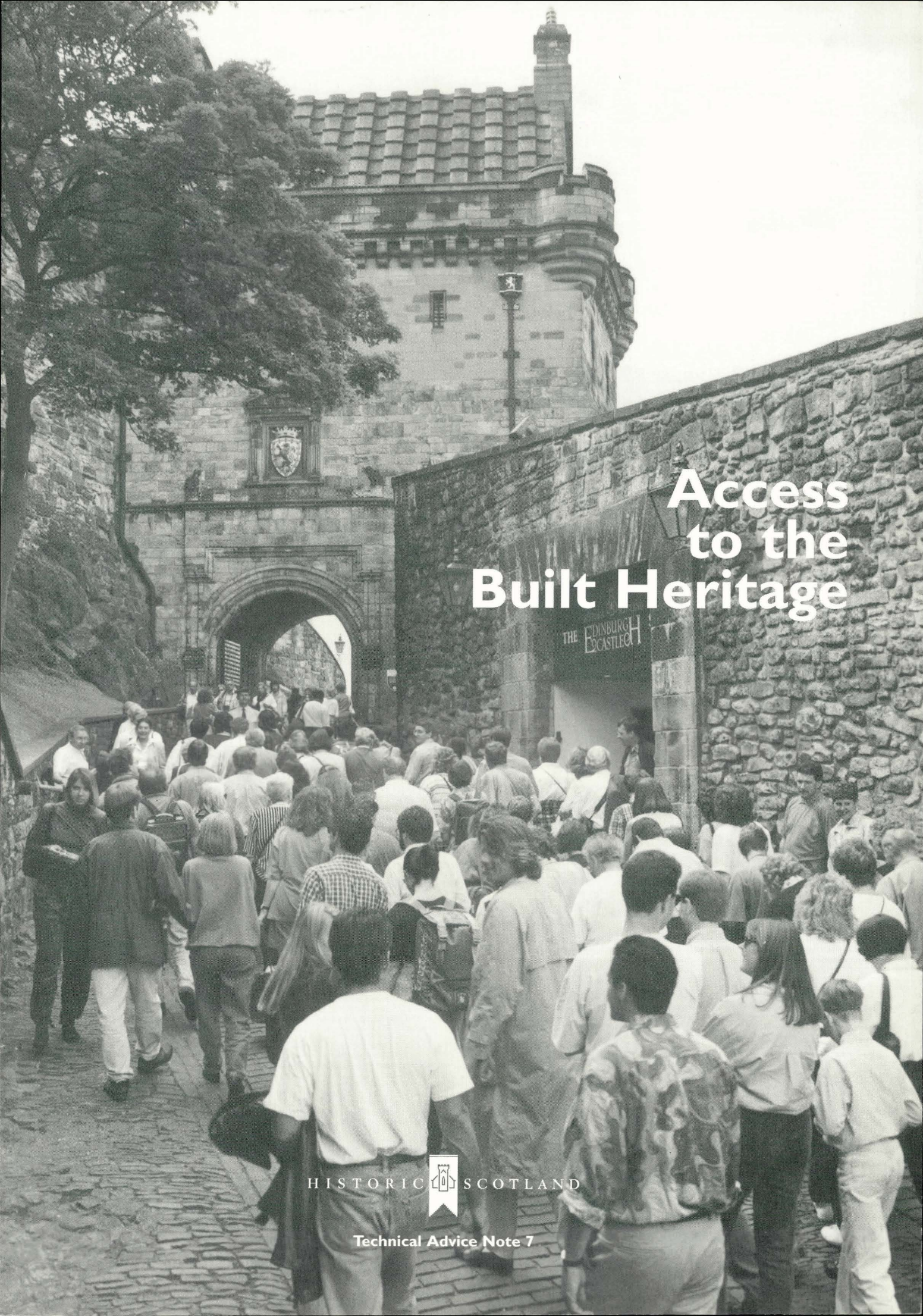

Access to the Built Heritage

HISTORIC SCOTLAND

Technical Advice Note 7

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Rear Cover : Edinburgh Castle. Ramp to St. Margaret's Chapel.

Access to the Built Heritage

Advice on the provision of access for people with disabilities to historic sites open to the public

by
Victoria Young and Dennis Urquhart

Commissioned by
Technical Conservation, Research and Education Division,
Historic Scotland

Printed by The Stationery Office on behalf of Historic Scotland
and published by Historic Scotland

ISBN 1 900168 23 5

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EDINBURGH, 1996

HISTORIC SCOTLAND

PREFACE

Many historic sites can present difficulties for visitors with disabilities. In July 1996 Historic Scotland produced *Access for Disabled Visitors*, a guide to Historic Scotland's properties for people with access difficulties or impairments. The publication provides information on access to properties in State care along with descriptions of the types of display and the tactile qualities of artefacts which are available. It is designed for use with Historic Scotland's *Guide to Over Sixty Historic Sites in Scotland* and is intended to ensure that, where possible, visitors to the properties can enjoy what is being offered.

This Technical Advice Note is the 7th in an occasional series of notes on practical and technical issues which arise in safeguarding the nation's heritage and promoting its understanding and enjoyment. It intends to give guidance on the principles involved in providing access for disabled persons to historic buildings and monuments open to the public. It is not intended to be used as a prescriptive document or as definitive specifications for provisions on site.

Although primarily aimed at offering advice and information for use by Historic Scotland staff, its content is of value to others who have to consider proposals to improve access, for visitors with disabilities, to historic buildings and monuments that are open to the public.

When such works are proposed for a site or property which is scheduled or a building which is listed, the appropriate approvals, Scheduled Monument Consent in the case of the former and Listed Building Consent for the latter, must be obtained *before* any works are undertaken. The fact that advice is given and recommendations are made in this Note does not in any way imply that a proposal will receive consent. Where work is proposed on a scheduled ancient monument situated on Government land, scheduled monument clearance will be required through Historic Scotland. Work carried out to a listed building, other than a monument listed in Schedule 1 of Part A of the Technical Standards for compliance with the Building Standards (Scotland) Regulations 1990, will also require a building warrant. Where a listed building is a Crown Building, any new work will require assessment by an independent building control certifier as, although new work must comply with the regulations, Crown Buildings are not subject to the procedures administered by local authorities. Where it is the case that work to a listed building is unable to comply with the regulations in all respects a waiver must be sought.

The Note is based on field research carried out between October 1993 and August 1995. The study investigated access provision at a number of Historic Scotland sites and at two National Trust for Scotland properties. It was researched and written by Victoria Young (Research Assistant) and Dennis Urquhart (Project Director) of the Masonry Conservation Research Group and the photographs were supplied by Peter Duncan, all at The Robert Gordon University, Aberdeen. The rear cover illustration and Plates 2 and 5 were provided by Chris Hutchison, Historic Scotland Photographic Unit. The project was managed and co-ordinated by Robin Kent, Senior Conservation Architect, Technical Conservation, Research and Education Division, Historic Scotland.

Particular thanks are due to all those individuals and organisations who participated in, and contributed to, the study and supported the pragmatic approach which it adopted.

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October, 1996

ACKNOWLEDGEMENTS

The authors of this document gratefully acknowledge the assistance to the project rendered by the following individuals and organisations :

The architectural, quantity surveying, library, research and education, and marketing staff of Historic Scotland for the location of source material, detailed drawings and plans.

Wheelchair users and helpers

Isobel Bracewell	Pearl Fraser	Barbara Howie	Valerie Robertson
Sheena Baird	Carol Seniors	Peter Duncan	
Dorithea Law	Sandra Aitchison	Cara Spence	

Custodians and staff of Historic Scotland properties at Edinburgh Castle, Jedburgh Abbey, Dryburgh Abbey, St. Andrews Castle, Huntly Castle, Dirleton Castle, Tantallon Castle, Easter Aquhorthies Stone Circle, Loanhead of Daviot Stone Circle and Aberlemno Standing Stones for guided tours, comments and advice. Property managers and staff of the National Trust for Scotland at Haddo House and Fyvie Castle.

The authors wish to recognise the contributions and advice provided by many of the organisations listed in Appendix 3, the support of the School of Surveying, Faculty of Design of the Robert Gordon University and of Mr Robin Kent of the Technical Conservation, Research and Education Division of Historic Scotland.

Special thanks are due to the family and friends of Miss Victoria Young who provided help with transport and site surveys.

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1
INTRODUCTION

There are special problems associated with the provision of access for visitors with disabilities at historic buildings and ancient monuments that are open to the public. A balance must be struck between accessibility and the preservation of the character of the site. Accessibility should not threaten or destroy features and materials that convey the property's significance. In order to achieve the greatest possible level of accessibility, imaginative solutions must be sought which incorporate an integrated review of access and which do not diminish the value of the monument. In the end, however, physical access may not always be possible. However, in the assessment or management of a building or site in respect of access, it is important to recognise that disabled people have a right to expect, where possible, dignified and easy access to and within historic buildings and sites.

The provision of accessible visitor facilities such as shops and toilets has been found to be an important factor in enhancing the attraction of properties to visitors with disabilities. The majority of visitors with disabilities require facilities which can also have advantages for able bodied visitors and can be an added attraction to other visitors who would generally not be classified as "disabled". (17)

With the emergence of anti-discrimination legislation the issue of access becomes increasingly more important. The Disability Discrimination Act 1995 states that where a physical feature of a property or site makes it impossible or unreasonably difficult for disabled persons to make use of a service it is the duty of the service provider to take appropriate action overcome the access difficulty. The Act, however, recognises that there will be circumstances where it will be impossible or unreasonable to provide access, due to excessive expenditure or the need to radically alter the nature of the building. Clause 21 of the Act ensures that listed buildings and scheduled monuments will continue to be protected by existing legislation which requires anyone wishing to undertake works (of any nature) to obtain specific consent. It will not be possible for that protection to be overruled in favour of allowing access for disabled people where that would compromise a building's special interest. However, under normal circumstances not directly concerned with listed buildings or scheduled monuments, it is the duty of the service provider to initiate appropriate action to:

- remove the feature;
- alter it so that it no longer has that effect;
- provide a reasonable means of avoiding the feature;
- provide a reasonable alternative method of making the service in question available to disabled persons.

In response, this Technical Advice Note provides an introduction to disability awareness issues, details of the problems likely to confront visitors using wheelchairs at different types of historic sites and possible solutions to them. Indicative design guidance has been included for improving accessibility. References are given in the text and in the appendices where more specific advice and specifications can be obtained.

A range of different types of historic sites was surveyed to provide the information included in this Note, each with varying degrees of access for visitors with disabilities. Each visitor has a different individual degree of mobility. Similarly, every historic building is different and no technical advice can cover every problem that may be encountered. To enable possible problems to be identified, a site assessment methodology has been given, based on the method used at the sites surveyed.

This Note shows how a compromise may be reached to provide universal access while maintaining the integrity of historic properties. It summarises the physical needs and priorities of visitors with disabilities with respect to, access to properties where the primary objective is preservation and conservation.

2

SITE MANAGEMENT AND DISABILITY AWARENESS ISSUES

2.1 Definition of a visitor with disabilities

The definition of the term "disabled" can be very wide. A definition of "disabled person" is contained in the Disability Discrimination Act. This Technical Advice Note has been produced with an emphasis on providing physical access for wheelchair users to historic buildings, because it is the needs of this section of the disabled community that are most likely to require special measures. Reference has also been made to the requirements of visitors with learning difficulties, visual impairments, reduced mobility and hearing impairments.

