Guidance Documents is available on the Department of Education and Skills web-site at www.education.ie and www.energyineducation.ie.

1.3 Application

- (a) This and the above mentioned suite of guidance documents outline the standards for Schools that should be applied to all Primary construction projects funded in part or in whole by the Department of Education and Skills (unless otherwise directed by the Department in writing) and where a decision to commence architectural design and planning has been confirmed in writing by the Planning and Building Unit.
- (b) Where it is proposed to construct a new school these Construction Guidelines and Standards and all associated documents in the suite of Design Guidance should be consulted and appropriately applied.
- (c) In the case of existing school buildings where an extension, conversion or renovation is proposed. These Construction Guidelines and Standards and all associated documents in the suite of Design Guidance should apply to all new-build work and so far as is practicable to all alterations and repairs.

1.4 Further Information

- (a) Always check the Department's web-site for the most up-to-date version.
- (b) For further advice on these guidelines or any other matters relating to this document, please contact:
Department of Education and Skills,
School Building Unit, Portlaoise Road,
Tullamore, County Offaly.
Telephone: (057) 9324300 Fax: (057) 9325331

1.5 Technical Reference

- (a) The provision of technical references in this document is for guidance purposes only. The list of technical references is not exhaustive and the onus shall be on all the members of the Design Team acting collectively to ensure that all the relevant standards are applied in all instances. The Design Team must ensure that the construction standards used in the design of educational facilities will achieve build

Guidelines and Standards for Sanitary Facilities in Primary Schools

May 2012

quality; value for money; energy efficiency; safety in design, construction and use; appropriate consideration of life cycle costing and timely completion of the project. The design must also facilitate the effective management and operation of the building.

- (b) All references to Acts and Regulations shall be deemed to mean the current Acts and Regulations.
- (c) The Design Team shall also apply, where necessary, any new standards or Acts (and their associated Regulations), relevant to the design and construction process, which may also come into force after the publication of this document.

1.6 Diagrams

- (a) Diagrams provided in this document are intended to clarify and complement the text within this document. They are not to scale and do not represent a fully detailed solutions. Where dimensions are stated, they refer to minimum unless otherwise stated. Allowance should be made for all necessary tolerances and finishes and on-site deviation.

2 Health & Safety

2.1 Statutory Regulations

- (a) All Designers must ensure that all current regulations relating to safety, health and welfare at work are taken into account in the design of all building projects. In particular Designers are required to comply in full with the Safety, Health & Welfare at Work Act, 2005 and the [Safety, Health & Welfare at Work \(Construction\) Regulations 2006](#).

2.2 Design Team Duties

- (a) Each Design Team member and the Design Team as a whole must consider safety in the design from acceptance of the commission to handover of the building and the subsequent safe operation of the building by the client thereafter.

3 Compliance

3.1 Building Regulations

- (a) Design Teams are required to comply in full with the Building Regulations (as amended), associated School Design Guidelines, Irish (i.e. TGD Part G – Hygiene and Part M – Access and Use) and International Standards and the standards in this document.

3.2 Building Control (Amendment) Regulations 2009 (S.I. No. 351 of 2009)

Design Team should note the following;

- (a) The Disability Access Certificate (DAC) was introduced through SI 351 of 2009 dated 4 September 2009, in order to improve compliance of buildings with Part M of the Building Regulations. A DAC is required for new buildings other than dwellings (but including apartment buildings) and certain works (as set out in Article 20 D (1) of SI 351) to which the Requirements of Part M apply, which commence or take place on or after 1 January 2010;
- (b) For Frequently Asked Questions on Disability Access Certificates refer to the following link on the Department of the Environment, Community and Local Government's website;
<http://www.environ.ie/en/DevelopmentHousing/BuildingStandards/PublicationsDocuments/FileDownload,22972,en.doc>
- (c) Note that The Regulations provide an exemption from payment of fees for Disability Access Certificates/revised Disability Access Certificates in respect of certain primary schools where the maximum number of mainstream teachers employed is or will be 4 or less.

