



Wheelchair accessible WCs within church buildings: (November 2014)

A Church Growth Trust Briefing Paper

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1 Introduction

This briefing paper is prepared for churches considering installing a new wheelchair-accessible WC or to use as a guide to check the facilities of existing wheelchair-accessible facilities that may have been installed previously. New standards and facilities have been steadily introduced in recent years, particularly since 2004, and some older WC facilities can often benefit from being updated. Whilst this document is principally written with the provision of new accessible toilets in mind, it can also be used as a resource for checking an existing toilet against the current requirements for new toilets, with a view to considering if any opportunity can be made to upgrade existing facilities whilst undertaking any redecoration or refurbishment.

The term “wheelchair accessible WC” is now the accepted term for such facilities and replaces the former term “disabled WC” Those using the facilities may not only be wheelchair users, but may often include those with other disabilities, such as impaired movement, impaired vision and impaired hearing. Other users may often include those who are not officially disabled e.g. persons of large stature, pregnant women and those in temporary plaster-casts. Indeed, Part M of the Building Regulations were reworded in 2004 to refer to “Access to and use of buildings” instead of the former “Access and facilities for disabled people” to reflect an environment designed for use by all people “regardless of disability, age or gender”

This paper only refers to “wheelchair-accessible” facilities and does not cover “ambulant disabled” facilities which do not provide for wheelchair users but provide extra room and grab rails for those with mobility impairments, or those encumbered with luggage or small children.

This document is specifically prepared for facilities in church buildings. Other types of building may require additional facilities, such as wheelchair-accessible changing rooms or showers, which are not usually provided or required within church premises.

2 Legislation

The installation and design of accessible toilets is covered by the current Building Regulations. The Regulations refer to a set of “approved documents”. Approved Document M covers “Access to and use of buildings”, the current version being effective from 01 May 2004. This is commonly referred to as “Doc M” or “Part M”.

It is a requirement for Building Regulations approval to be obtained for the installation of an accessible toilet within a church. In addition to the sanitary fittings and physical layout of the WC, the approval would also need to cover other matters, such as drainage connections.

Under the Building Regulations, a new church building would be required to include accessible WC facilities, and so would most extensions if compliant facilities were not already provided within the existing part of the building. The provision of accessible facilities is also required where there is a material change of use e.g. where a night club is converted to a place of worship.

Where a church property exists, and has no accessible facilities, there is no requirement under Building Regulations to provide such facilities if no other alterations are being undertaken, but, if the church voluntarily installs such facilities they would need to comply with Part M and Building Regulations approval needs to be obtained.

However, the duty to provide accessible facilities in existing buildings will usually be covered by the Equality Act 2010, which has now replaced the Disability Discrimination Act. Under the Act service providers (in this case the church) have a duty to make reasonable adjustments to ensure that disabled persons are treated no less favourably than those without disabilities. This includes altering or adapting physical features of the building, including toilets, where it is reasonable to do so. Whether it is considered reasonable to do so can depend upon several factors, including physical constraints and costs. What may be reasonable for a large church or organization may not be reasonable for a small chapel. For further information please refer to the separate CGT briefing paper.

Planning permission will not usually be required for internal works, such as toilet installation unless the building is historic or listed, in which the advice of the local conservation officer should be sought. However, the alteration of the external appearance of any church building, such as the installation of an additional window, is likely to require planning permission.

3 The 10 year exemption from further changes

Under the Equality Act 2010, if a service provider, e.g. a church, alters a physical feature of a building e.g. an accessible WC in order to fulfil their duties under the Equality Act, they will need to do so in accordance with the edition of Approved Document M which is current when the work is carried out. In these circumstances, they are exempt from having to undertake any further alterations to that work for a further 10 years, should the guidance in Document M change following completion of the work.

The 10 year exemption runs from the date of completion of the work. Apart from the legal requirement to obtain Building Regulations approval, the benefit of doing so is that it can be shown exactly when the work was undertaken, in order to benefit from the 10 year exemption.

However, apart from obtaining Building Regulations approval, it is essential, upon completion of the work, to obtain a “completion certificate” from Building Control in order to confirm the actual date of completion. Many local authorities do not issue a completion certificate automatically and will only do so if specifically requested and this is often overlooked.

4 Location of accessible toilets

Accessible toilets should be located where access to the facility can be gained with ease. The approach along corridors and through doors needs to be considered to ensure the route is suitable for wheelchair users. To avoid discrimination the distance to the accessible facility should be no further than the distance travelled by able-bodied persons and are therefore usually best placed alongside other toilet facilities. Travel distances are important to disabled persons, who may need to reach a toilet facility quickly without hindrance. The maximum permitted travel distance under Building Regulations is 40m.

Where a building has more than one floor, an accessible toilet should be available on each floor level to which a wheelchair user has access. Preferably they should be located in a consistent location on each floor to assist persons with learning difficulties in finding them.

Ideally, accessible toilets should be unisex and independent of other toilet facilities. The provision of an accessible WC cubicle within each of the conventional male and female toilet areas often presents problems for carers or assistants. Those disabled persons who have a carer to assist them may have a carer of the opposite sex, e.g. husband, wife or partner, and this is problematic if the wheelchair accessible WC is within a single sex facility.

Accessible toilets have a space alongside on side of the WC pan, as is described in a later section. If there are more than one accessible WC's within the building, it is good practice to have both left and right hand layouts so that if the user has a particular mobility issue on one side of their body they have a choice of the most convenient layout to use.

5 Space requirements for an accessible WC

The internal size of an accessible WC really is critical to the users. The minimum size quoted in Part M is the statutory minimum and only just enables manual wheelchairs to turn around. Larger electric wheelchairs can still have difficulty turning in the minimum size space.

The minimum size given in Part M is 1500mm x 2200mm. It should be noted that these are the sizes between the finished walls, including plasterwork, tiling etc. It is therefore customary to allow an extra 30 to 50mm on each of these dimensions when setting out walls to allow for normal plaster finishes on opposite walls.

The sizes are also clear of heat emitters, such as radiators. Low surface temperature radiators have a typical projection of 160 to 180mm from the plaster wall finish so, if a radiator is to be fitted, the clear width of the room needs to be increased to ensure the minimum clear sizes are achieved. There are, however, alternative heating methods if space for a radiator is not possible as described in the later section regarding heating.

If the accessible WC is to be the only WC within the building, as may be the case in small places of worship, then the minimum clear sizes required by Part M should be increased from 1500mm x 2200mm to 2000mm x 2200mm (plus allowances for plaster/radiator etc) in order to accommodate an additional wash basin. The normal basin fitted in an accessible WC is located at a height suitable for use when seated. If an able-bodied person uses the facility, they will require an additional basin set for use at standing height.

6 The WC door

The clear width of the door opening is critical for the wheelchair user to navigate the doorway with ease. The general accepted door width for an accessible WC is to use a 1000mm door set (i.e. 1000mm overall frame width with a 926mm wide door). Most major door manufacturers produce a door of this width for use in accessible WCs, but they are unlikely to be found in normal domestic DIY stores and may therefore require advanced order.

The door to a WC will not normally be required to be a fire-resisting door under Building Regulations due to the low fire risk arising from the toilet area. However, for doors to be used by wheelchair users it is advisable to use a fire resisting door, such as FD30 grade, as these are of much more robust construction having a more solid internal core. The use of a non-fire door will result in a more lightweight construction, which is more susceptible to damage from wheelchairs and provides a less

robust fixing for ironmongery and grab rails. A fire grade door will also offer improved sound reduction.