2.2 Disability awareness training

For designers responsible for adapting sites to accommodate the needs of building users with disabilities, an awareness of what it is like not to be able-bodied is essential to appreciating the problems that will be encountered by visitors with disabilities within a historic building. Disability awareness training facilitates a more rounded appreciation of user requirements, rather than just theoretical design prescriptions and guidelines. This may involve the on-site use of wheelchairs, both as an independent user and as an enabler. Training can be organised through many of the organisations listed in Appendix 3. It must be recognised, however, that whilst simulation exercises have a role to play, they do have limitations. Designing to meet the needs of disabled people requires a high level of technical and professional skill and expertise in the field.

2.3 Disability awareness

The standards outlined in this advice note will benefit as large a percentage of the population as possible while improving access for everyone, not just the recognised visitor with disabilities; for example, families with children in pushchairs.

Wheelchair users vary from completely independent car drivers, who travel without companions, to the user who cannot exit their own home without assistance. Varying degrees of impaired mobility and general overall fitness levels mean that recognised standards, such as recommended gradients, cannot be achieved by every wheelchair user but some can achieve much steeper gradients. Upper body strength is also often impaired which affects the users capabilities to open and close doors and self propel. Accompanying persons may often be elderly or weak themselves, so strong pushers cannot be assumed to be the answer to access difficulties.

A solution to this is to provide detailed information about the sites at the historic monument itself and in publications produced to advertise it. This allows the individual to make informed decisions about their visit to a property. It is useful to bear in mind that a partial provision that is **nearly accessible is not really accessible.** However, the provision of assistance at strategic locations may turn nearly accessible into accessible.

2.4 Staff attitude and maintenance of tour routes

The awareness and attitude of site employees to visitors with disabilities is very important. All members of site staff should also be trained in disability awareness, as part of customer care training, as the ability of staff to respond appropriately is of primary importance. Some disabilities are obvious, for example where the visitor is using a mobility aid or white cane. Where a visitor has an obvious disability, such as impaired mobility, they may also have other less obvious difficulties, for example speech or learning difficulties. Alternatively they may be very intelligent and independent. The actual ability of a visitor with disabilities cannot be assessed by physical appearance. Where staff are properly trained and informed they will be able to confidently, sensitively and effectively provide the required type of assistance and information. Care should be taken to ensure that no visitor is stereotyped and that help is offered only on the basis of a request for it, ascertained from the visitor.

Accessibility can be affected when untidy working practices obstruct circulation or cause tripping hazards. The purpose behind providing

accessible lifts or toilets is defeated when they are then used subsequently as store rooms. This is a very common problem. Continual informal monitoring of the historic monument has a significant part to play in maintaining accessibility.

2.5 Capabilities of wheelchair users

The capabilities of wheelchair users will vary considerably, both in strength and technique. For example, someone who has been in an accident and lost the use of their legs will have considerably more upper body strength than someone who is suffering from a muscle wasting disease. It is not uncommon for wheelchair users to have less upper body strength than lower body strength. Wheelchair pushers will also vary from fit and strong to elderly and infirm. The wheelchairs themselves can also have different specifications, manually propelled by either feet or hands, or electrically powered.

As a rule of thumb, average capabilities on good surfaces are generally assumed to be:-

1. A wheelchair user can manage gradients of 1:12 (1:15 preferred) comfortably self-propelling.
2. Assisting companions can push the wheelchair user up a gradient of 1:12 (1:15 preferred) comfortably.
3. The wheelchair is manually operated.
4. Propulsion is by hand.
5. The large diameter wheels are to the rear.

When assessing historic monuments it should be acknowledged that wheelchair users may have varying degrees of mobility without their wheelchair. For example, a visitor who generally uses a wheelchair for outdoor activities may be capable of climbing a few stairs with assistance, to enable access to an area of a historic monument that would be inaccessible for a visitor who has no mobility without the aid of a wheelchair. For this reason all areas of the monument, such as surface finishes in an area that is reached by climbing a flight of stairs, should be assessed with a view to providing wheelchair access.

2.6 Emergency escape

A truly accessible building is one where people can not only enter but also leave in the event of an emergency. The nature and needs of visitors are not always known and often their total knowledge of a building is the route by which they entered. An overall strategy is needed to enable visitors to escape from buildings whether assistance is needed or not. This strategy should include central information points indicating all accessible routes as well as the installation of suitable warning devices, for example fire alarms which have a visual signal when in operation. The staff at the monument or historic site must be trained in order to assist wheelchair users in the event of an emergency.

Management of assisted escape in the event of an emergency should form an important part of the management strategy for the building or site. Guidance on this is contained in BS 5588, Part 8, 1988, Code of Practice for means of escape for disabled people. In situations where escape routes incorporate lifts or staircases, the provision of a place of refuge may be required. Any passenger lifts that are installed to provide access for wheelchair users should have a protected power supply to allow operation in the event of an emergency evacuation. The design and management of the emergency escape route should recognise the needs of all users of the building but should not compromise the architectural or historic integrity of the building.

3

SUMMARY OF RESTRICTIONS AND PROBLEMS LIKELY TO BE ENCOUNTERED BY VISITORS USING MOBILITY AIDS AT HISTORIC BUILDINGS AND ANCIENT MONUMENTS

Research has indicated that each site has individual problems for visitors with disabilities making it unique, but the same restrictions do occur at many sites. Some typical problems are as follows:-

3.1 Arrival and site access

3.1.1 Car parking and setting down points

On arrival at a site, designated parking or setting down points are seldom provided and standard parking bays are often too narrow to facilitate transfer to and from a wheelchair. Where there is designated parking it may be poorly signposted. Car parks are often, intentionally, situated some distance from site entrances to avoid any impact on the setting of the monument and special allowances may not have been made for visitors and drivers with disabilities. The route to the property entrance and reception may also lack appropriate signposting. Entrance to sites can also be frustrating for visitors with disabilities, even where special entrance arrangements exist, if they are not clearly marked. (See Section 5)

It is possible that the car park may be close to an entrance that may be used by mobility impaired people as an alternative to and easier access point than the main entrance. Such a solution, however, should recognise the sensitivites of this category of user and it would not be acceptable to make the alternative access available only to the mobility impaired. Such an access point should be available to all visitors.

3.1.2 Site entrance and entrance gates

Where entrance gates are provided for wheelchair users, away from the main entrance route, they may require keys to be obtained or prior arrangements to be made to use them. This may involve telephoning in advance which is inconvenient and will prevent 'spur of the moment' decisions to visit. If prior arrangements have to be made it should be recognised that some visitors with disabilities may have ill health, especially the elderly, and may have good and bad days that may force the cancellation of prior arrangements.

In some cases there are gates remote from the main entrance to the site, intended for access by visitors using wheelchairs, that avoid steps or stairs along the main entrance route. Often such gates are kept locked and the custodian has to leave the office unattended to unlock them. Staff assistance may also be required, but this may not always be possible without making prior arrangements. Information about the particular arrangements at a historic monument needs to be made available, in advance, to visitors with disabilities.

Historic monuments often present particular difficulties for visitors with disabilities, for example:-

- Changes in level
- Thresholds
- Steps
- Steep inclines
- Kissing gates and stiles
- Historic ground surfaces
- Ramparts/ditches.

Remote sites such as stone circles, cairns, brochs and earthworks may be situated at the top of steep climbs over rough terrain preventing access even for the most fit wheelchair users. Steep inclines can be even more restrictive if they do not have any rest points. The entrance to remote sites is very often protected by kissing gates, used to prevent animals and vehicles entering the site, but also unintentionally prohibiting wheelchair access. A possible method of overcoming this is included in Section 5.

3.2 Surface finishes

Many types of surface finish can prevent wheelchair access through a historic monument.

Deep gravel and grass are very common modern finishes used at historic sites and can restrict tours that could otherwise be carried out. Historic finishes such as horonising, setts and cobbles may also prove hard to negotiate. Beaten earth floors may undulate or become sticky when damp. Advice on recommended surface finishes has been included in Section 6.

3.3 Changes in level

Changes in level or steps at thresholds can be very difficult to negotiate. Handrails that could help semi-ambulant visitors are very often not available. Temporary and permanent ramps at historic sites may not meet minimum gradient recommendations and can be difficult to use. This is especially the case where space is limited. Recommendations for overcoming changes in levels are included in Section 7. However, it needs to be recognised that only temporary ramps may be acceptable at historic locations.

3.4 Physical features

Changes in level, steps or steep inclines are common at the entrances to many historic properties. Thresholds form important structural features of buildings but also prevent wheelchair users from entering them. Doorways in historic buildings may be too narrow to comfortably accommodate the width of a standard wheelchair, especially when turning into a room. In furnished historic properties, furniture can be located in such a way that the main circulation route may be impeded for visitors with disabilities. A wheelchair may even damage furniture, panelling or door openings. Entrances and exits to and from lifts may be concealed. In some historic buildings adapted service lifts are in use and care must be taken to indicate the presence of doors opening out onto corridors. Appendix 5 has details of the spatial requirements necessary for visitors using wheelchairs to maximise independence.

3.5 Lack of site information

There may be a lack of site information available concerning tour routes, distances, surface finishes, inaccessible areas and location of facilities. This information should be provided, and sensitively situated, at various points throughout the site and initially at the car park area. But even when it is provided, signposts can be illegible by being mounted too high to see from a wheelchair, or produced with lettering that is too small. It is important to remember that wheelchair users may have to view text from a greater distance than a person standing upright.

In order to facilitate access for wheelchair users it is sometimes the case that they will join tour routes at a point other than the normal starting point, or even view the building in reverse order. When this occurs it is usually detrimental to an overall appreciation of the sequence of an exhibition or the design of a building. Guide books to monuments may assume that the visitor has already visited a particular area of the site and received general information such as periods of building. The route for a wheelchair user may also be against the flow of the ambulant visitor traffic, leading to congestion or even injury. Tour information should, ideally, be provided in such a way that, if the route for visitors using wheelchairs is different from the normal route, the guide still remains logical. (See Section 9)

3.6 Site facilities

The most important single facility for visitors at historic sites is the provision of a well-designed and accesible unisex WC. If the facility is in a non-historic location, it **must** be designed in accordance with the guidelines given in Appendix 6. A suitable WC is not just a normal cubicle with grab rails added.

Reception counters and sales points at visitor centres are often not designed with wheelchair users in mind. They are usually too high with no lowered sections, making it difficult to see goods displayed from a seated position.

Tea rooms and refreshment areas designed with fixed tables and chairs make wheelchair access difficult, and tea rooms which are designed with moveable furniture often have nowhere to store the unwanted chairs. Tables too close together can upset other diners when they have to move to allow a wheelchair passage to a free table. Menus and self service counters are very often too high to enable independent use by a visitor using a wheelchair.

Furniture and fittings such as postcard stands and moveable display counters and tables within visitor centres may be located in the main circulation routes. When furniture has to be

moved to allow a passage for wheelchair users it is both inconvenient at the time for staff and also embarrassing for the visitor. (See Appendix 5)

3.7 Staff awareness

It is recognised that staff attitude at historic properties open to the public is usually very good, although specific disability awareness training would undoubtedly improve understanding and confidence in dealing with visitors who have disabilities. For example, references to "the wheelchair" rather than "the visitor using the wheelchair" can cause offence to a visitor with disabilities. Another very common problem arises where visitors using wheelchairs have an assisting companion. Questions are very often put to their companion rather than directly to the wheelchair user.

4
IMPROVING ACCESSIBILITY

4.1 General considerations

The issue of accessibility at a historic property can be contentious in situations where providing access may involve alterations to physical features of the building or site and may bring into conflict the fundamental tenet of conservation, that the fabric must not be altered, with the aspirations and needs of visitors with disabilities in terms of universal access. The physical layout and accessibility of the site, although very important, are not the only considerations. Factors such as the quality of visitor facilities surrounding the site can serve to make the most of whatever limited access exists. (See Section 10)

4.2 Historic fabric

It is imperative that the fabric of historic sites is respected in any improved access provision. However, this should not automatically mean that nothing can be done and imaginative solutions may be adopted that can assist access whilst protecting the fabric. For example, it is possible to construct ramps over threshold upstands that are removable and also protect the upstand from wear and tear, or possible wheelchair damage.