3.3 Irish and International Standards

- (a) All building components used must be manufactured to meet the relevant Irish Standard, or other recognised international Standard where no Irish Standard exists.
- (b) All components and processes for which published national standards or other recognised international standards do not exist must be installed and perform in accordance with the relevant Irish Agrément Certificate or other recognised International Certification System.
- (c) Building components with no relevant Irish Standard or Agrément Certificate or recognised International Standard or Certification shall be used.
- (d) The space allowance and installation of all sanitary appliances should fully comply with the requirements of BS 6465: Part 2, and Technical Guidance Document Part M

4 General Standards

4.1 General Design Standards

All sanitary facilities and associated works must comply with the Building Regulations and in particular the following;

- Part F Ventilation
- Part G Hygiene
- Part H Drainage and Wastewater disposal, and
- Part M Access and Use

Guidance on compliance with the various Parts of the Building Regulations is given in the relevant TGDs. Where works are carried out in accordance with this guidance, this will, prima facie, indicate compliance with the Regulations. However, the adoption of the approach other than outlined in the guidance is not precluded provided that the relevant requirements of the Regulations are complied with.

The following represents the additional requirements of the Department of Education & Skills.

- (a) Water Closet (WC) with wall mounted cisterns should have a lockable lid. The WC should be dual flush delivering a 6 litres flush and a 4 litres flush. The method of activation of the dual flush should be readily discernible, e.g. separate buttons or pads of different sizes, segmented buttons (two-thirds, one third) etc. Clear and permanent operating instructions should be provided. Accessible WCs should comply with the requirements of TGD Part M 1.4.4.
- (b) Design of sanitary fittings and their fixings should be robust and appropriate to the school environment.
- (c) A suitable non-slip easy clean floor finish should be used in all WC areas and lobbies (refer to BS 8300:2009 Annex E).
- (d) Sanitary facility ceilings should not allow easy access into any void above, where items could be hidden, etc. If suspended ceiling tiles are provided then each tile should be firmly clipped to the supporting grid.
- (e) All cubicle door locks should be capable of being opened externally with a screwdriver.
- (f) All sanitary facilities in the school, other than those in classrooms, should be available for use by staff and general public using the school facilities.
- (g) All lockable doors should have an internal thumb-turn override. Care should be taken in the design of the door, frame, and opening mechanism to protect against injury to fingers, etc.
- (h) Bowl or stall urinals should not be specified for student use.
- (i) The doors should be easy to open and close (with pull-handles on the doors at low level suitable for young pupils – between 800 & 900mm from floor level). Internal cubicle doors may be undercut to assist air movement. Door transfer grilles are not permitted.
- (j) The provision for hand drying facilities shall be paper towel or cotton/linen towels. Electric hand dryers are not permitted. The sanitary facilities should have adequate space for disposable hand towel dispensers and a refuse bin for the disposal of paper towel.
- (k) Hand towel dispensers, soap dispensers and refuse bin are loose furniture and fittings, and are not part of the construction contract, although their provision is required for full

Guidelines and Standards for Sanitary Facilities in Primary Schools

May 2012

compliance with the Building Regulations. Mirrors and grab-rails to Universal Access WCs are part of the contract.

- (l) The provision of WCs incorporating concealed cisterns is acceptable provided future maintenance and servicing of the cisterns is not compromised.
- (m) Staff/visitor sanitary facilities should be provided close to the main entrance for both able bodied and disabled persons. The sanitary facilities should have direct access from the circulation area.
- (n) Where WC cubicles are provided, at least one WC should be provided for ambulant disabled people (refer to figure 2). Where four or more WC cubicles are provided in a sanitary facility, one cubicle should be an enlarged cubicle (refer to figure 3).
- (o) One wash-hand basin (WHB) incorporating a single low pressure drop anti-scald percussion spray tap per WC should be provided. All WC pans (including those for Junior and Senior Infants) should be standard height pans. Where feasible, wash hand basins should be located back-to-back with the separating wall or partition between.