The door should open outwards, so that if an occupant falls against the door they do not prevent the door being opened for emergency assistance.

An outward opening door needs to be carefully located to ensure it does not cause obstruction when open. This is particularly essential when the door opens out onto an escape route from other parts of the building. The width of the remaining space with the door in the fully open position should not reduce the adjoining circulation width to less than that required for means of escape along that route. It should also allow sufficient space for the wheelchair user to negotiate the approach to the WC door.

The leading edge of the door (i.e. the side opposite to the hinges and where the door handle is located) should always be a minimum of 300mm away from any internal corner either on the inside or outside the WC. Otherwise the footplate of the wheelchair can hit the adjoining wall before the occupant is sufficiently close enough to reach the door handle. This matter is usually easily resolved by placing the hinged side of the door closest to any internal corner. The 300mm spacing is a Building Regulation and applies throughout the building, but is often overlooked during construction making door approach difficult for wheelchair users.

7 Door ironmongery

The choice of door ironmongery colour should colour contrast with the door to assist the visually impaired. Please refer to the later section on colour contrasts.

The weight of a 926mm wide fire grade door is quite considerable, so three 100mm hinges are required. It is worth the extra expense of specifying good quality hinges, such as ball-race construction which give a smoother operation and require less effort to move the door.

The door handle should include a return end on the lever, which assist those with impaired hand movement in operating the lever. The handle should include a traditional bathroom lock mechanism, with an easy to grip handle and which has an emergency release mechanism to enable the lock to be opened from outside. An alternative option to including the lock mechanism within the door handle is to have a separate lock mechanism, but place it just above the door handle, rather than in the conventional position below.

The door should not normally be fitted with a door closing device as may be traditionally be fitted on conventional male and female toilets, as this makes it more difficult for wheelchair users to negotiate.

To assist closing the door once inside, a horizontal grab rail should be fitted in line with the door handle i.e. approx 1000mm above floor level. This will need to be approx 450mm long and will usually be supplied with the Doc M pack sanitaryware as referred to later.

Although not a regulation, but good practice to prevent unnecessary damage, is to fit a kick plate to the base of the door. primarily on the push side but preferably on both sides. This will prevent damage from the wheelchair footrests, which tend to hit the door when approaching or passing through. Unlike the conventional 150mm deep kick plates fitted to most internal doors, these are ideally 400mm high so the footrest does not strike the door above the kick plate.

Finally the disabled WC sign to be fitted to the outside of the door should be at a suitable height. A common mistake is to fit it at normal eye height in line with similar signs on the male and female toilets, but this is too high for a wheelchair user to note readily. The ideal height is about 1350 to 1400mm above floor level, which is eye-level for a wheelchair user. The sign should be in pictogram format, not just text. Whilst not a legal requirement, but a useful touch, is to specify a sign which also includes Braille to assist those with impaired vision and to fit similar signs with Braille to the male and female facilities to match.

8 Sanitaryware and grab rails

8.1 Provision of sanitaryware

A complete set of sanitaryware required to fit out the majority of accessible WCs (as specified in Approved Document M to the Building Regulations), is available from most of the major sanitary ware manufacturers through trade plumbing merchants. The pack is commonly referred to in the trade as a “Doc M pack.” The exact content of the pack produced by various manufacturers can vary slightly e.g. some will include the toilet roll holder, some will not. Ensure that the pack is one which is LANTAC approved (Local Authority National Type Approval Confederation). This means that it has been checked against the requirements of the Building Regulations and a certificate issued, complete with a specific approval number, to confirm it complies.

The pack will usually include: The toilet pan, cistern and internal fittings, toilet seat, wash basin, wall brackets, taps, and all the requisite grab rails to comply with Part M, including the grab rail to be fitted to the door. These items can also be ordered as separate items as replacements or if your existing WC is missing some of the components.

Doc M packs will seldom be stocked by local DIY stores as their supplies will be more general in nature rather than those specific to disabled users e.g. the toilet pan is higher than normal domestic pans and has no seat cover. As a result, builders and plumbers not familiar with accessible toilets can easily make the mistake of purchasing standard domestic fittings from their local supplier, which will not meet the requirements.

It may be necessary to order additional fittings not included in the Doc M pack. Toilet roll holders are not always included in the pack. Nor are waste traps and waste pipes. If the accessible WC is the only toilet in the building, then an additional wash basin set at standing height will be required, including taps, brackets etc.

8.2 Setting out

Setting out dimensions and positions of equipment for a wheelchair accessible WC are illustrated in Figure 1 and Figure 2 in the appendix.

There are very specific dimensions for the setting out and positioning the sanitaryware and grab rails which must be adhered to. Setting out a grab rail just 50mm lower than the correct height, or setting the basin 100mm further away from the WC pan can prevent a person from reaching or using the fittings in the desired way.

The co-ordination between the sanitary fittings and grab rails is quite precise and does not leave a great deal for tolerance. As the grab rails are often the last items to be fitted, even after

decoration, it may not become apparent until the final stages that incorrect positioning of other items prevents the rails being fitted in the desired position and, to the end user, the provision of the rails and their exact positioning is critical to being able to use the facilities.

8.3 Fixings

All of the sanitaryware and grab rails require good strong fixings to the wall. The need for grab rails to be secure is obvious, but disabled persons can often tend to grab onto basins, shelves etc to assist them in moving. If surrounding walls are solid brick or block, then standard wall plugs and screws will normally be sufficient. However chemical anchor bolts can be considered if the WC is likely to get heavy usage. However, the disadvantage of these is that you cannot remove the sanitaryware after fixing.

Where surrounding walls are timber or metal frames clad in plasterboard, secure fixings are more problematic. Additional framework “noggins” have to be built into the wall in exactly the right place to receive the screw fixings and it is difficult to install these with accuracy if the sanitaryware has not yet arrived when the wall is constructed. One way in which to resolve this problem is to clad the framework with 19mm plywood sheeting prior to fixing the plasterboard. This provides a secure fixing all over the wall surface, without the need to accurately pinpoint the fixing positions at an early stage. It also allows for any later grab rails etc to be fitted if the need becomes apparent.

8.4 The WC suite

A Doc M WC pan is approximately 50mm higher to the rim than normal domestic pans, to assist in transfer from a wheelchair. WC pans should conform to British Standard 5503-3 or British Standard 5504-4 in terms of key dimensions. This will ensure that the pan is able to accept standard variable height toilet seat risers, which some users may need, depending upon their disability.

No fold up cover is fitted over the seat, which would otherwise be a hindrance to the user. The pan is set at 500mm to the centre from the finished face of the adjoining wall to the left or right. This is a critical distance. Setting the pan further away from the wall means it is not easy to reach the grab rails fitted on the wall. Setting it too close can prevent use by those who need to transfer forward onto the pan.

If the drain is set into the floor, the thickness of any proposed wall finishes or plaster needs to be taken into account when marking out the 500mm. The distance of the drain from the rear wall needs to be set out exactly to suit the dimensions of the waste pipe of the particular pan being used and can vary from manufacturer to manufacturer.

If a soil pipe is to be positioned to serve the WC pan, rather than a floor drain, it needs to be set as tight into the corner as possible, otherwise it can prevent the pan or grab rails mounted on the nearby wall from being positioned correctly. All too often, on a completed installation, the WC is incorrectly positioned due to the drains having been incorrectly positioned at an early stage in construction.