Where works of restoration or consolidation are being undertaken at a monument, the opportunity should be taken to incorporate improvements to access for visitors with disabilities where the historic integrity would not be compromised. Remedies to access problems may not always be possible at historic monuments but alternative options to physical access provision may exist. Providing exhibitions within accessible areas of the property or in purpose built visitor centres such as at Jedburgh Abbey and St. Andrews Castle should be considered. Section 11 outlines examples of alternative access solutions.

4.3 Fixtures and fittings

Improvements to the design or location of the fixtures and fittings may be considered when carrying out works. Inappropriate or obstructive objects that are not part of the historic fabric, such as railings and stairs provided for visitors, should be replaced with more suitable versions if this would not adversely affect the character of the property.

4.4 Furniture and equipment

The provision of furniture and equipment provides the greatest immediate opportunity for improvement in accessible facilities to historic buildings and monuments. Movement studies (See Appendix 2) very quickly draw attention to obvious areas where changes should be made. Alternative locations are usually available.

4.5 Site assessment

In order to improve access to historic sites careful analysis of several aspects of the site is required. (See Section 12) The site must be assessed as a whole, giving consideration to site penetration from the entrance, setting down point, or car parking space through the main entrance door and accessible routes to the deepest part of the monument. (A site assessment decision tree is shown in Figure 1.) For each site an appropriate access policy must be determined, and any decisions made should be based on conservation issues and on the recommendations for improving access contained within this Note.

Figure 1
(*see overleaf*)

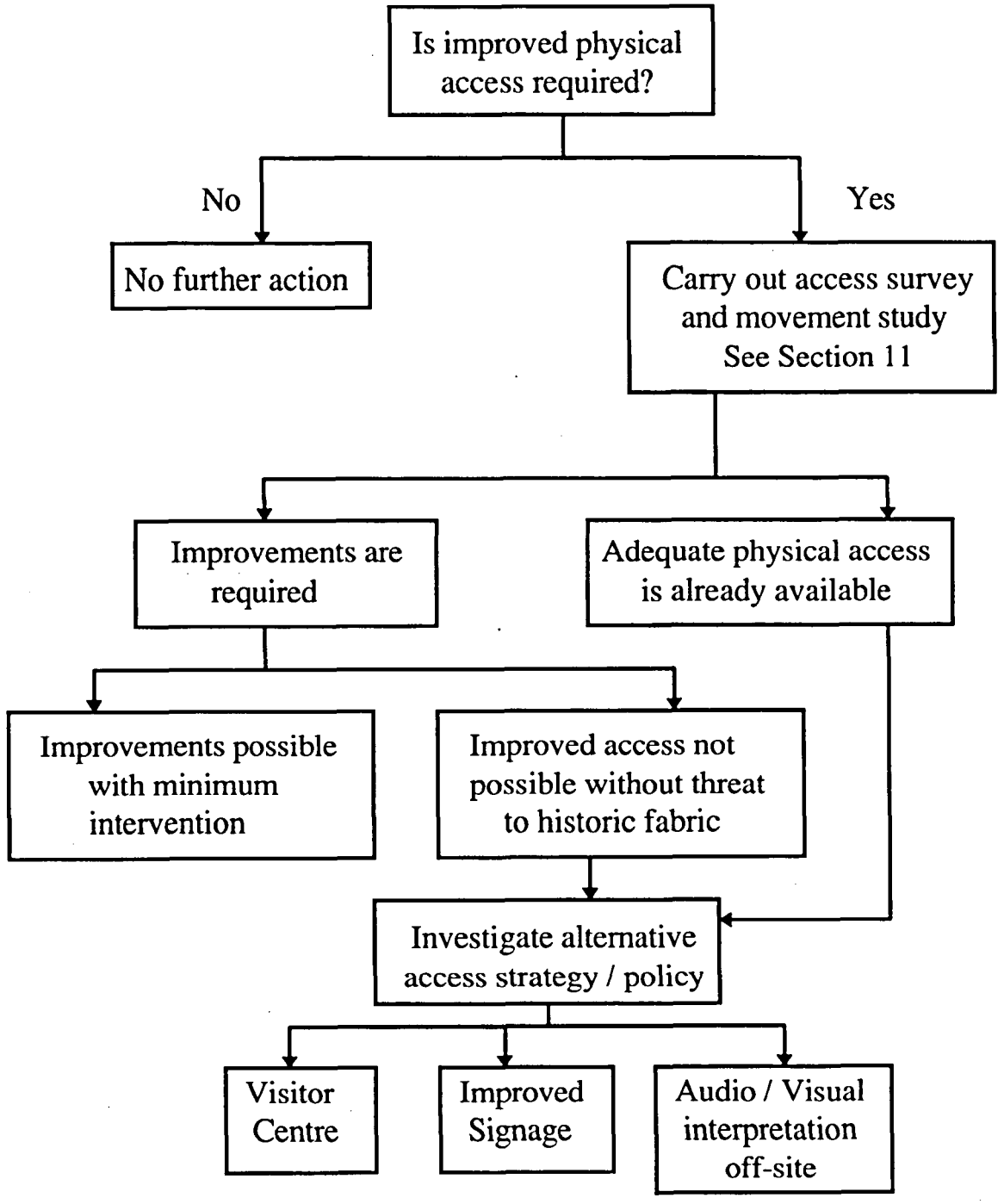


Figure 1. Decision tree - Assess the site

5
ARRIVAL AND SITE ACCESS

5.1 Car parking and setting down points

The location of car parking facilities for visitors with disabilities is very important. Parking bays or setting down points must be as close to the historic building or monument as possible. Where parking is remote, facilities should be provided wherever possible for visitors with disabilities to park adjacent to the property. If this is not possible, setting down points can assist some wheelchair users but it must be remembered that they may also be the driver of the vehicle, therefore necessitating parking as close as possible to the main entrance. In some cases the location of a car park may also be used as a viewing point for a site that is physically inaccessible to wheelchair users.

In the main visitor car parks, parking bays should be designed and designated for exclusive use of disabled visitors. As a rule, designate at least two car park bays in every car park. For car parks with more than 20 spaces provide one additional designated space per 20 car park bays. Other visitors must not be allowed to occupy these spaces. The bays must be larger to allow people with reduced mobility to transfer from their cars to a wheelchair.

Car parks can play an important role in informing visitors about the site, accessible areas and routes. Information boards which are already in place could be adapted to include this type of detail.

The location of accessible bays or alternative car parking provision should be clearly signposted. The bays themselves should be identified as being provided for the exclusive use of disabled drivers or passengers. The car park surface should be even, level, well compacted, and free from loose stones. A solid surface such as tarmac, brick or concrete block paving will give

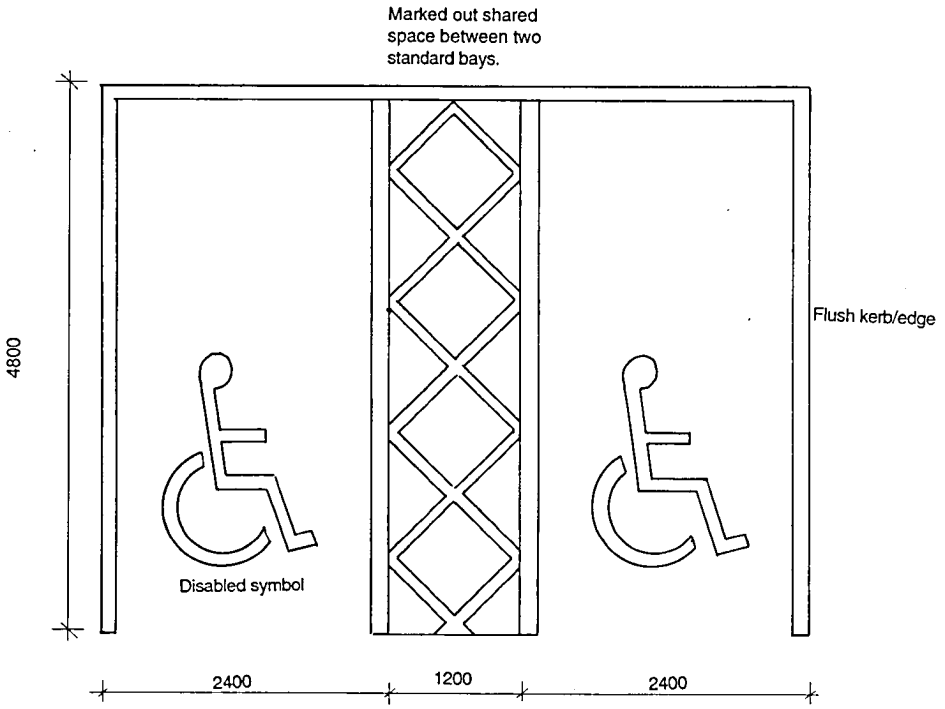


Figure 2. Parking bays for disabled drivers.

an enduring, consistent finish that will permit permanent surface marking and also be suitable for visitors using wheelchairs.

Where sites do not have any car parking facilities, providing car parks improves access for all visitors. The inclusion of disabled visitor parking can then be achieved as part of a wider site development and improvement policy. This may require the purchase of additional land around the sites and include an accessibleroute from the car parking area to the site entrance.

5.2 Entrance gates

At sites such as standing stones or stone circles, the kissing gate style of design is common. This is due to the fact that the sites are generally unmanned and are remote, requiring protection from animals and vehicles. The Countryside Commission (7) (Appendix 3) provides a design for a country gate that is self-closing and also enables access for wheelchairs and pushchairs. Designs may be devised to incorporate a self-closing hinge. Any type of self-closing mechanism should require a maximum force of no more than 3.5kg to open it. A gate with this hinge and side bays will be difficult for motorcyclists or livestock to pass. The surface will also be important, as forward and backward movement of the wheelchair could cause surface disruption, therefore a hard standing area is desirable. As an alternative, a normal gate could be installed that is padlocked with a padlock which is in accordance with the RADAR key scheme. (Appendix 3)