4.2 Accessible Sanitary Facilities

- (a) In every location where WC facilities are provided, an adjacent (or as close as possible) wheelchair accessible unisex WC (refer to figure 1 - plan and elevation) should also be provided, unless as otherwise stated in this document.
- (b) Accessible sanitary facilities should be located in a convenient and accessible part of the school and be clearly identifiable.
- (c) All fittings, ironmongery, taps, flush handles and light switches, associated with accessible facilities should be capable of being operated using a closed fist.
- (d) Accessible Sanitary Facilities should have outward opening doors. If inward opening doors are provided the size of the area should be increased so that the door swing does not encroach into the wheelchair turning space and the door should have emergency release hinges.
- (e) If more than one universal access toilet is provided, layouts should be handed.
- (d) A colostomy changing surface should be provided in all accessible WCs. Where a flat topped close-coupled cistern is used, the flat topped cistern is adequate to provide a colostomy changing surface without the extra requirement for a separate shelf. Otherwise a separate colostomy changing shelf 125 mm to 150 mm deep x 400 mm wide (min), with its surface 950 mm (max) above floor level should be provided.
- (e) Grab/hand rails should contrast visually against walls and floors (refer to BS 8300 Annex B).

4.3 Requirements for Waste and Water Services

- (a) All soils and wastes (above ground) are the remit of the Building Services Consulting Engineer and should be included in the mechanical section of the tender contract documents. The provision of sanitary ware and associated taps, traps and fixing brackets are the remit of the Architect with agreement of the Building Services Consultant Engineer and should be included in the building section of the tender contract documents.
- (b) Wastes shall include sufficient blank caps and cleaning doors for access for cleaning rods. Where possible all services should be enclosed but accessible. All vents shall be provided with cowls. PVC pipe sleeves with puddle collars shall be fitted as required
- (c) Waste pipe upstands rising from the sub floor are to be provided individually for all WCs. Back-to-back and multiple pairs of wash-hand basins may share a single waste pipe upstand.

Guidelines and Standards for Sanitary Facilities in Primary Schools

May 2012

- (d) In the interest of safety, long term maintenance and aesthetics it is critical that there is no routing of water and waste services pipe work at low level in sanitary facilities.
- (e) The cold water supplies in a School must be gravity based; pumped systems are not permitted as the School WCs must be capable of operation in the event of a power failure.
- (f) All wash-hand basins should be fitted with a single percussion spray tap only and this tap should deliver a temperature controlled water supply via a thermostatic mixing valve.
- (g) Push type percussion spray taps require the user to push down gently on the tap head to deliver flow. The tap automatically closes off after a delay period. Aerators restrict the flow of water from the tap without reducing water pressure. All automatic shut-off taps must be of a commercial quality suitable for use in schools and must be suitable for the system head pressure available. Note that it is possible to get percussion taps with different pressure drops and if taps with a particularly high pressure drop are specified then they may not work with a gravity system. The typical flow rate required from a wash hand basin tap is 0.1 litres/second; this is the same as 6 litres/minute.
- (h) Thermostatic mixing valves (TMVs) shall be fitted on all hot water outlets (excluding the cleaner room sinks) and are to be located such that a **maximum dead leg of 1 linear metre of pipe only** is achievable on the mixed water supply. This is to minimise the potential risk of legionella. It is not acceptable to locate the TMV above the ceiling with a single pipe drop to the tap below or above; TMVs must be easily accessible from the room or adjacent room where they are located.
- (i) All TMVs must be of TMV3 standard. They must be fail safe and lockable and be capable of limiting the outlet temperature to 42 / 43° Celsius. Where wash-hand basins are adjoining or back-to-back these WHBs shall be combined to one TMV unit in accordance with manufacturer's instructions. All TMVs must be suitable for the system head pressure available, comply with IS EN 1287 for low pressure, be suitable for under basin installation, provide safe thermostatic shutdown, be complete with isolation valves on all inlets, check valves and easily removable strainers, and have tamper proof temperature adjustment and lockdown. TMVs serving wash hand basins should be selected to give a flow rate of 0.1 litres/second at an inlet head of 1.5m. All TMVs must be tested for shut-off in the event of loss of the cold water supply and test certificates included in the handover documentation. The thermostatic mixing valve units must never be connected to the mains water supply; they must only be connected to the hot water distribution services and the cold water distribution services.
- (j) So as not to contaminate the mains water supply, a manual mixing tap (where the hot and cold water only mixes on exiting the spout outlet) must only be used with mains water. On all sinks, with the exception of the cleaners sink, the temperature controlled mixed supply should be taken from the under sink TRV outlet to the hot water inlet on the manual sink mixer, a mains water supply shall be connected to the cold water inlet side on the same manual sink mixer tap.
- (k) Where rainwater harvesting is used to serve the WCs the rainwater distribution pipe work must be fitted with proprietary labeling identifying the connecting pipe as a rainwater supply pipe, in accordance with the prevailing British Standard. System designers should refer to the guidance on rainwater harvesting given in TGD Part H and BS 8515. Such systems should be designed to reduce the risk of cross contamination and should comply with the requirements of IS EN 1717 – Backflow Prevention and the National Annex to this standard.