The larger space remaining on the other side of the WC pan (1000mm clear minimum from the centre of the pan) is referred to as the “transfer side” and provides for a wheelchair to be positioned to allow lateral transfer onto the pan. It is essential that the space must be kept clear of other fittings such as cupboards, shelves, heaters, bins etc.

The operating lever for the cistern must be located on the “transfer side” so it can be reached to flush the WC after returning to the wheelchair. The cistern usually comes with the option to fit the lever on the right or the left or the right with a plug or badge to cover the unused hole. A common occurrence is for the plumber to not understand this and position the lever on the wrong side, resulting in the lever being beyond reach from the wheelchair. The lever profile should be large enough for a person with limited dexterity to flush the WC.

Many Doc M packs are fitted with a mechanism to lock the cistern cover in place, although this is not a regulation. It is common to specify this facility where people with learning difficulties or children may use the facility, to prevent them tampering with the cistern fittings.

8.5 The basin

The basin is usually a small size hand rinse basin as it will not be usually used for washing purposes in church premises. Basins in accessible toilets are fixed to the wall with brackets, rather than being mounted on a pedestal in order to keep the area below the basin free for knee room when using a wheelchair. The space below, therefore, should not be cluttered with cupboards, bins etc.

The basin should be set at a distance of 890 to 910mm from the wall behind the WC to the side of the basin. (It is worth noting that the distance to the centre of the basin will vary slightly according to the make and model of the basin). This ensures that the user can use the hand basin whilst still seated on the WC pan. A distance greater than as specified causes problems in being able to reach the basin or taps from the WC. A distance shorter than this prevents the required grab rails being fitted to the wall between the WC and the basin. The height to the rim of the basin from the floor should be 720 to 740mm to allow the basin to be used from a wheelchair.

The concept of being able to wash hands whilst seated on the WC comes from the ability to being able to reach the taps. A conventional basin with a tap hole on both sides presents problems in being able to reach the furthest tap. For this reason, basins for accessible toilets are usually fitted with a mono-bloc tap, requiring only one tap hole, which is positioned either to the left or right so as to be nearest to the WC, depending upon the handing of the room layout. A common mistake is to order the basin with the tap hole set on the wrong side (i.e. furthest from the WC, rather than nearest) There is, however, a growing tendency among manufacturers to supply Doc M packs containing one central tap hole. This overcomes the potential to install or order a basin with the tap on the wrong side. It does, however, mean a longer reach to the centre of the basin compared to if the tap were to be mounted on the nearest side.

The height of the basin is also critical for a wheelchair user. As the basin does not come complete with a pedestal, it is easy to make a mistake on the fixing height, which should be 720 to 740mm to the front rim from floor level.

The tap should be capable of being operated using a closed fist. This is to assist persons with limited dexterity in their hands and usually results in a tap with a lever action, rather than the conventional domestic tap head or wheel. An alternative is to use automatic taps controlled by a proximity sensor.

The position, or height, of the waste from the basin should also be considered when fitting, to avoid being positioned where it may impede the correct positioning of other fittings, such as the toilet roll holder. In the normal sequence of construction, the plumber will usually fit the basin and wastes before grab rails, toilet roll holders etc are fitted and all too often, it is discovered that the waste pipe is in an unsuitable location.

8.6 The grab rails

Grab rails should be positioned to the dimensions identified in Part M. The correct fitting out dimensions are illustrated in Figure 1 and Figure 2 in the appendix. The grab rails should include the following as a minimum:

- One hinged drop down rail positioned on the transfer side of the WC. This is vertical when not in use and drops down to a horizontal position. It is important to set the height of this correctly so it is at the appropriate height when deployed in the horizontal position. The rail should be located at 320mm from the centre line of the WC pan.
- One horizontal rail on the wall closest to the WC (the side opposite the transfer side).
- One vertical rail on each side of the hand basin. Note that until the 2004 revision of Doc M, only one vertical rail next to the basin was required. Older properties may therefore be missing this second rail, which is intended to assist those standing to use the basin.
- One horizontal rail fitted to the inside of the door to assist in closing.

Illustrations in Part M also indicate a small additional horizontal grab rail, with cushioned back rest, positioned between the WC pan and the cistern. However, with the growing trend for WC suites to be close coupled (i.e. the cistern sits directly on top of the pan, rather than there being a gap between) there is no facility to install this rail and it tends to be omitted from Doc M packs which use close coupled suites.

8.7 The toilet roll holder

This is a somewhat minor but very essential piece of equipment and often overlooked until the last minute. Although it may have previously been included, it is usually now not included in standard Doc M packs.

With some Doc M packs, the hinged drop-down rail to the side of the WC will include a small rail which can hold a toilet roll. However, this is not particularly convenient to use if the drop down rail is not deployed to the horizontal position.

Illustrations in Part M indicate a toilet paper dispenser, located on the wall to the side of the WC, above the horizontal grab rail and next to the alarm reset button. However, these may require a supply of toilet tissue papers, which are not used elsewhere in the building.

An alternative is to consider a toilet roll holder mounted on the side wall, just below the horizontal grab rail. This has the advantage of using standard toilet rolls employed in other areas of the building. However, the projection of the roll can interfere with the use of the grab rail or position of the hanging alarm cord. If a toilet roll is to be placed in this position then it may be better to consider the fitting of a recessed toilet roll holder, where the main body of the toilet roll is set into the wall. This, in turn requires some advance planning as a recessed model is not simply screwed to the wall as a last-minute fitting and arrangements will need to be made when initially constructing the wall or partition. The positioning of a toilet roll holder below the grab rail can also conflict with the position of the hand basin waste pipe, which is not illustrated on the Part M diagrams.

Having considered the different options, the installation of a toilet tissue holder, or dispenser, will require careful consideration particularly with regard to its projection from the wall, its proximity

to the horizontal grab rail and to ensure that it does not obstruct satisfactory use of the grab rail or cause any personal injury.

9 Soap and hand drying facilities

Loose bars of soap may be acceptable in domestic situations but are generally not considered hygienic in public buildings where liquid soap dispensers are the norm. Freestanding disposal dispensers which can generally be easily purchased from local supermarkets are not generally suitable as the small hand basins generally lack space on which to place them without them being knocked to the floor, or into the basin. The general accepted solution for an accessible WC within a public building is therefore to employ refillable wall mounted dispensers, mounted over the basin where they can be readily reached from the seated position on the WC.

With regard to hand drying, conventional domestic towels are considered unhygienic in public buildings, as they cannot be replaced between each user. Paper towel dispensers can be mounted over the basin, where they can be readily reached but introduce a further item which has to be managed by regular re-filling of the dispenser. A secondary concern is where to dispose of the used paper towels. Any bin in close enough proximity to the basin/WC area to be reached from the WC would cause an obstruction to the manoeuvrability of the wheelchair. It is hardly surprising therefore that the most favoured solution is an electric hand dryer. In common with other electrical appliances, these need to be served through an isolator switch, which, in this case needs to be positioned out of reach of the water zone, usually close to ceiling level, directly above the hand dryer.

There is some difference of opinion regarding the ideal position of the hand dryer. The concept of the proximity of the basin is that a person can wash and dry their hands whilst seated on the WC, which needs the hand dryer to be located over the top of the basin. The diagrams in Part M show the hand dryer located on the far side of the basin, which is beyond reach from the seated position.