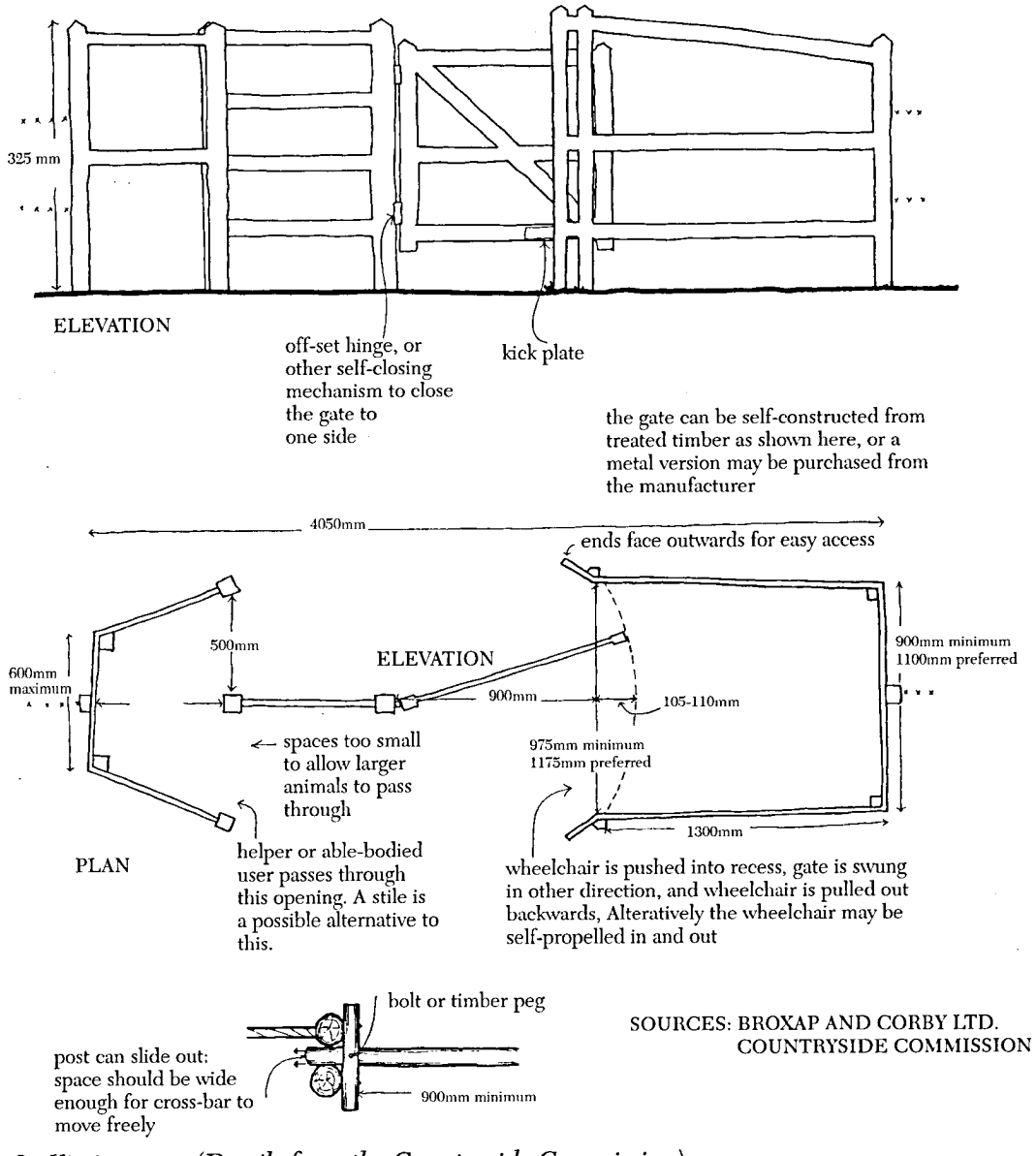


Figure 3. Kissing gate. (Details from the Countryside Commission)

6
SURFACES AND SURFACE FINISHES

6.1 Selection of surfaces

Surfaces are of considerable importance to people with mobility impairments, and may make the difference between a site that is easily accessible and one that is impossible to penetrate. For easy wheelchair passage surfaces should be non-directional and firmly fixed. In the case of carpets the pile should be shallow and dense. Surfaces should be slip resistant and should not become slippery when wet. The most appropriate materials are tarmac, asphalt, concrete, bricks or paving slabs. Unfortunately, these surfacing materials are not always the most appropriate in the setting of a historic monument. This is recognised by many disabled visitors who would not wish to change the setting if it can be avoided. Routes between car parks and facilities are the most important and here formal footpath surfaces using modern materials such as tarmac may, perhaps, be acceptable.

A practical surfacing material is 'Blinding Path Gravel', also known as 'Asdug' (see Appendix 3). Asdug is a sand, fine gravel and clay mixture that, when rolled firmly onto a well compacted hard-core base, forms a durable weather resistant and presentable looking surface suitable for wheelchairs. 'Fibredec'(Appendix 3) is a composite material that is sprayed onto a prepared base that can be supplied in a range of colours to blend in with the local environment. In forming new or upgrading existing access routes, the need to protect any underlying archaeological features must be recognised.

Materials such as cobbles, setts or wooden discs can produce irregular surfaces with wide joints that can trap small wheels. Joints should be flush with the surface and measure no more than 10mm in width, however, this may not be possible to achieve with a historic surface. Earth and grass are seldom satisfactory especially in areas where the traffic is heavy. Such surfacing could be used in areas of light use, particularly in conjunction with some type of reinforcement. Earth can be reinforced with cement or lime to produce a hard, smooth surface and grass can be reinforced with wire or plastic mesh. Table 1 provides a matrix of possible surfaces which may be found at historic monuments and has been drawn up to indicate the most suitable surfaces for wheelchair passage, together with those that should be adapted or avoided where possible, when provision is being made for an access route for wheelchair users.

Some changes of surfacing materials may need planning permission and notification under the GDPO, if affecting the setting of an A listed building or Scheduled Ancient Monument, or lying within a designed landscape contained within *An Inventory of Gardens and Designed Landscapes in Scotland.*

6.2 Weather conditions and surface maintenance

Weather conditions and surface maintenance are an important factor that may affect the performance of a surface finish. Well-compacted crushed rock, gravel or hoggin generally provide the most satisfactory surface in terms of durability and harmony with the natural environment. If the surface is badly specified and constructed it can present problems for wheelchair users. Chippings that are too large on the surface will be too uneven to allow movement with either comfort or safety. If the material is too fine and the layer too deep, wheels will easily become embedded, particularly in wet weather conditions. Care must be taken to ensure that thin surfacing layers are not eroded or washed away. Continual maintenance is very important, particularly clearing surfaces of added obstacles such as fallen leaves. Where grass is the route surface, it should be kept as short as possible with regular mowing regimes implemented.

6.3 Key to abbreviations used in the surface matrix

EASY	Easy to negotiate the surface.
COM.	Comfortable to negotiate the surface.
DIFF.	Difficult to negotiate the surface.
IMP.	Impossible to negotiate the surface.
POSSIBLE.	Surface possible for use at historic sites - wheelchair friendly.
NOT REC.	Not recommended for use - not wheelchair friendly.

The table shows an assessment of surfaces. This is not an exhaustive list but offers a representative sample of materials that will commonly be found at historic properties. Surfaces offer different sound qualities and textures and can be used as an aid, for the visually impaired, to locate the route within an environment.

Table 1. Surface finishes matrix

	POSSIBLE		NOT REC.	
SURFACE FINISH	**EASY**	**COM.**	**DIFF.**	**IMP.**
Quarry dust		✔		
Lime concrete*		✔		
Lime bound chippings		✔		
Chippings			✔	
Beaten earth*		✔		
Stone paving*		✔		
Sawn stone slabs		✔		
Cement concrete		✔		
Rough racking				✔
Sawn natural stone paving		✔		
Rubble paving*			✔	
Roughly dressed stone paving*		✔		
Duckboards/planks with direction				✔
Duckboards/planks against direction			✔	
Horonising			✔	
Setts (with recessed joints)*				✔
Setts (without recessed joints)*			✔	
Cobbles*			✔	
Brick paving*	✔			
Grass-crete		✔		
Tarmac	✔			
Tarmac with speed bumps		✔		
Short grass			✔	
'Spongy' grass			✔	
Undulating grass			✔	
Long grass			✔	
Impacted gravel		✔		
Deep loose gravel				✔
Heather				✔
Polished floorboards*	✔			
Scrubbed floorboards*	✔			
Rush mats			✔	
Linoleum	✔			
Shallow dense pile carpet		✔		
Deep pile carpet			✔	
Loose carpets / rugs			✔	
Rubber entrance matting	✔			
Coir matwells			✔	
Level polished marble*	✔			
Wood block flooring*	✔			
Tiles*	✔			

* may be a historic surface

Plate 1. Haddo House - Small wheels embedded in deep gravel

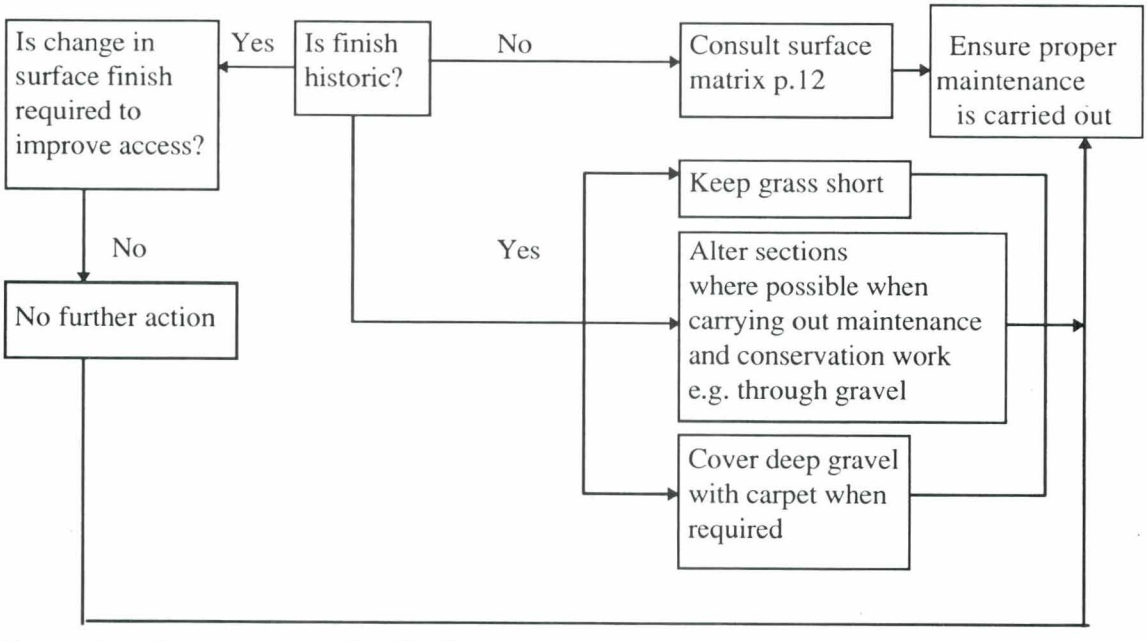


Figure 4. Adaptations to surface finish

7
CHANGES IN LEVEL

7.1 Mechanical devices

In historic properties the installation of mechanical devices such as a passenger lift, platform lift or stair lift may be an appropriate solution to enable wheelchair users to move from one level to another. In general, such devices should only be used where they can be situated in a non-sensitive part of a building with minimum impact. Some historic properties may have service lifts that could be converted for this purpose, or lifts could be erected in concealed towers. These types of devices may be unsuitable for an external situation due to maintenance and staffing considerations. Portable hoists and wheelchair lifting devices are another option, as are stairclimbers, but they must be operated by properly trained and practised staff. Visitors should be informed of their existence but many may be reluctant to use unfamiliar equipment in which they may feel unsafe. Properly trained staff should be ready to offer help and instruction with controls.

7.2 Passenger lifts

Lifts are usually the easiest way of moving between levels. Suitable passenger lifts have recently been installed at Duff House and at Edinburgh Castle in the Honours of the Kingdom exhibition and the souvenir shop. Outside the lift the buttons should be clearly distinguishable with 'lift coming' indication. Clear visual and tactile floor level reached indication should be given adjacent to the call buttons, and opposite the lift door. Inside, the lift controls should be mounted at a maximum height of 1200mm and should be easily operated, with clear visual and tactile indication of floor buttons pressed. A visual and voice indication of the floor reached should be included. Support rails should be mounted at 900mm. The minimum internal car dimensions are 1100mm x 1400mm with a minimum door opening of 800mm. If automatic door closing devices are installed, an infra red beam should be used to override it, to avoid a wheelchair user being trapped by the door. A 1500mm x 1500mm unobstructed waiting and manoeuvring space should be included at every level.

7.3 Stair lifts

Stair lifts can be unobtrusive in situations where suitable storage areas are available at the top and bottom of the staircase. Wheelchair stair lifts can give access between storeys, and support rails are mounted on inner/outer walls or balustrades. They can be installed to operate on straight flights, landings or curved stairs, as at Edinburgh Castle entrance to the Royal Scots Museum. The lift motor or driver can be remotely sited or, preferably, be an integral part of the wheelchair platform controlled by the user. (See Appendix 6) If the stair is a fire escape stair the stair lift cannot encroach into the original escape width.