4.4 Requirements for Lighting Services

- (a) In single sanitary facilities one high frequency fitting shall be specified.
- (b) Lighting levels of 200 lux should be provided in accessible facilities.
- (c) Lighting switches in accessible facilities should be capable of being operated using a closed fist.
- (d) Lighting controls in en-suite toilets shall be based on manual “On/Off” switching (located on the classroom side of the door) with automatic absence detection only.
- (e) Lighting controls in all other sanitary facilities shall be based on manual “On/Off” switching with automatic absence detection only.

4.5 Requirements for Ventilation Services

- (a) All sanitary facilities should be provided with natural permanent background ventilation of 5000mm² equivalent area for sanitary facilities of up to 10m² in area. For facilities greater than 10m² in area, 500mm² equivalent area per additional m² of floor area should be provided.
- (b) All sanitary facilities should also be ventilated by natural ventilation via opening windows equal to 1/20th of sanitary room floor area.
- (c) If design conditions dictate that internal sanitary facilities must be provided then the mechanical ventilation provided should be controlled via the lighting switch with run on timer set to fifteen minutes.
- (d) There should be no need for treated mechanical supply air to internal sanitary facilities spaces. Make up air should be via natural means assisted if necessary by the extraction system. Ventilation extraction shall be via wall or ceiling grilles.
- (e) Floor grilles or door transfer grilles shall not be used in school projects; where make up air is required to spaces this should be achieved by undercut doors or high level wall transfer grilles of at least 7000mm² equivalent area.
- (f) Ventilation systems should in general be localised with minimum ducting and local exhaust louvers.
- (g) Ventilation systems should be tested and commissioned at completion so that the systems and their controls are left in the intended working order and can operate effectively and efficiently. A way of demonstrating compliance would be to commission and test in accordance with the CIBSE commissioning codes in order to verify that the systems perform in accordance with the specification.
- (h) Detailed information on the installation and commissioning of ventilation systems is provided in “Installation and Commissioning of Ventilation Systems for Dwelling – Achieving Compliance with Part F (to be published) and TGD Part F Par 1.2.1.7.

5 Room Layouts

5.1 Classrooms

- (a) Two ambulant disabled accessible WCs should be provided en-suite to each classroom (refer to figure 4). These sanitary facilities should, unless unavoidable, be located on an external wall.
- (b) The classroom sanitary facilities should be separated from the general classroom space by a full height wall / partition with no gaps at the top or bottom, and a self-closing door. A similar wall / partition should separate male from female WC's.
- (c) A toilet for assisted users (refer to figure 5 – plan and elevation) should be provided either as part of the classroom environment or in the common areas. The travel distance to this WC should be minimized (maximum of 40m from toilet door to classroom door) where it is not included within the classroom.
- (d) In multi-storey buildings at least one toilet for assisted users should be provided per floor.