If the hand dryer is to be located in close proximity to the basin and could be liable to splashing, it will require an electric IP rating (Ingress Protection rating) of IP24 or IP44 or greater to be protected against splashing. This would certainly be the case if it is positioned directly over the basin. Many of the cheaper hand dryers do not meet this level of protection, so be wary if your contractor fits an alternative model to the one specified. It may be £100 cheaper, but it may not have the splash proof rating.

If towels are left in the WC, these should not be hung on the horizontal rails. These are grab rails and not towel rails and the presence of the towel renders them useless for their intended purpose.

10 Provision of shelves

The provision of shelves to assist in the changing of colostomy bags was introduced in 2004 to Part M requirements and the minimum internal sizes of the room increased to accommodate these. In all probability, accessible toilets constructed prior to the implementation of the 2004 requirements may not include such shelves, although consideration could be given to their addition, subject to space constraints.

Two shelves are required, one adjoining or above the WC cistern for use when in a standing position adjacent to the WC, together with one located elsewhere at a height suitable for use from a seated

position in a wheelchair. The accepted locations and heights are illustrated in Figure 1 and Figure 2 in the appendix.

As in previous comments regarding the space below the basin, the space below the shelf provided for seated use should be kept free for knee room and should be unobstructed by bins and stored materials.

The construction of the colostomy shelves is not covered by Building Regulations but it follows, by nature of their intended use, that they have a non-porous and readily cleanable surface for hygiene purposes. It is also ideal if a small upstand lip of approximately 6mm high is incorporated into the design to prevent bags slipping off the shelf during loading/unloading. This feature can easily be incorporated by fixing an aluminium or brass flat plate to the side of the shelf or a hardwood strip treated with polyurethane or varnish. The surface of the shelf can be tiles or painted to provide a non-porous surface. Another alternative is to inlay the top of the shelf with an off-cut from the floor finish.

In practice, the purpose in providing shelves for colostomy bag changing is not appreciated by those who do not use them. They can rapidly become used for other purposes such as storage of toilet rolls, positioning of air-fresheners or flower arrangements, or used for placing of handbags, which is not conducive to hygiene arrangements. All efforts should be made to keep the shelves clear of such encumbrances.

11 Provision of coat hooks, mirrors and waste bins

Coat hooks should be located where garments will not obstruct the use of grab rails, sanitaryware, heaters etc. They should be located at a lower level than coat hooks provided for able-bodied users to enable them to be reached from the seated position of a wheelchair, ideally approximately 1400mm from floor level. Coat hooks with sharp edges or angular hooks should be avoided to prevent personal injury.

Mirrors need to be set at a level which will facilitate use by both wheelchair users and those standing as not all users of accessible toilets will be wheelchair users. The traditional position over a basin is usually not appropriate as it may not reach low enough to serve wheelchair users. It should extend from at least 600mm above floor level to 1600mm above floor level. Mirrors extending down to less than 400mm above floor level are likely to be subject to damage from the footplates of wheelchairs.

There is no requirement under Building Regulations for the mirror to be of any other material than glass but, given the increased risk of a person falling or stumbling against the mirror in an accessible WC, or of it being struck by an aid or wheelchair, it is wise to consider the use of polycarbonate mirrors, which are virtually unbreakable, but more expensive. In terms of maintenance they are much the same as glass but some traditional glass cleaners can score or mark the surface of polycarbonate. Acrylic mirrors are offered by some manufacturers as a cheaper unbreakable alternative to polycarbonate. They are, however, hydroscopic and can be affected by moisture levels, causing larger mirrors to warp or distort giving a “hall of comic mirrors” effect.

Some form of waste bin is not mandatory but should be considered, provided it can be positioned such that it does not intrude into the transfer area adjacent to the WC, or obstruct the knee room below the basin or shelves to the extent that it prohibits their use. Locating the bin to one side of the space below the seated-use colostomy shelf is a favoured solution. The bin should be large enough to accept the anticipated level of deposit of sanitary towels, adult incontinence pads or nappies etc, but

arrangements will need to be made for the regular collection/emptying of such bins and for the specialist disposal of the contents.

12 Avoidance of injury through burns

Persons with learning difficulties or those with impaired senses can suffer injuries from hot surfaces as they sometimes cannot sense hot surfaces and cause themselves injury. Other persons, who do not lack a sense of feeling, can also fall against hot objects but be unable to move, thus also sustaining injury. It is therefore important that all potential injuries from exposure to heat are eliminated or the occupants shielded from making contact with them.

Temperature of hot water delivered to basins should be limited to 40 degrees Centigrade. This can be a problem if the water heater is also serving kitchens etc, where the temperature is typically delivered at 60 degrees for hygiene reasons. The solution is to provide a thermostatic blending valve which mixes the hot water with the cold water supply to blend the mixture to deliver at a maximum temperature of 40 degrees.

The majority of new Doc M packs include taps which have such a built-in thermostatic valve. Some do not, in which case an additional, and separate, blending valve needs to be purchased and installed close to the basin. The latter solution can also be used to upgrade temperature control for existing installations that do not include thermostatic control within the tap. In such circumstances however, it may be more economic to simply change the tap for one which includes thermostatic control.

The risk of scalding is not simply resolved by restricting the delivery temperature of the water from the tap. The temperature of the hot water pipes running to the basin can present a problem, as can the temperature of pipes serving any radiator. The simplest solution, if possible is to feed the pipes serving the basin or radiator through the wall from the rear, thus eliminating hot pipes exposed within the room.

If this is not practical then they should be encased to prevent physical contact by the user. Realistically, pipes at high level / ceiling level do not necessarily need to be encased if they are out of normal reach, but lower level pipes will need to be. This can be done with timber framing and plasterboard or MDF boxing. Another solution is to use UPVC trunking, similar to electrical trunking, but this needs to be installed before, or at the same time as, the pipes rather than be placed around the pipes after installation.

13 Heating options

Ideally, a heating system for the accessible WC is activated and controlled as part of the main heating system of the church. This ensures that the accessible WC is heated at the same times and to the same temperatures as the remainder of the building.

Part M of the Building regulations require that any heat emitters, such as radiators are either screened or have their exposed surfaces kept at a temperature below 43 degrees Centigrade, to prevent scalding. Encasing the radiators with screening both reduces the efficiency of their output and makes them much larger, which can be a problem with the space constraints of the room. The usual solution therefore is to use a Low Surface Temperature Radiator (LST radiator) which acts in exactly the same way as a normal radiator but includes additional protective panels in front of the main radiator so the

surface does not reach the normal surface temperature of standard radiators. However this does increase their projection from the wall to around 160 to 180mm. As the minimum room sizes for the room are clear of all obstructions, including heat emitters, allowance has to be made for a LST radiator when sizing the room.

Radiators, or other heat emitters, should not intrude into the minimum spaces required for wheelchair activities, including the transfer area to the side of the WC. Wherever they are located, it is wise, but not a regulation, for the base of the heat emitter to be at least 400mm above floor level to avoid potential damage from the footplates of wheelchairs. This is often overlooked as most radiators are normally installed just above skirting board level.

If sufficient space is not available for a LST radiator, an alternative is to consider a fanned radiator located at high level where it will not affect wheelchair activity. This still runs off the main heating system but includes a fan operation, in a similar manner to heaters within cars.