7.4 Platform lifts

Short rise platform lifts can be used to travel distances up to 1800mm. Barriers must be erected to operate in combination with the lift operation. They will act as a safety device, preventing the wheelchair user from falling off of the platform during motion.

7.5 Ramps and handrails

7.5.1 Permanent installations

Ramps can be used to enable wheelchair users, and families with prams, to overcome level changes. Ideally any ramps that are installed should be accompanied by steps for the ambulant disabled visitors. A gradient of 1:20 is considered 'level' and a maximum gradient of 1:15 is appropriate for independent use. Gradients of up to 1:12 should only be used for short distances, less than 5m. As the gradient is increased, the length of the ramp between landings must be correspondingly reduced. The steeper the gradient, the shorter the length of the ramp between landings. In order to minimise the impact of a permanent ramp on the site it should be constructed to match the existing buildings where possible. The surface material should be slip resistant and firmly fixed. Ramps should take advantage of any existing site slope and the material forming the ramp should be sympathetic to the surrounding fabric and setting. Building regulations require a handrail on both sides of a ramp if the ramp is wider than 1m and the rise is greater than 600mm.

Plate 2. Edinburgh Castle Royal Scots Museum - Stair lift provided by BT Community Programme in operation

Plate 3. Fyvie Castle - Permanent ramp installation
Note: Handrail is mounted too high and there are no guard or tapping rails.

Figure 5. Permanent ramp

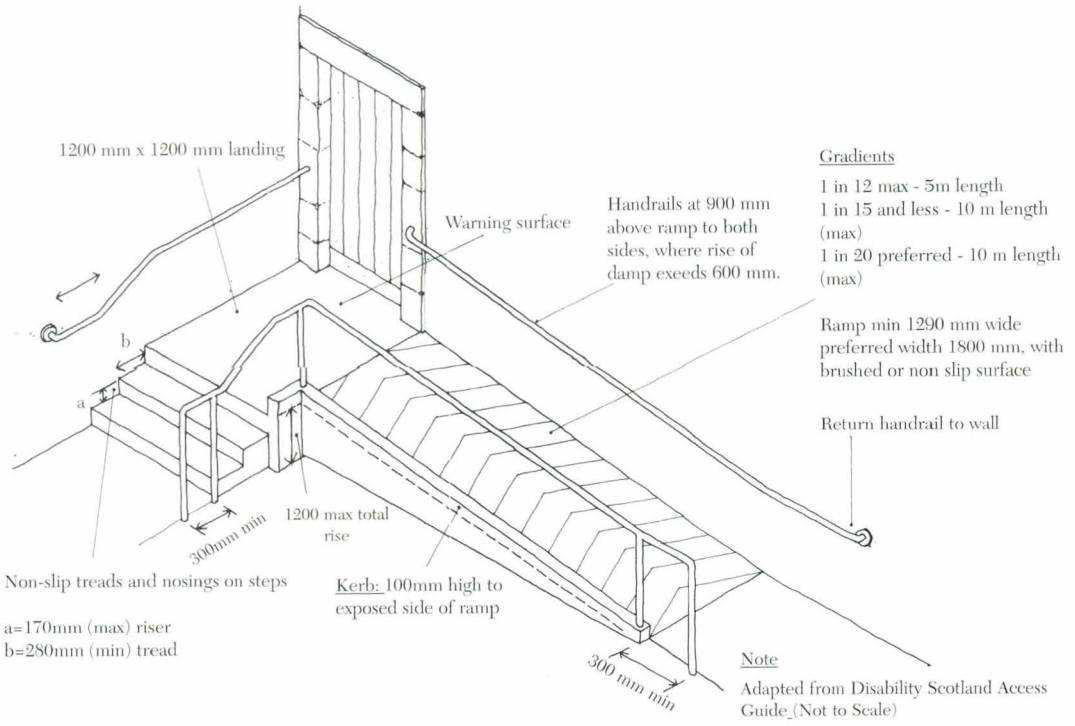


Plate 4. Edinburgh Castle St. Margaret's Chapel - Permanent ramp installation

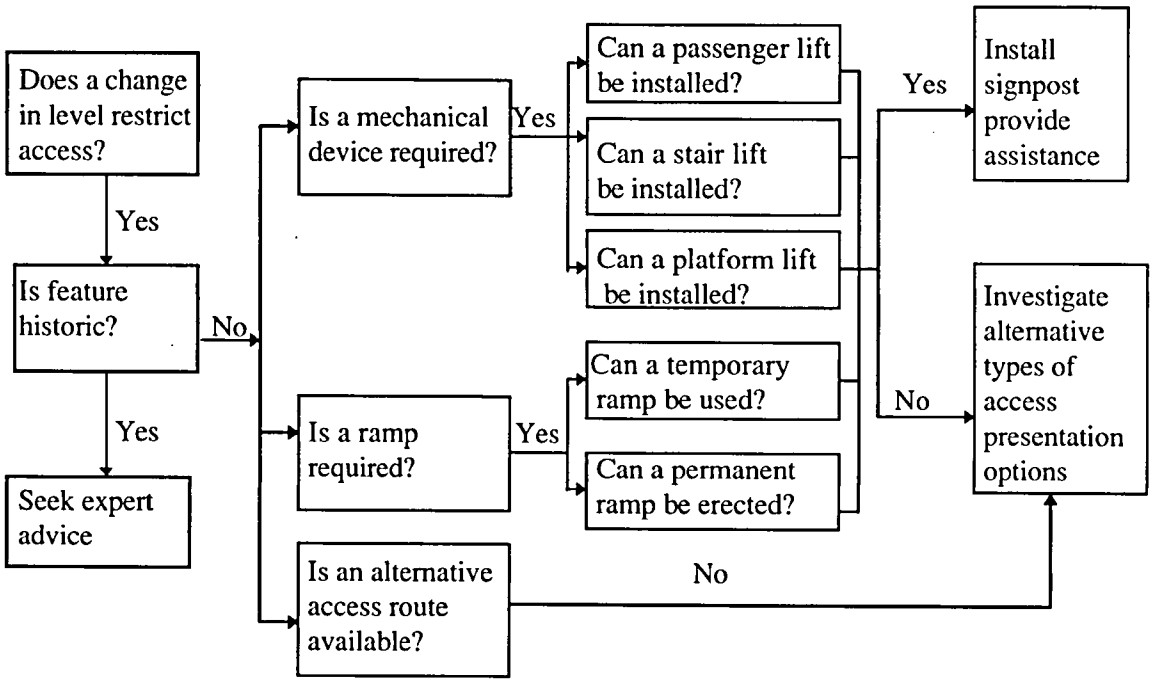


Figure 6. Adaptations to overcome change in level. Steps or threshold

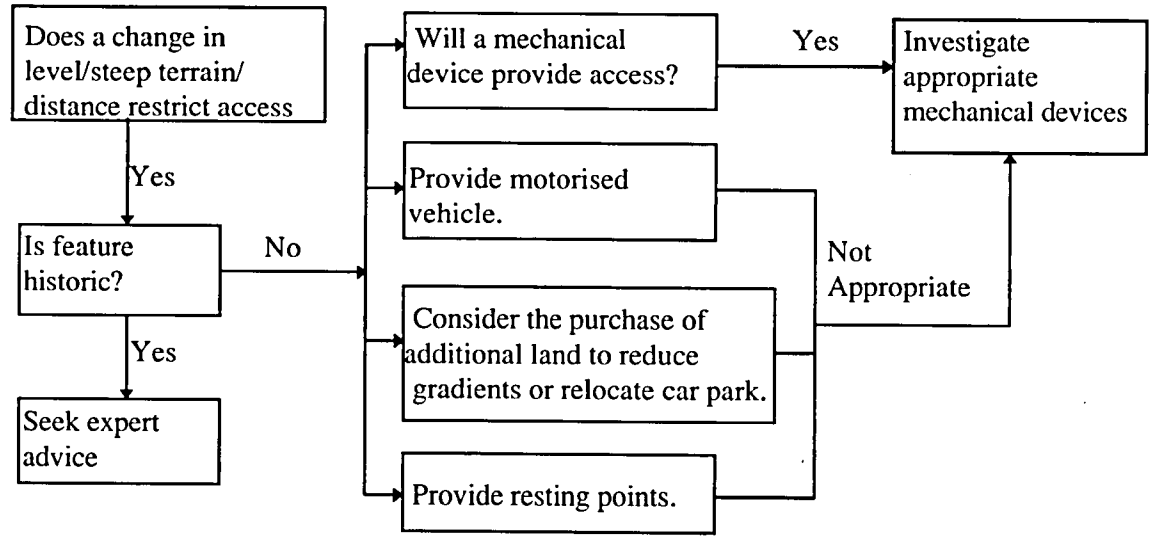


Figure 7. Adaptions to overcome change in level / steep inclines

The permanent ramp installed at Fyvie Castle (Plate 3) has met successfully gradient requirements and has a slip resistant surface finish. However, there are no guard or tapping rails and the handrails have been mounted too high.

The permanent ramp installed at Edinburgh Castle, St. Margarets Chapel (Plate 5) is a good example of the use of materials to blend in with the historic setting. Due to limited space, the gradient is steep, but a snaking ramp with resting points ensures the best use of the space available.

7.5.2 *Temporary installations*

If it is thought that the impact of a permanent ramp detracts from the architectural significance of an entrance, temporary ramps could be put in place by trained staff as and when necessary, as is the case at the Scottish