5.2 General Purpose Room

- (a) The General Purpose Room Toilet Suite should consist of male toilets and female toilets and a wheelchair accessible unisex WC (refer to figure 1).
- (b) The General Purpose Room Toilet Suite should be located adjacent to the GP Room with access directly from a circulation route. This sanitary facility is intended for the use by the staff and visitors during school hours, and for after hours activities when the main body of the school is closed.
- (c) If more than one toilet cubicle is being provided for male or females then at least one cubicle should be suitable for ambulant users and should be separated by a division which is 2.2m high and may have a maximum gap of 50mm at the bottom.
- (d) One wash-hand basin (WHB) incorporating a single low pressure drop anti-scald percussion spray tap per WC is required. It is recommended that all WC pans be standard height pans. Where feasible, wash hand basin should be located back-to-back on partition walls.

5.3 Sanitary Appliance Provision

- (a) Staff sanitary appliances should comply with the following tables;

Table 1 – Minimum Provision of Sanitary Appliances for Female Staff

Number of female staff	Number of WCs	Number of Washbasins
1 to 5	1	1
6 to 15	2	2
16 to 30	3	3
31 to 45	4	4
46 to 60	5	5
61 to 75	6	6
76 to 90	7	7
91 to 100	8	8
Above 100	8, plus 1 WC and WHB for every unit or fraction unit of 25 persons	

Guidelines and Standards for Sanitary Facilities in Primary Schools

May 2012

Table 2 – Minimum Provision of Sanitary Appliances for Male Staff

Number of male staff	Number of WCs	Number of Urinals	Number of Washbasins
1 to 15	1	1	1
16 to 30	2	1	2
31 to 45	2	2	2
46 to 60	3	2	3
61 to 75	3	3	3
76 to 90	4	3	4
91 to 100	4	4	4
Above 100	4, plus 1 WC/urinal and WHB for every unit or fraction of a unit of 50 males		

The ratio of male to female staff members should be taken to be 35% males to 65% females.