If connection to the main central heating system for the church is not considered appropriate, or if it is not available, an electric down-flow fan heater can be used at high level. Rather than rely upon a pull cord to operate, as may be common in domestic bathrooms, it can be activated by a Passive Infra-Red (PIR) detector when an occupant enters the room. This is clearly not so effective as alternatives which supply constant background heat as it only operates when the room is occupied, resulting in sporadic heating of the space.

Another electric solution is to use a Low Surface Temperature (LST) electric wall mounted panel heater, similar in size and appearance to a traditional radiator. This is more practical than an instant down-flow fan heater, as controls can be installed to regulate the timing and temperature of the heating in a similar manner to a central heating installation.

If space is particularly tight, an underfloor heating solution could be considered, either served by a standard central heating wet system, or by electric. However, underfloor heating systems are more suitable to buildings occupied on a full time basis as their response time is not particularly suited to quick heating on demand.

14 Alarm system

An alarm system to summon help to an assisted WC was not a requirement under Building Regulations until the 2004 revision, but a recommendation by British Standards. All accessible toilets constructed since then should be fitted with an alarm, but the majority of those constructed prior to 2004 will probably not include an alarm, but this can be retro fitted and is not a complicated matter.

Figure 3 in the appendix illustrates the layout of a typical alarm system to meet Doc M requirements.

There are several electrical manufacturers who supply a disabled person' alarm kit, which includes all the components necessary in one box starting from around £125. One such manufacturer is C-Tec, whose contact details are given at the end of this document.

The alarm system should comply with British Standard 8300 and will usually comprise the following:

14.1 Base unit

This usually includes a built in transformer and acts as the main power supply and to which all the other components are wired. It should be located just outside the WC, normally set at about 1200mm above the floor as it usually includes a button to cancel the alarm which needs to be within easy reach. It will require to be fed by a power supply with an isolator switch. It is not a regulation, but good practice for the isolation switch to be placed at high level near the ceiling above the base unit, where it cannot be accidentally mistaken for a light switch and inadvertently switched off. Location at a high level also avoids interference by small children.

The base unit also contains an audible warning when the alarm has been activated, which needs to be distinguishable to any fire alarm warning.

14.2 Emergency pull cord

This is ceiling mounted, as close to the wall as possible. Under Building Regulations it has to be coloured red and fitted with two red 50mm diameter bangles, one set at 100mm above the floor and one set 800 to 1000mm above the floor. It must be positioned so that the bangles can be reached by a person seated on the WC or lying on the floor close to the WC.

Exact positioning needs to be considered well in advance to ensure the hanging cord does not clash with other items below, such as vertical grab rails, toilet roll holder etc, where it may be pulled accidentally and set off false alarms. This takes some co-ordination as the cables will usually go in the ceiling well in advance of the other fittings being installed.

Once the WC is in use, maintaining the alarm cords in the correct position is vitally important. Very often they are tied up to a rail or shelf to stop children playing with them. This is of no assistance to a person who has fallen and is lying on the floor, not able to reach the alarm.

14.3 Alarm reset button

This is placed near to the emergency pull cord, reachable from a wheelchair or seated on the WC, so that if the alarm is accidentally activated, it can be cancelled by the occupant of the WC. It will usually include a sounder and a light to indicate within the room the alarm has been activated.

14.4 External warning light

This is placed over, or near, the outside of the WC door and illuminates when the alarm is activated. If there are several toilets, or areas, fitted with similar alarms, it serves to indicate within which WC the alarm has been activated.

14.5 Optional remote alarm/sounder

This is not required by Building Regulations but can usually be purchased as an optional extra to the kit. It repeats the alarm given off at the base unit which is located outside the WC door to a remote location, such as a reception area or office, which may be on another floor. It is particularly useful to alert persons in other parts of the building if the WC is located away from where others may be normally positioned and where they may not hear or see the alarms outside the WC door.

14.6 Connecting cables

Note that the disabled persons alarm kit may not include the wiring to connect between the various units, which may need to be purchased separately. Most systems work in a multi-core wire, such as four-core, rather than the more common three core electrical cable.

15 Lighting, escape lighting and fire alarms

15.1 Lights

The WC will obviously require electrical lighting to the interior. Domestic pendant lights should not be used in bathrooms or wet areas. A surface-mounted sealed light fitting is preferable to a batten holder light fitting. If the ceiling is lower than 2.25m, or if the room contains showers, sprays, baths, wash-down jets for cleaning purposes etc then the IEE Regulations regarding electrics will require a certain level of IP rating (Ingress Protection) rating for the light fitting. Most of these circumstances will not normally apply to accessible toilets within churches, so usually a specific IP rating is not required. If there is any uncertainty, the lighting manufacturer or a qualified electrician should be consulted.

If the light is operated by a pull cord, the cord should be fitted with a 50mm bangle located between 900 to 1100mm above floor level, which is lower than usual to assist reaching from a wheelchair. The 50mm bangle should colour contrast against the background wall colour. Also, it should also be a different colour to that fitted to the emergency alarm. This simple requirement is often a problem to resolve, even by professional electricians, as few manufacturers provide anything except the customary small white light pull fitted to the base of domestic pull cords. If all else fails, a trip to a reputable children's store to purchase a coloured baby teething ring can often solve the problem with more speed!

15.2 Escape lights

Under Approved Document B of the Building Regulations, all accommodation and escape routes in Assembly and Recreation Buildings (which includes places of worship) should be fitted with emergency escape lighting, except where the accommodation is open to view sport or entertainment on one side. This means that escape lighting has to be provided to a standard to comply with the current British Standard. In practice this will mean the installation of one emergency escape light within each accessible WC. For neatness, the escape light can be normally be integrated to be within the same light fitting as the standard light and can include a built-in rechargeable battery. However, a slightly cheaper, but less attractive, solution is for a separate bulkhead style escape light to be fitted.

Escape lights need to be wired differently to standard light fittings in order to provide a constant live supply to keep the battery charged. They also should be fitted with a key switch to enable them to be disconnected from the mains so the battery activation can be checked on a regular basis.

15.3 Fire alarm

As a further requirement under Building Regulations, if a fire alarm is fitted to the remainder of the building the sounder alarm system should also be extended into the accessible WC. The sounder within the WC should also be supplemented by a visual warning, such as a flashing light, to raise the alarm for deaf persons, who may be isolated within the WC and not benefit from others around them alerting them to the emergency. The flashing light can be in addition to the sounder, or there are models which integrate the light with the sounder. If the latter is the case, the best position may not be the customary location of the ceiling, as it is unlikely to be noticed as well by a person seated on the WC. Locating the light on a wall, or other prominent location that is easily visible from the WC would be best, together with a sign to identify the purpose of the light.

16 Ventilation

Part F of the Building Regulations requires toilet facilities to have mechanical ventilation, irrespective of whether ventilation by use of a window is required. Unlike domestic situations where the occupant can choose to switch on the fan and to switch it off again after use, this will usually not work in practice in a public building and some form of automatic operation is preferable.

If the room is without a window it will be necessary to switch on the light and so the fan can be activated by the light switch. If the room is fitted with a window, or roof light, the light may not be used during daylight hours, which can lead to a build-up of foul air. In these cases another form of automatic operation is appropriate. A Passive Infra-Red (PIR) movement detector is usually the preferred option for places of worship although there are other options available, such as air quality sensors.