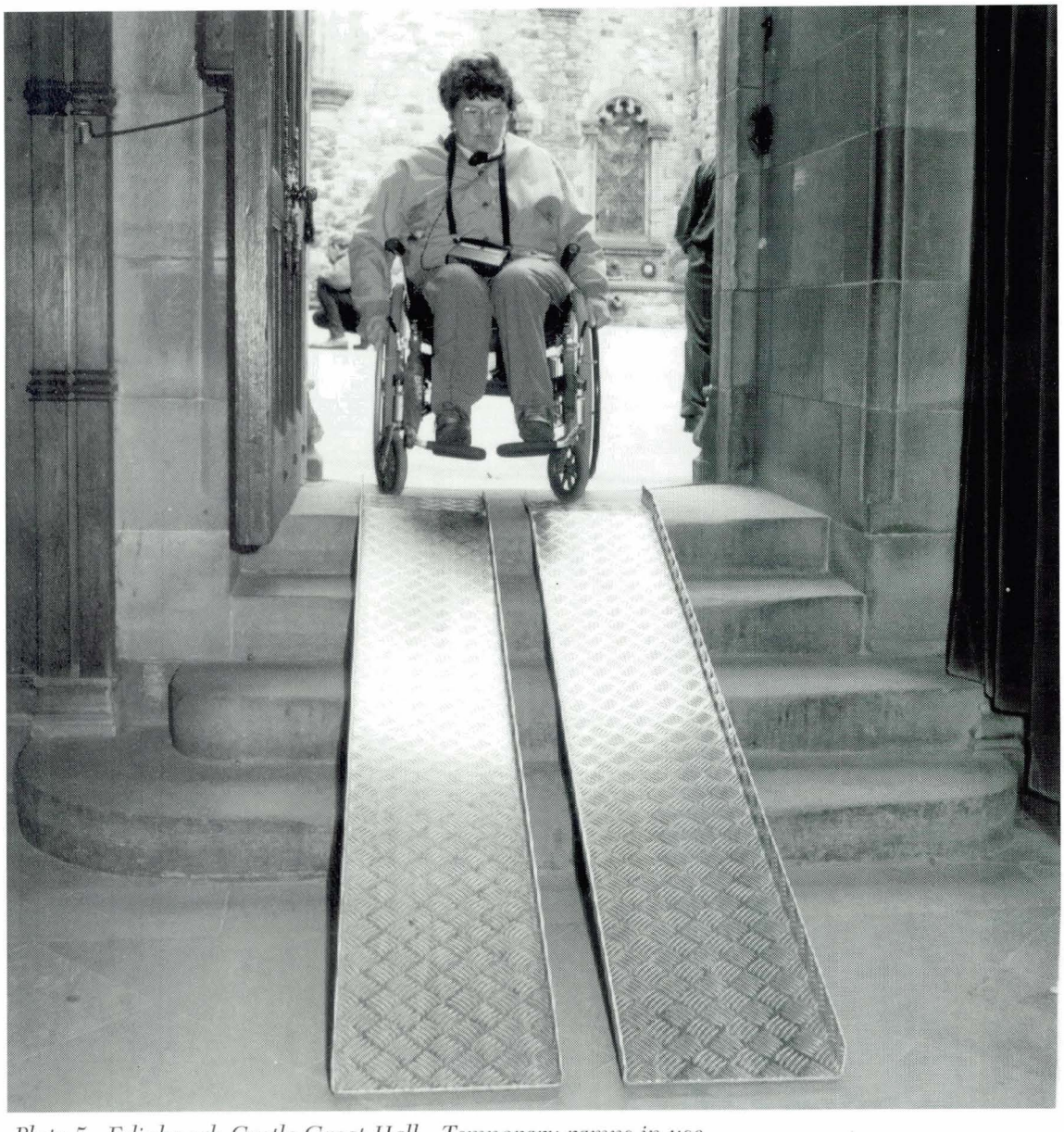


Plate 5. Edinburgh Castle Great Hall - Temporary ramps in use

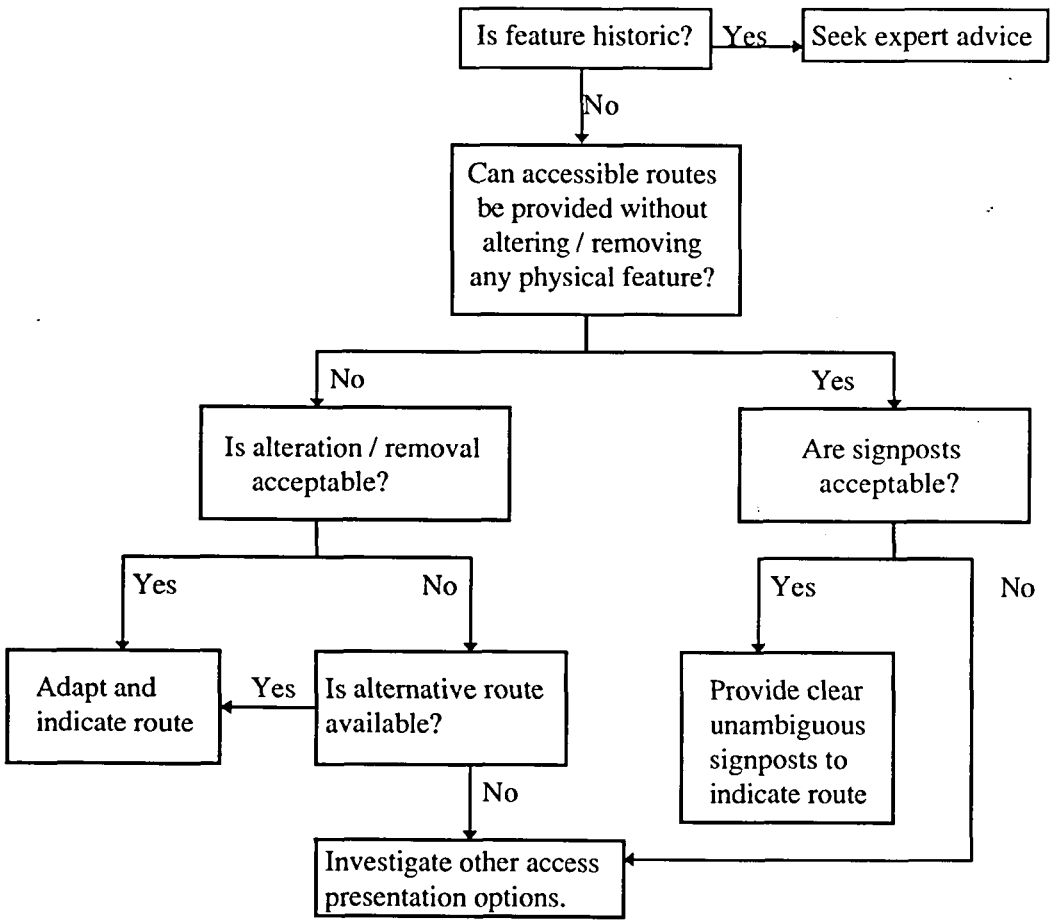
National War Memorial and the Great Hall at Edinburgh Castle. There are two types of portable ramps, (a) paired ramps are lightweight and can be constructed up to 1500mm if they are hinged, (b) sectional ramps are semi-permanent and can accommodate changes in direction and landings. Both types must have a slip resistant finish. Storage of portable ramps, when not in use, needs to be considered. They must be close at hand when required but must not cause an obstruction to visitors, neither must they cause a visual clutter which may detract from the historic setting. The approach to the design and provision of temporary facilities requires the same degree of care as permanent facilities in order to minimise their visual impact, to ensure their sympathetic integration into the site and to provide the maximum degree of independence to the physically impaired visitor.

While one wheelchair user may manage steep downhill gradients over a cobbled surface, such as at Edinburgh Castle, another may not manage a purpose built ramp without a strong helper. Wherever possible, handrails should be provided to at least one side where the gradient is steeper than 1:15

8
PHYSICAL FEATURES

Any decision to alter the way in which a visitor with disabilities may be enabled to enjoy a tour of a site, may involve radically re-thinking the presentation of the site. Wherever possible the entrance for all visitors, including those using wheelchairs or other mobility aids, should be at the main entrance to the monument. If this would require the removal of a historic threshold step or paving, or widening a historic doorway, there may be alternatives that are not apparent initially. One alternative may be to completely change the location of the main entrance to the site. Many ruined monuments have gaps that may permit a wheelchair to pass through, and could be easily adapted as an alternative.

Figure 8. Assess impact of changes



9

SITE INFORMATION, SIGNPOSTING AND ROUTE MARKING

9.1 Direction signposts

Information signposts or plates should be used to indicate all accessible routes for visitors using wheelchairs. If they are different to the standard self-guide routes this should be clearly indicated. Signposts can be used to help visitors gain as much as possible from their visit even at sites where access may be limited by physical features that cannot be altered. Direction signposts must be consistent and provide a linked route through the property, without signage gaps. Signposts should be clear, legible and obvious. Ideally, central information points should be included giving details of access through the entire site. This will enable visitors to decide which areas of the site they are most interested in seeing and which are accessible.

9.2 Tactile information

A tapping rail is a 100mm to 150mm high continuous rail without gaps in its length, generally made of wood, which is fixed at ground level to guide visitors with visual impairments who may use tapping canes. Signposts or plates such as the Royal Label Factory Signs with raised lettering or symbols will enable people to read them with their hands. Touch maps of the site or property can be used to give information about routes through the site and the location of additional tactile information.

9.3 Information boards

Information boards providing details about the historical significance of the monument should be placed where they will not cause an obstruction to the access route through the site. They should be prominent and visible. For a wheelchair user, the preferred reading height is between 1000mm and 1500mm. Suitable information boards are already being used at sites such as St. Andrew's Castle and the Loanhead of Daviot Stone Circle.

Plate 6. Fyvie Castle - Wooden kerbs to contain grass and earth and act as tapping rails

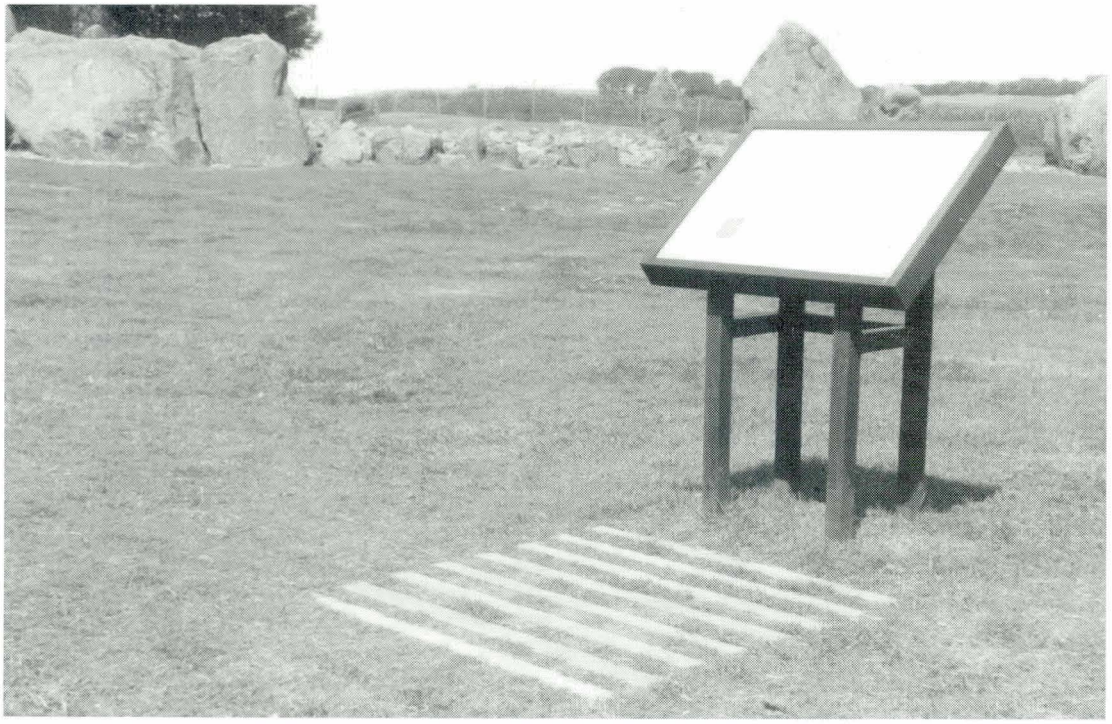


Plate 7. *Information board, Loanhead of Daviot Stone Circle - note stone bars to prevent excess wear, which also provide a firm base for wheelchairs*

Ideally, information boards and signposts should be readable by visually impaired visitors when viewed from a distance of 1.5m. Providing the lighting is good and colour and contrast of the lettering is distinct, a letter height of 50mm is recommended. Reflective or transparent materials should not be used as they will reduce definition. Linked and italic script should not be used. Reading efficiency is reduced if the writing is all in uppercase text.

9.4 Schedule of colour contrast

INTERNAL SIGNS

Background	*Signboard*	*Legend*
Dark wood panelling	White	Dark brown
Pale blue wall	Dark blue	White

EXTERNAL SIGNS

Background	*Signboard*	*Legend*
Red brick or dark stone	White	Black/dark green/blue
Light brick or stone	Black/dark green/blue	White
Whitewashed wall	Black	White
Green vegetation	White	Black/ dark green/blue

9.5 Indicating facilities for visitors with disabilities

Signs can provide reassurance as well as information. Written signs should ideally be in upper and lower case as words are recognised by shape not individual letters. Letters, numbers and pictograms should contrast in colour and tone with the background of the sign. Embossed letters, raised pictograms and direction arrows help people with sight impairments. Routes should provide ample aural (listening posts) and tactile information as well as clues to help people with sight impairments.