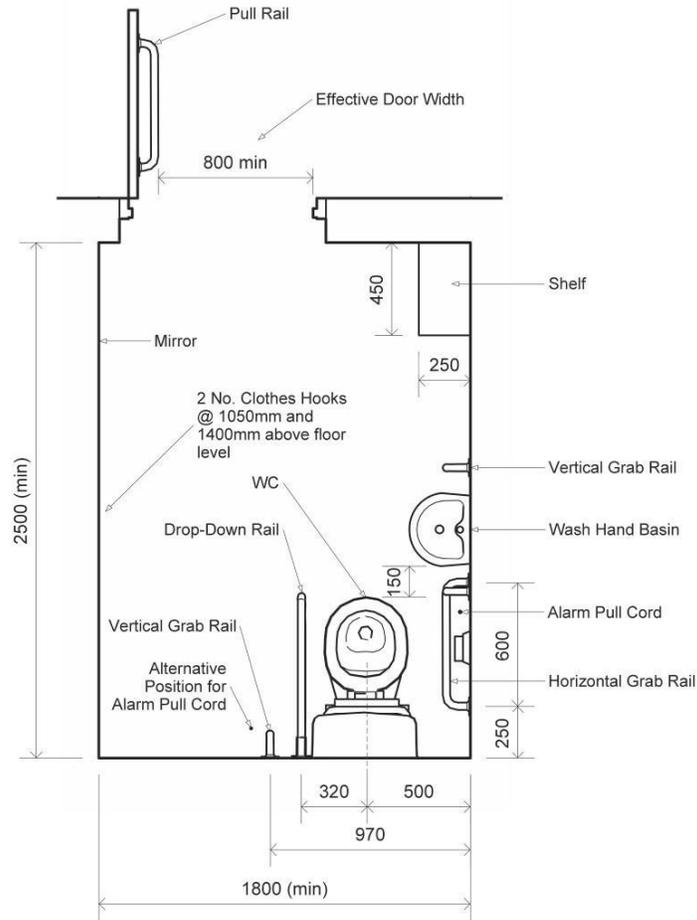


Figure 1 (Plan) - Unisex Universal Access Toilet

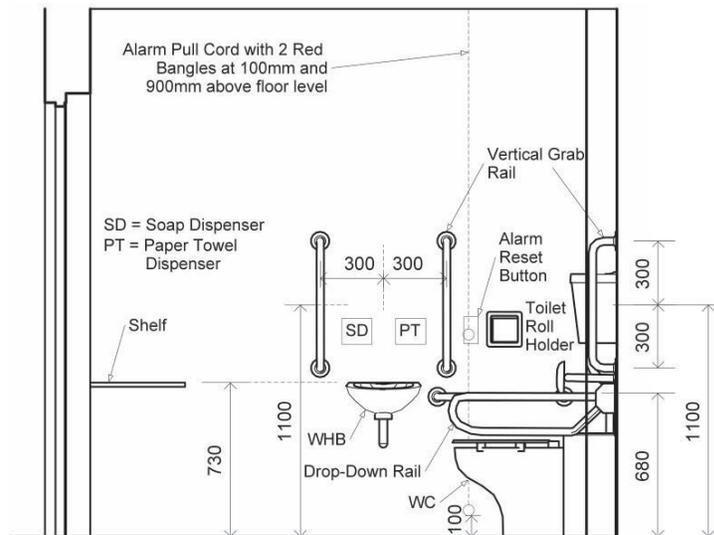


Figure 1 (Elevation) - Unisex Universal Access Toilet

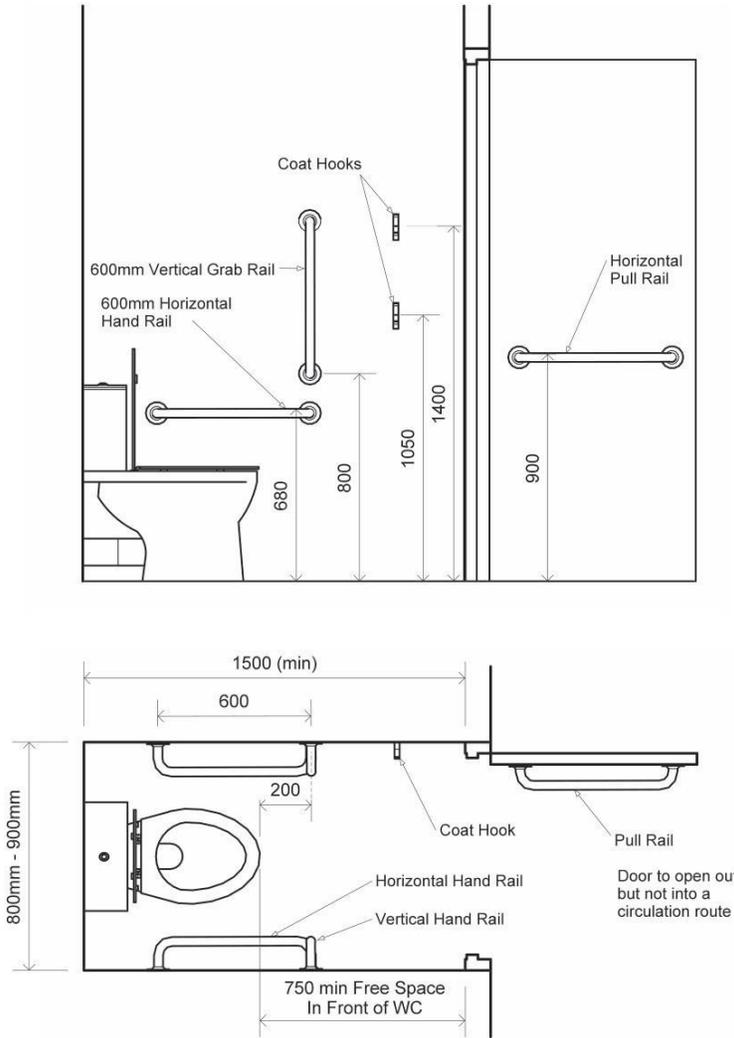


Figure 2 - Ambulant Disabled Cubicle