Some fans have PIR detectors built in as an optional extra, whereas other types require a separate detector to be supplied and wired to the fan. Fans will usually be the most effective when placed at high level. However, if the PIR is built-in, this is not the best height to detect a person within the room seated in a wheelchair. The alternative solutions include installing the fan at a lower level, approx 1500mm above floor in order that the built-in detector detects the wheelchair user, or to use a remote sensor at a lower level, wired to the fan. The choice will largely depend upon the layout of the room and positions where the fan can extract direct to external air.

In accordance with normal electrical regulations, fans will need to be provided with an isolator switch, usually located outside the toilet area. In common with isolators for assistance alarms, these are best placed at high level to prevent accidental turning off or interference by children.

Fans with a PIR detector are usually fitted with an adjustable time delay so they switch off after a selected time after movement has ceased to be detected. This allows the fan to continue to work for a short period after the room is vacated to allow foul air to be removed.

17 The need for tonal contrast

In order to assist visually impaired persons, Part M requires that the surface of sanitary fittings and grab bars should contrast visually with the background wall and floor finishes. Also, there should also be a visual contrast between wall and floor finishes. "Contrast Visually" is defined by Part M as a difference in Light Reflectance Value (LRV) of two surfaces of 30 points and refers to research

undertaken and published by Reading University. Many paint manufacturers, including Dulux, produce specific guidance on the matter of colour contrast and provide on-line calculators which can assist. Professional colour ranges have a unique reference code for each colour on their charts and it is easy to determine from the reference numbers what the difference in LRV is between two colours.

When dealing with working groups or committees for churches it is common that the colour selection veers towards neutral colours which will not offend anybody. This is not peculiar to churches but also is common in many community projects. Whilst they may not cause offense, popular choices, such as Magnolia with White, unfortunately do not provide a suitable colour contrast!

Within the accessible WC, visual tones need to be juggled to obtain sufficient contrast between:

- Wall and Floor
- Wall and Door or Door Opening
- Door and Ironmongery
- Sanitaryware/Grab Rails and Wall
- Sanitaryware and Floor

The vast majority of sanitaryware is only supplied in white and so that starts to set the pattern. Some Doc M sanitary packs are available with coloured grab rails and coloured WC seats, but these are in the minority and have a limited choice of colours. One simple way to progress is to accept all sanitaryware and grab rails will be white and then commence selecting walls which are sufficiently dark enough to contrast with the sanitaryware and rails (without being overbearing) and a floor finish which is darker still to contrast with the walls.

Of course, the danger is that, when it comes to redecoration, all this is forgotten and the colour contrasts are eliminated. Conversely, if a church is redecorating an existing accessible WC, opportunity can be taken to introduce a greater degree of colour contrast, where it is practical to do so, at no additional cost.

In addition to the accessible WC, the concept of tonal contrast to assist those with visual impairment also extends to other part of the building, such as ramps, stairs, doors, counters etc.

18 Finishes

Apart from the need for colour contrast, the Building Regulations do not cover the matter of finishes. This will be the choice of the designer or the church, but will be of particular interest to those who have to maintain and clean the facility on a regular basis.

18.1 Ceilings

Normal emulsion finish to ceilings will usually suffice unless showers etc or other items which increase the humidity are being incorporated where a more robust finish should be considered.

18.2 Walls

For walls, the simplest and most cost effective solution is probably straight forward emulsion. Just be prepared to have to redecorate this on a more regular basis through normal wear and tear and marking. An improvement, at little cost variation is to use vinyl silk instead of vinyl emulsion, or to use one of the alternatives offered by popular paint manufacturers that are suitable for

kitchens/bathrooms or are designed to give an improved performance of wiping down at a very modest cost increase. A tiled splash-back to the basin and colostomy shelves is advisable.

The ability to clean down the walls may not be a major issue for places of worship, where the facility may only be lightly used, compared to, say, a nursing home or care centre where it would have more intensive use and where the risk of contamination through soiling etc is greatly increased. For most churches, accepting a quick coat of emulsion once a year is required is likely to be an economic option.

There are various manufacturers of impermeable wall panels, similar in thickness to hardboard, , such as those used in healthcare facilities, veterinary centres, shower cubicles etc but these tend to be commercial products and more expensive than emulsions, but they do lend themselves to easier cleaning down.

An obvious alternative is for a ceramic wall tile finish, which need not employ expensive tiles. The concept of tiling up to half height, however, may seem attractive but presents no end of problems when determining the height at which to cease the tiling. Tall or vertical items, such as vertical grab rails, the WC cistern, tall mirrors or radiators etc constantly find themselves positioned half on the tiling and half above, which presents fixing problems.

18.3 Floors and skirting boards

Again, somewhat surprisingly, there is no requirement under Building Regulations regarding floor finishes. The use of carpets is not specifically excluded but would obviously present maintenance problems in terms of spillages and hygiene.

A washable hard surface is clearly preferably from a maintenance aspect, such as sheet vinyl, vinyl tiles, rubber flooring, ceramic tiles, or their many derivatives.

However, in any area designed for disabled persons, who may be less steady on their feet, it would be wise to consider the provision of a slip resistant floor finish, such as slip-resistant sheet vinyl with welded joints, or ceramic tiles with a raised studded or raised patterned slip resistant surface.

Skirting boards will be a matter of choice, depending upon the floor surface to be chosen. There are no major technical qualities which influence the choice of skirting where disabled persons are users, other than those which may affect colour contrast and their suitability for ease of cleaning. There is nothing wrong with standard timber or MDF skirting, but alternatives include vinyl; where vinyl or similar floor finishes are laid, or ceramic tiled skirting; where ceramic tiled floors are laid. Where walls are fully tiled to the floor, there may be no need for skirting at all.

19 Baby-change units, storage and other day to day usage

Baby-change units and wheelchair users go together about as well as dogs and postmen!

Many churches assume incorrectly that the accepted place for a baby change unit is in the wheelchair accessible WC, simply because so many others install them here. In fact, this can present considerable problems for disabled persons, not just wheelchair users, who often need to use the facilities at short notice. The time taken for changing one or more infants tends to be considerably longer than use of the room as a WC and hence disabled persons can be subjected to unacceptable delays. In addition,

because many baby changing units are installed after completion of the WC construction, their size has not been taken into account when initially determining the minimum dimensions of the room and this can impact on the required space for manoeuvring a wheelchair. In fact, the problem has become so pronounced that, when Building Regulations Part M was revised in 2004, an additional statement was included in section 5.5 that “Wheelchair-accessible unisex toilets should not be used for baby changing.” So, if at all possible, baby change units should therefore be located in an alternative location, perhaps next to or near the accessible WC, but not within it.

The perceived excess of room within an accessible WC, to those who are not familiar with the needs of turning a wheelchair, often leads to the transfer space beside the WC pan being used for all storage for items such as mops, buckets, brooms, all of which can readily reduce the minimum space required for turning the wheelchair. Many churches choose to store wheelchairs within the accessible WC, considering this the most appropriate place. All this achieves is rendering the WC unusable to a person who arrives in their own wheelchair. Even extra rubbish bins, placed with all good intentions for the benefit of the disabled user can cause problems. Remember that able bodied users can easily move items out if they are found to be an obstruction, but a wheelchair user usually cannot do so and it prevents them using the facility unless they summon help.