Wherever facilities are provided for people with disabilities, they should be clearly and consistently signposted, e.g. ramps, car parking spaces, toilets, lifts, accessible routes and entrances. There is no point providing an accessible route if the visitor does not know that it exists, particularly if it is a specially designated route for disabled visitors. Information signposts should be provided at the main entrance to, and car park for, the historic monument; giving clear location of facilities and available assistance. Accessible routes should, ideally, be indicated by a highlighted route map.

Standard symbols should be used where appropriate to indicate facilities. (See Appendix 6) Symbols and pictorial signs are easily read and can also help people who do not read or understand English. Signs in other languages may be appropriate in some circumstances. Positioning of signs should not impede or present a hazard to disabled people.

Plate 8. Tactile direction signpost

10
SITE FACILITIES

10.1 Toilets

The provision of an accessible toilet at a historic site may mean the difference between a visitor with disabilities deciding whether or not to visit a site, regardless of how accessible the site itself may be, and every effort should be made to incorporate such a facility. The WC design must allow a wheelchair user to manage either independently or with a helper. The helper may be of the opposite sex therefore the WC provision must be unisex. This also involves less cost, as only one accessible toilet need be provided.

Where a space inside a historic building or an outbuilding can be adapted as a toilet, as is the case at Fyvie Castle, this should be utilised where possible. Disabled people may need to get to a WC with little advance warning, therefore the WC should be located centrally, and as close as possible to the historic monument. It should be well signposted wherever possible. Care should be taken to ensure that fixings for grab rails, fittings and furniture do not disrupt historic fabric. In exposed stone walls fixings should be into joints, which may be lime mortar and thus require special flanges to obtain sufficient strength. Lined walls require special care as straps may need to be located to take fixings.

10.2 Layout of site shops and sales points

10.2.1 Visitor centres and exhibitions

Visitor centres are very often new build and should always be constructed to current accessibility standards. The design of shop layouts, sales points, reception areas, ice-cream kiosks and tea-rooms should enable visitors with disabilities to use them independently or with enablers. Counters should be low enough (between 800mm and 1200mm) for wheelchair users to select items independently. Where the counters already in place are too high, sections should be lowered wherever possible.

Menus and prices displayed on walls must be clear and readable from a wheelchair position. This may require large print style for visitors with impaired sight. The layout of tables should allow a wheelchair to be manoeuvred around other visitors without disturbing them unnecessarily. Clear aisles of at least 1300mm, removable seating (including an area close by to store unwanted chairs), and tables with a clear 700mm underspace, will all help a wheelchair user to approach and dine in comfort.

Shop layouts should ensure that a selection of all the goods on sale can be reached from a wheelchair. (See Appendix 6 for data) Where tall display units are already in place, the goods on display should also be made available on lower units.

11

ALTERNATIVE METHODS OF PROVIDING ACCESS

11.1 Tape tours

Tape tours consist of a descriptive guide recorded on tape cassette which is then listened to by the visitor on a personal stereo. The tape tours can be used to convey information to visually impaired visitors or, if recorded in simple language, to people with learning or reading difficulties. Tape tours could also be used to fill in the "gaps" in a tour where someone with impaired mobility could not gain access to certain areas of a property. Tape tours have already proved successful with foreign visitors where the tour is produced in another language. The tours need not be produced for the exclusive use of visitors with disabilities but can be used to increase the quality of a tour for all visitors, allowing them to have a guided tour that they can progress through at their leisure.

11.2 Guide books

In addition to the standard guide books for sites, guide books can be used to provide pictorial representations of areas that are inaccessible. They may also be used to compensate for incomplete tours of a site by 'filling in the gaps'.

11.3 Computer displays

Interactive computer displays involving touch screens and keyboards, with suitable approaches for wheelchair users, could be used to indicate areas that are inaccessible or areas that they may not feel comfortable in touring. Visitors with disabilities may tire easily and this type of facility would enable them to gain information on the whole site from a central point.

11.4 Virtual reality / 3D Video

With improving technology it may be possible to provide a virtual reality tour of a site. This type of facility could be extended for the use of able bodied visitors who may experience a tour of the site, at a period in history with the people who may have lived there at the time. Attention should be paid to the quality of experience, offering an historic adventure alongside new technology.

11.5 Tactile tours

The concept and form of a site can be conveyed through tactile maps and exhibits. Different textures can represent routes, buildings and facilities if they are produced in thermofoam. (Appendix 3) Tactile signs produced in normal lettering can also benefit those who do not read Braille.

11.6 Provide wheelchairs or courtesy car

Normally wheelchair users will arrive at a historic monument with their own wheelchair. However, providing a wheelchair suited to the environment may be of great benefit to visitors who would not view themselves as 'disabled', for example the elderly. Motorised wheelchairs could be provided that are capable of negotiating rougher terrain than a standard manual wheelchair. At Fyvie Castle, a wheelchair is available for less able visitors to use that will allow access into rooms which have narrow doorways. Although not ideal, as many wheelchair users would naturally prefer to use their own chair, providing wheelchairs is a possibility that could be considered in appropriate cases.

At Edinburgh Castle a courtesy car has been provided that can accommodate one wheelchair user and one other passenger. The wheelchair user is pushed into the back of the car, via a solid ramp that is attached to the rear of the car, and is then transported to various points within the Castle, avoiding steep cobbled paths.

11.7 Volunteers

Consideration may be given to the provision of a volunteer helper service, at appropriate historic monuments. Such a service, providing pushers for wheelchairs or 'eyes' for the visually impaired, can be greatly appreciated by many disabled visitors.

Figure 9. Provide alternatives to physical access

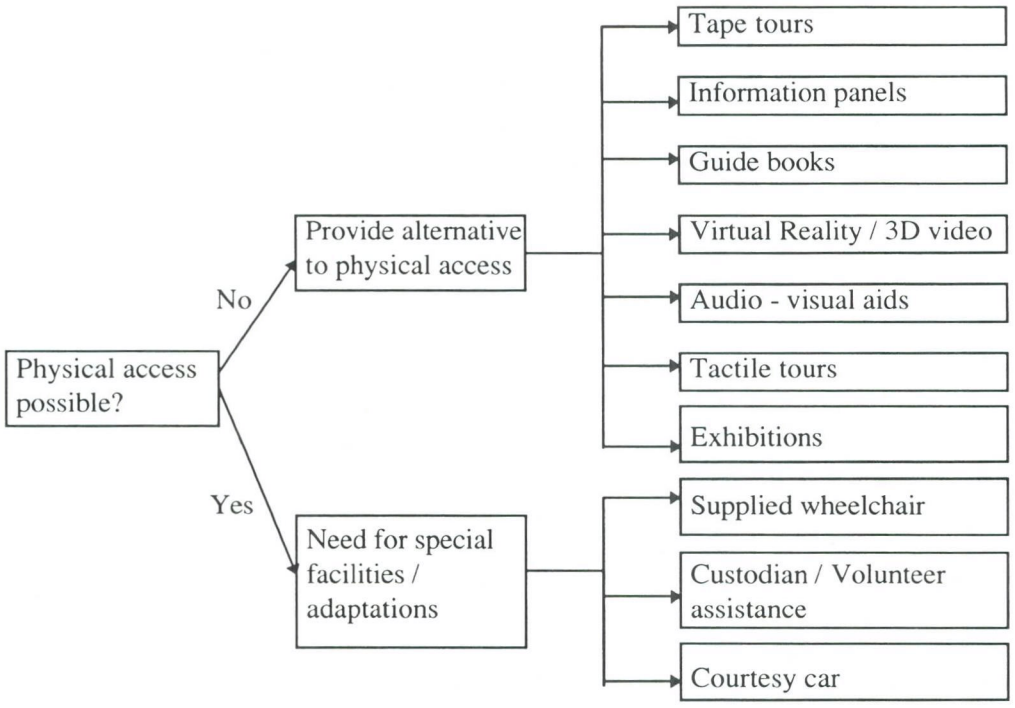


Plate 9. Edinburgh Castle - Courtesy car provided by the Bank of Scotland in use. (Photo: R.Kent)

12
SITE ASSESSMENT METHODOLOGY

12.1 What are mapping exercises and movement studies and why should they be carried out?

In order to document the necessary information on access provisions at each site, a separate mapping exercise and movement study should be carried out. Mapping exercises are designed to highlight areas where access is difficult or impossible and areas where improvements could be made to the access currently provided. Each exercise takes the form of a site survey with the starting point at the recognised public car park for the site. The recommended route for able-bodied visitors should be followed, making both written and photographic documentation for future reference. Site staff should be interviewed to establish the frequency and nature of any comments made by visitors with disabilities to the site.

Following the mapping exercise, a movement study should be carried out where possible. This should assess the passage of someone using a wheelchair through the site by any routes, not necessarily the recognised standard route, using the car park as the starting point. Each section of the route should be analysed in terms of surface finish, gradient, prevailing weather conditions and any perceived obstacles. The comments of both independent wheelchair users and enablers should be noted. The movement study will clarify any assumptions made during the mapping exercise and highlight any deficiencies.

12.2 Who should carry out these studies?

It has been proved that able-bodied individuals generally do not fully appreciate the needs of the disabled community. To this end it is recommended that final assessments should include people with hearing, visual and mobility impairments. Initial paper assessments can be made by architects, property managers, customer service managers, and health and safety managers who have experience in access design for people with disabilities but must also include someone who has a knowledge of the building, the elements of construction, furnishings and management and maintenance details. These facts should all be established prior to movement studies involving people with disabilities. It should be borne in mind that a movement study based on one individual may give an incomplete assessment as individual needs vary considerably. Any access audit should therefore refer to published standards. It may become apparent that a movement study would be a futile exercise, as a visitor in a wheelchair may not be able to progress any further than the car park of the site.

The Centre for Accessible Environments (Appendix 3) can provide a service to organisations by assisting them to carry out access audits. If this service is utilised it should be conducted in conjunction with historic building architects and inspectors, to obtain a full survey taking into account conservation issues.

12.3 How to carry out a mapping exercise or movement study

12.3.1 Preparation

1. Ensure you have adequate checklists[1] for all aspects of the site. This will require preliminary investigation of the site.
2. Obtain a plan / plans of the property.
3. Take metric tape measures, ideally 2m tape and a 25m tape.
4. Ensure someone in the party has knowledge of the building and how it is used by visitors, i.e. guided tours, specific intended routes that visitors will use to view the building or site. These routes are implemented for maximum benefit of the visitor or to protect sensitive areas. However alternative ways to view a site often exist but may not be immediately obvious.

12.3.2 Checklists

The checklists that should be used are a series of loose pro-forma sheets, with each sheet dealing with one element of the building or its

[1]Pro-forma Appendix 1

setting. Each site assessment should in general assess:-

- Car parking provision and adequacy for visitors with disability
- Entrance and access to the site / property, approaching the building
- Moving around inside, doorways, rooms and corridors
- Circulation space, changes in level, number and adequacy of stairs, steps and ramps
- Using facilities at the property
- Nature of surfaces (historic and modern)
- Sign posting and display / information boards
- Provision of toilet facilities
- Routes where access is possible
- Routes where no access can be achieved
- Fire escape routes
- Alternative access policies in operation
- Level and quality of assistance available at the site
- Any improvements that could be made
- A record of findings.

A property with more than one entrance door will require more than one access sheet. Copies of enough relevant sheets should be made prior to the study being carried out.

12.3.3 Plans

Plans of the site are recommended as a means of indexing findings of the study. This will enable results to be readily identified with relevant parts of the site. Plans can help prioritise the improvements that are to be made. Improving access to an area where access is prevented by another obstacle would be inappropriate. Simple sketches that are produced roughly to scale would do. The plans can be used as a reference point to create an overall picture of the deficiencies of the site as revealed by the study.