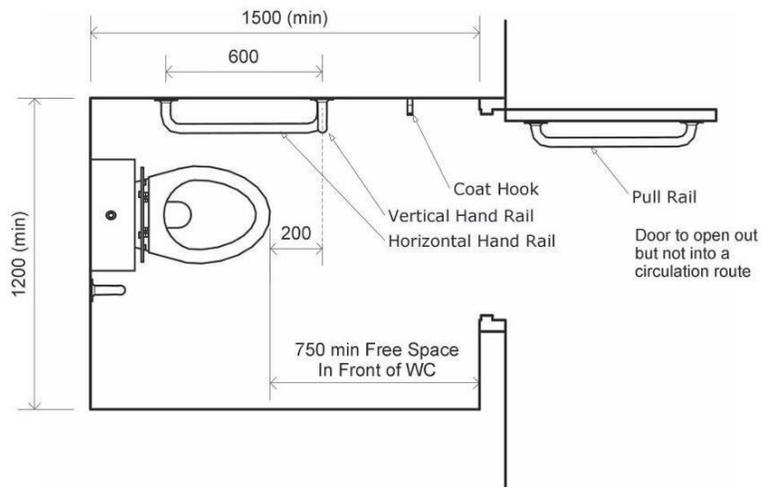


Figure 3 - Enlarged Disabled Cubicle

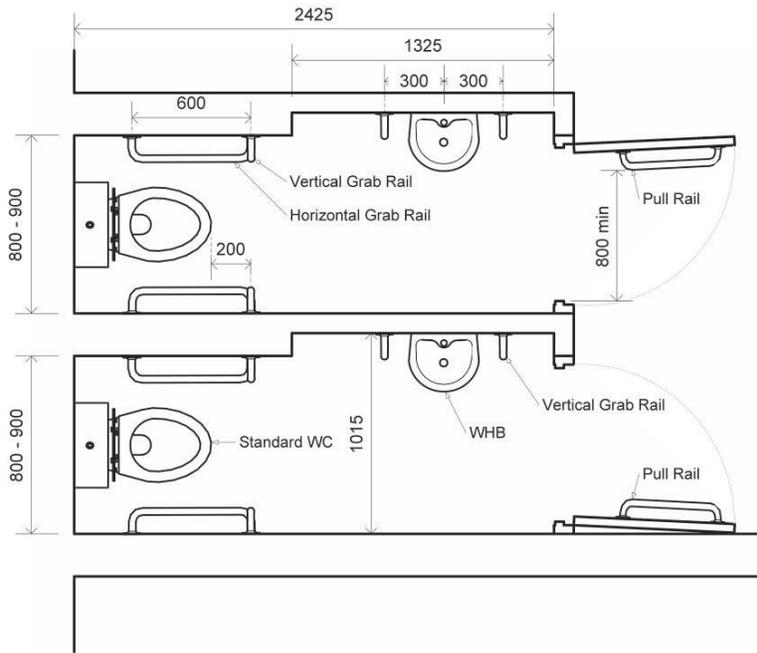


Figure 4 (Plan) - Ensuite Classroom Toilets

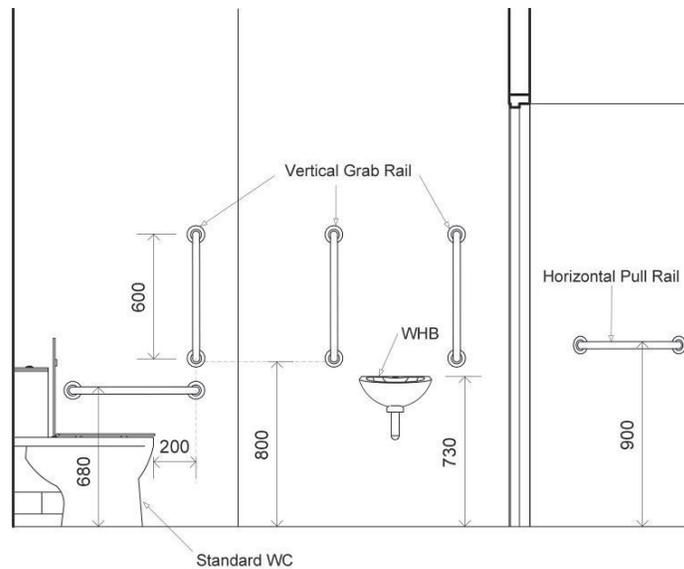


Figure 4 (Elevation) - Ensuite Classroom Toilets