Similarly, the shelves provided for the changing of colostomy bags can often be used for storage, flower arrangements, air fresheners etc with all good intention by those who are not familiar with the purpose of the shelves and the way in which they function.

You probably would not be appreciative if you arrived home to park your car and found your neighbour had left his lawn mower in the middle of your drive, so make a regular inspection of your accessible WC and keep an eye out for all these obstructions!

20 Additional information and further reading

The following documents include information on all matters of accessibility regarding buildings, not just accessible toilets:

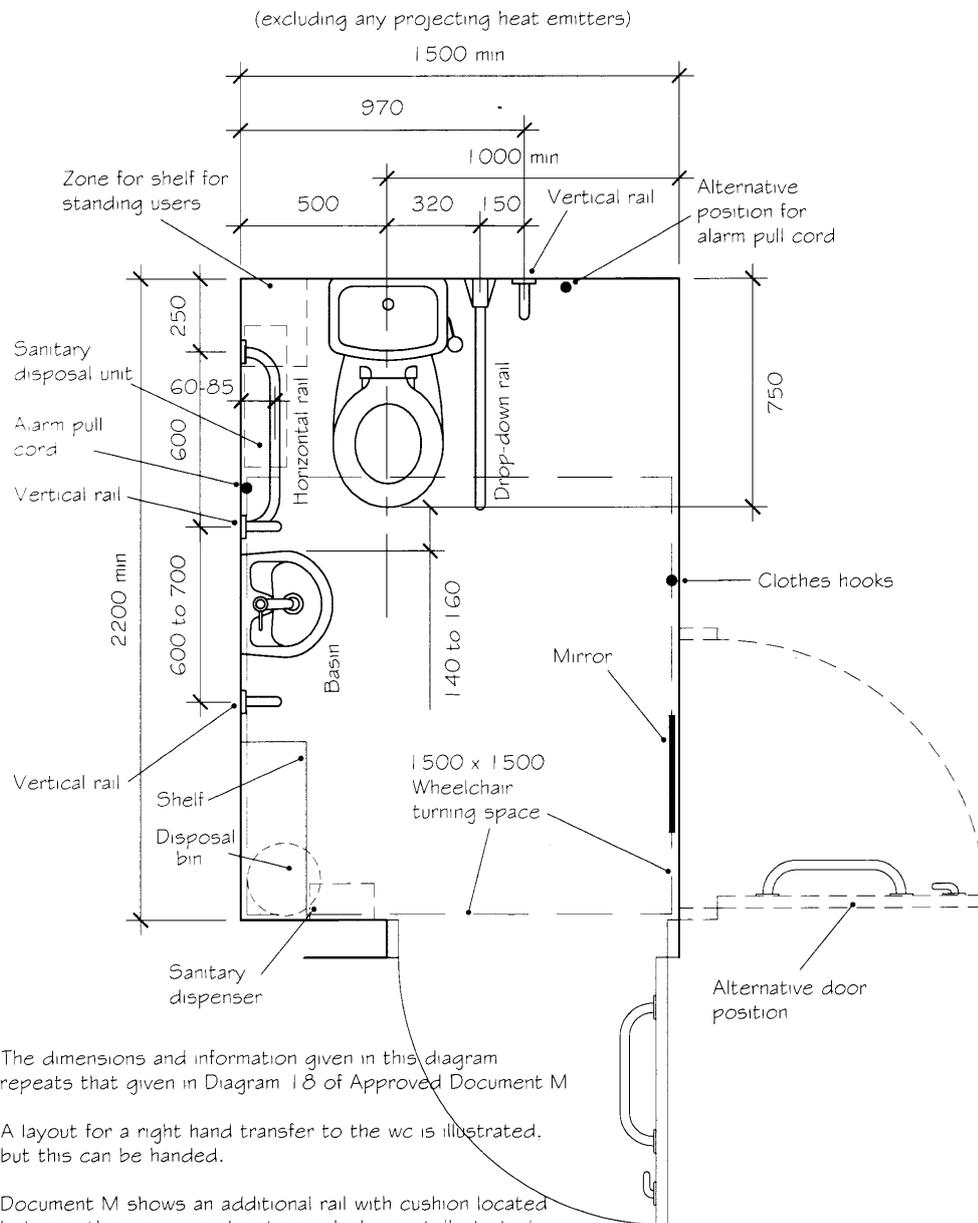
- The Building Regulations: Approved Document M “Access to and use of Buildings” Available from the Building Regulations section of the government’s planning portal website as a free pdf download www.planningportal.gov.uk/buildingregulations or hard copy available to purchase from stockists of technical construction publications including RIBA Bookshop, telephone 0191 244 5557, www.ribabookshops.com , price £15.00.
- British Standard BS8300:2009 “Design of buildings and their approaches to meet the need of disabled people – Code of Practice” with Amendment 1:2010. Available from the British Standards Institute, Telephone 0845 086 9001, www.bsigroup.com , price £240.00. This is a technical document of 230 pages, mainly of use to technical designers. Most of the relevant information for churches regarding accessible toilets is repeated in Document M or other design guides.
- “Designing for Accessibility” published by the Centre for Accessible Environments, Telephone 020 7822 8232, www.cae.org.uk , price £30.00
- “The Good Loo Design Guide” published jointly between the Centre for Accessible Environments and RIBA Publishing. Available from RIBA Bookshop, telephone 0191 244 5557, www.ribabookshops.com , price £32.00.

Other useful information and contacts:

- “The Dulux Trade Colour and Contrast Design Guide” by ICI paints. www.icipaints.co.uk
- C-Tec Ltd, manufacturers/suppliers of disabled persons alarm kits. Telephone 01942 322744
www.c-tec.co.uk

Figure 1

Unisex wheelchair accessible toilet with corner wc



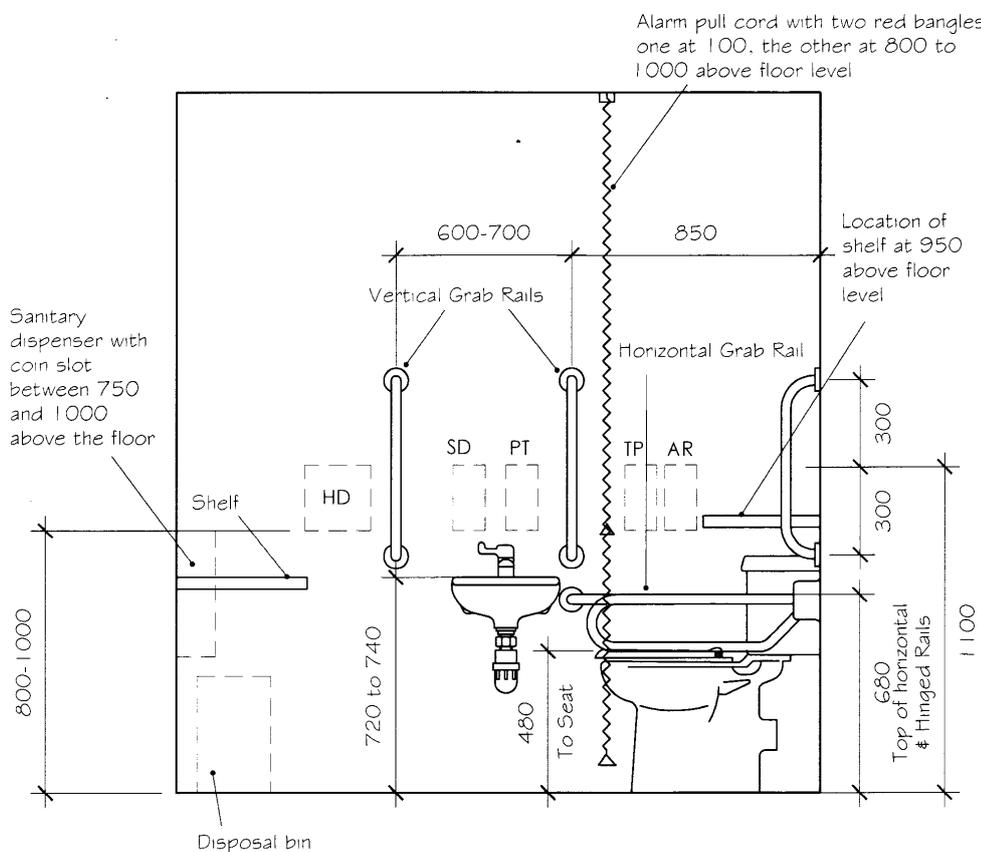
The dimensions and information given in this diagram repeats that given in Diagram 18 of Approved Document M

A layout for a right hand transfer to the wc is illustrated, but this can be handed.

Document M shows an additional rail with cushion located between the wc pan and cistern, which is not illustrated here as this diagram shows a close-coupled wc suite where the cistern is connected directly to the pan.

Figure 2

Heights and arrangements of fittings in a unisex wheelchair-accessible toilet



- HD Possible position for automatic hand dryer
- SD Soap dispenser
- PT Paper towel dispenser
- TP Toilet paper dispenser
- AR Alarm reset button

Height of drop down rails to be the same as other horizontal rails

The dimensions and information given in this diagram repeats that given in Diagram 19 of Approved Document M

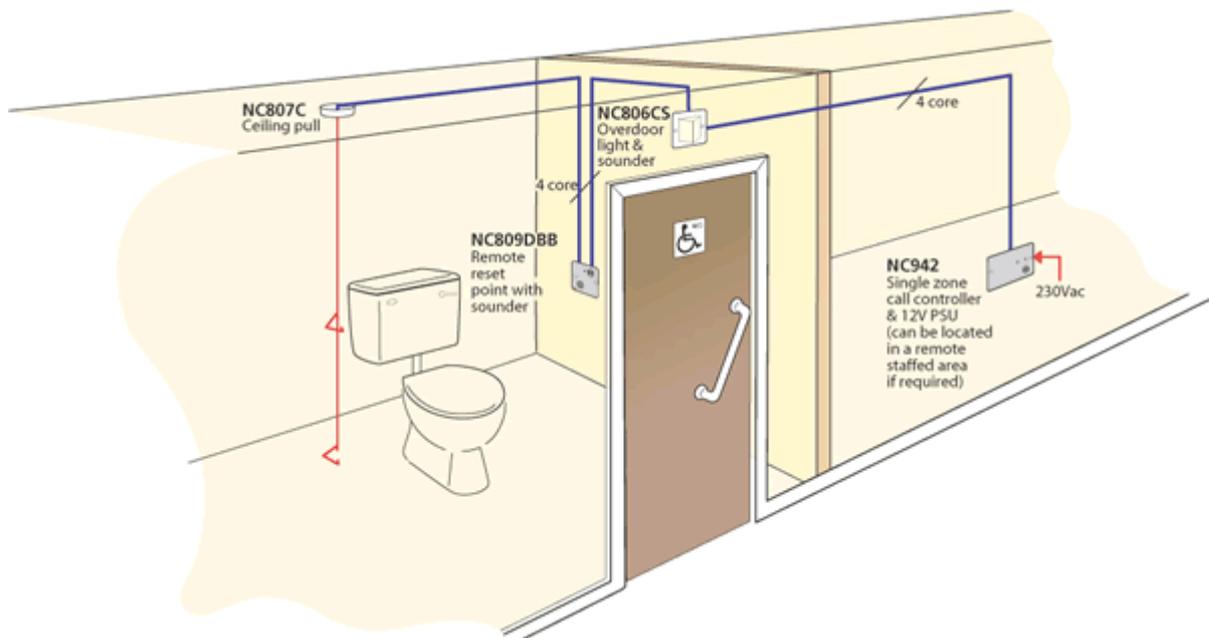
A layout for a right hand transfer to the wc is illustrated, but this can be handed.

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Figure 3
Typical layout for a disabled persons alarm system



The single zone call controller is usually located in the corridor outside the WC, adjacent to the WC door, or it can be located in a suitable remote area, such as an office, provided that area is always staffed when the building is in use, otherwise the alarm may not be heard.

An alternative is to purchase and install a repeater unit. This can be connected to the panel outside the WC door but also repeats the alarm in another part of the building. This would be particularly beneficial if the WC is located away from the part of the building occupied by others, or if the WC was on a different floor to, say, the office or reception area.

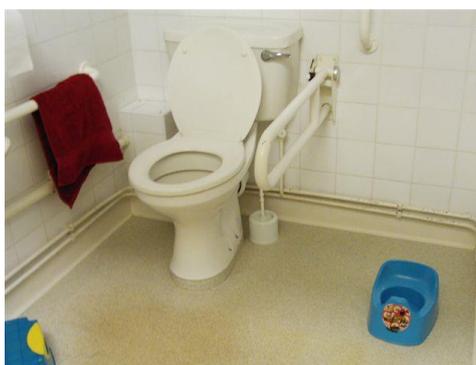
Illustration by kind permission of C-Tec (Computationics Limited)

Photographic Illustrations



Above - examples of good tonal contrast between fittings and wall, fittings and floor & walls and ceiling.

Note that the right hand picture also illustrates the standing height colostomy shelf. The cistern lever should always be on the transfer side of the WC.



Above - examples of poor tonal contrast between the fittings and wall and between the wall and floor.

Also note the presence of bins, potties etc left in the wheelchair turning area and towel hung over the grab rail, together with the lack of protection over the hot water service pipes.

Typical basin arrangement showing relationship of basin, grab rails, soap dispenser, alarm cord, alarm reset button and toilet roll holder.

The alarm cord has a bangle at a height where it can be reached from the seated position on the WC and also down at skirting level in case of a fall.

Note that the mirror is not fitted above the basin and is located elsewhere where a full length mirror can be fitted.

In this instance an automatic hand dryer has been fitted above the basin and the pipework to the basin is fed through the wall from the adjoining room, thus preventing hot pipes being exposed within the WC area.





Left - A typical colostomy changing shelf shown at a height suitable for use from a wheelchair.

In this case the surface has been inlaid to match the floor finish and assists with the colour contrast.

Given the intended use of the shelf, a wipe-clean surface is advisable, together with a tiled splash-back.



Left - Interior of the door illustrating the horizontal grab rail in line with the door handle. Also, note the deep kick plate to protect the door from damage by wheelchairs.

Left - Note the tonal contrast between the door and wall and between the grab rail and door.

Right - The door handle and lock lever have return ends making these easier to grip for those with dexterity problems.

In this case, the lock lever is located above the handle for ease of access.



Left - Full length polycarbonate mirror stopping 400mm above floor level to prevent damage from wheelchairs. The same principle applies to the positioning of radiators or wall heaters.

Right - Pictogram style door sign. It is worth considering the inclusion of a Braille legend as well as the sign.