12.3.4 Equipment

Both 25m and 2m tape measures are recommended for measuring internal dimensions and external distances. Subjective judgements can be made for measuring the strength of door closers and lighting levels. Specialist equipment is available but should not be necessary. Judgements however should be made by participants with disabilitie e.g. wheelchair users can give an opinion of how difficult it is to self propel across a deep pile carpet, or how strong a door closer is when being operated by someone with reduced upper body strength.

12.4 The success of the study

The success of the study will depend on attention to detail, meticulous observation and recording. The study sheets are based on pro-formas that can deal with the most common elements of a wide range of site features. However, other features will arise at individual sites and should not be ignored. Details should be included on the results sheet for further information and future reference.

12.5 Use of results

Once the results have been recorded, everyone involved or affected should be made aware of them. The findings should be used to work out and implement a structured programme of improvements for the site.

12.6 Cost of improvements

Some measurable improvements can be made without financial cost, or very cheaply by adjustments to site maintenance. However, other improvements may involve large capital sums and may also depend on agreements with outside agencies. This means that a realistic programme of work needs to be drawn up. It is always recommended to look at alternative solutions to one problem, even when what may at first seem ridiculous may eventually be feasible.

The information that is revealed or gathered from such a study must be reviewed and updated at regular intervals and also when changes take place at the historic monument site.

APPENDIX I

PRO-FORMA FOR MAPPING EXERCISES

SURVEY SHEETS

VEHICULAR ACCESSIBILITY

1. Is there a car park for the site? **YES NO N/A**
2. Is there an international symbol of access indicating the direction to the designated parking area? **YES NO N/A**
3. Is there a parking space identified as reserved for disabled persons? **YES NO N/A**
4. Is there a parking space 50m from an accessible entrance? **YES NO N/A**
5. Is there a setting down point at an accessible entrance? **YES NO N/A**
6. Are parking spaces 3.6m wide for persons using wheelchairs or wide enough to allow transfer to a wheelchair? **YES NO N/A**
7. Is the wheelchair transfer space level? **YES NO N/A**
8. Is the parking area sheltered? **YES NO N/A**
9. Are there signs indicating the direction from the car park to the historic monument? **YES NO N/A**

Any other comments on Vehicular Accessibility:-

Footpaths

1. Are the surfaces historic? **YES NO N/A**
2. Is the footpath at least 1500mm wide? **YES NO N/A**
3. Is the footpath firm? **YES NO N/A**
4. Does the footpath have a slip resistant surface? **YES NO N/A**
5. Does the footpath have drop kerbs? **YES NO N/A**
6. Are the footpaths on a continuous run without steps or abrupt changes in level? **YES NO N/A**
7. Is the footpath free from projecting or overhanging obstacles? **YES NO N/A**

Any other comments on Footpaths:-

Ramps

1. Are the surfaces historic? **YES NO N/A**
2. Is the gradient less than 1:12? **YES NO N/A**
3. Is the surface of the ramp slip resistant? **YES NO N/A**
4. Is there a level landing of at least 1500mm x 1500mm at the bottom of the ramp? **YES NO N/A**

5. And at the top of the ramp? **YES NO N/A**
6. Is there a suitable handrail on at least one side of the ramp 800mm to 920mm high? **YES NO N/A**
7. Does the handrail extend 300mm beyond the top and bottom of the ramp? **YES NO N/A**
8. Are free standing ramps at least 1500mm wide? **YES NO N/A**
9. Are there kerbs edges 25mm to 50mm high or protection bars no more than 200mm above the ramp surface? **YES NO N/A**
10. Is the ramp protected from the elements? **YES NO N/A**

Any other comments on ramps:-

Stairs

1. Are the surfaces historic? **YES NO N/A**
2. Is there an alternative to the stairs? **YES NO N/A**
3. Are there handrails at a height of 920mm? **YES NO N/A**
4. Does the handrail extend at least 300mm beyond the top and bottom step? **YES NO N/A**
5. Are the risers less than 180mm high? **YES NO N/A**
6. Are the treads more than 265mm deep? **YES NO N/A**
7. Do the treads have a slip resistant finish? **YES NO N/A**
8. Have open risers been avoided? **YES NO N/A**
9. Is there a stairclimber available such as the *scalamobil?* **YES NO N/A**

Any other comments on Stairs:-

Main Entrance

1. Is the entrance historic? **YES NO N/A**
2. Is the main entrance accessible from the outside without having to use steps or stairs? **YES NO N/A**
3. Is there a level paved area of at least 1500mm x 1500mm outside the entrance door? **YES NO N/A**
4. Is there a ramp outside the main entrance? **YES NO N/A**
5. Is there a bell, or other device to summon assistance, lower than 900mm? **YES NO N/A**
6. Is the threshold less than 15mm high? **YES NO N/A**
7. Does the doorway have a clear opening width of 810mm? **YES NO N/A**
8. Are any handles on the door mounted 760mm to 915mm from the ground? **YES NO N/A**

9. Is there space to manoeuvre a wheelchair? (min. 1500mm turning circle) **YES NO N/A**
10. Are the ground surface conditions slip resistant? **YES NO N/A**

Any other comments on the Main Entrance:-

Corridors

1. Are there historic features? **YES NO N/A**
2. Are the corridors at least 940mm wide? **YES NO N/A**
3. Do the corridors have slip resistant floor surfaces? **YES NO N/A**
4. Does carpeting allow free movement of wheelchairs? **YES NO N/A**

Any other comments on Corridors / Circulation:-

Toilet Facilities

1. Are the toilets in a historic setting? **YES NO N/A**
2. Is the toilet accessible? **YES NO N/A**
3. Does the door have a clear opening width of 810mm? **YES NO N/A**
4. Are the door handles mounted between 760mm and 915mm? **YES NO N/A**
5. Is the door threshold less than 15mm? **YES NO N/A**
6. Does the door swing out of the room? **YES NO N/A**
7. Is there a turning circle 1500mm in diameter in the room? **YES NO N/A**
8. Are light switches mounted between 835mm and 1065mm? **YES NO N/A**
9. Is the mirror less than 960mm above the floor? **YES NO N/A**
10. Is there a shelf less than 960mm above the floor? **YES NO N/A**
11. Do any fixtures impinge on the turning circle? **YES NO N/A**
12. Is the top of the toilet seat 450mm above the floor? **YES NO N/A**
13. Are there adequate grab bars? **YES NO N/A**
14. Is there space of at least 600mm wide beside the toilet to allow lateral transfer? **YES NO N/A**
15. Is the flushing lever reachable and easily operated from a wheelchair? **YES NO N/A**
16. Does the room have a device to signal for assistance? **YES NO N/A**
17. Does the room have space for an attendant assisting someone in a wheelchair? **YES NO N/A**
18. Is the toilet open? **YES NO N/A**
19. Is a key readily available? **YES NO N/A**
20. Is key held in an accessible location? **YES NO N/A**

Any other comments on Toilets:-

Lifts

1.	Is there a lift that is accessible?	**YES**	**NO**	**N/A**
2.	Is there a 1500mm turning circle in front of the lift, free from obstacles, at the bottom level?	**YES**	**NO**	**N/A**
3.	At the top level?	**YES**	**NO**	**N/A**
4.	Are the carriage dimensions minimum 1370mm x 1300mm?	**YES**	**NO**	**N/A**
5.	Does the carriage stop precisely at floor level?	**YES**	**NO**	**N/A**
6.	Is the door opening at least 820mm wide?	**YES**	**NO**	**N/A**
7.	Is the door equipped with an automatic safety opening device?	**YES**	**NO**	**N/A**
8.	Are the controls accessible from a wheelchair?	**YES**	**NO**	**N/A**
9.	Is there emergency communication within reach?	**YES**	**NO**	**N/A**
10.	Is there a handrail in the carriage?	**YES**	**NO**	**N/A**

Any other comments on Lifts:-

Notes on procedures necessary for emergency escape:-

Notes on accessible areas of the monument:-

Areas inaccessible / Any action?

Are staff trained in disability awareness?

APPENDIX 2

HUNTLY CASTLE MOVEMENT STUDY

DATE :-11/7/94
PARTICIPANTS PERSONAL NOTES
1. WHEELCHAIR USER
Name :- Ms. A
Age :- 36 years Weight :- 10st 2lbs Height :- 5feet 3ins
Description of disability and degree of mobility :- Born with Cerebral Palsy. Uses a wheelchair for mobility outside her home. Pearl can manage short distances indoors with the use of a tripod. Pearl has limited upper body strength and tires very easily when self-propelling.

2. WHEELCHAIR ASSISTANT
Name :- Ms. X
Age :- 22 years Weight :- 11st 3lbs Height :- 5feet 8ins

METHOD OF MOBILITY
WHEELCHAIR
Model :- Limna Appliances Ross & Bonnyman Ltd
Position of large wheels :- FRONT (REAR) (circle)
Tyres :-(PNEU) SOLID WORN (circle)
Wheelchair propulsion :-(HANDS) FEET ELECTRIC (circle)

WEATHER CONDITIONS :- FAIR SUNNY (RAINING) SNOWING (circle)
Comments on recent weather conditions at the site :- Throughout the week preceding the movement study (and on the morning of the study) there had been very heavy rain at the site.

Key to abbreviations

1. Gradient / surface negotiated with ease	(EASY)
2. Gradient / surface negotiated comfortably	(COM)
3. Gradient / surface negotiated with difficulty	(DIFF)
4. Gradient / surface impossible to negotiate	(IMP)

(Circle most appropriate number)
1. ROUTE STUDY FROM CAR PARK TO CUSTODIAN'S OFFICE
SURFACE FINISH TARMAC
SURFACE CONDITIONS :- Damp with patches of surface water / loose stones

Self Propelled				**Pushed**			
EASY	COM.	DIFF.	IMP.	EASY	COM.	DIFF.	IMP.
1	2	(3)	4	1	(2)	3	4

COMMENTS :- On the day of the movement study there was parking space available in the car park adjacent to the Custodian's Office (A3.1).

2. RAMP STUDY TO CUSTODIAN'S OFFICE (A3.2)
SURFACE FINISH CONCRETE
SURFACE CONDITIONS :- Damp
ASSESSMENT : 3.23m ramp 1 : 7.3 gradient

Self Propelled				**Pushed**			
EASY	COM.	DIFF.	IMP.	EASY	COM.	DIFF.	IMP.
1	2	3	(4)	1	2	(3)	4

COMMENTS :- The steep gradient and the recent weather conditions made the ramp fairly slippy.

3. DOORWAY MANOEUVRE - CUSTODIAN'S OFFICE (A3.3)

(A) DOOR OPEN

Self Propelled				**Pushed**			
EASY	COM.	DIFF.	IMP.	EASY	COM.	DIFF.	IMP.
1	②	3	4	1	②	3	4

COMMENTS :- See (B) Below

(B) DOOR CLOSED

Self Propelled				**Pushed**			
EASY	COM.	DIFF.	IMP.	EASY	COM.	DIFF.	IMP.
1	2	3	④	1	2	3	④

COMMENTS :- The door opens out on to the ramp. However, when the Custodian's Office is open and the Custodian available the door will already be open.

4. CIRCULATION SPACE STUDY - CUSTODIAN'S OFFICE

SURFACE FINISH LINOLEUM

Self Propelled				**Pushed**			
EASY	COM.	DIFF.	IMP.	EASY	COM.	DIFF.	IMP.
1	②	3	4	1	②	3	4

COMMENTS :- Although the Office is very small the displayed goods (souvenirs, guidebooks etc.) are at a reasonable height with adequate turning space for the wheelchair user.

5. ROUTE FROM CUSTODIAN'S OFFICE TO DISABLED ENTRANCE GATE (A3.5)

SURFACE FINISH TARMAC WITH SPEED BUMPS

SURFACE CONDITIONS :- Damp with patches of surface water / loose stones.

Self Propelled				**Pushed**			
EASY	COM.	DIFF.	IMP.	EASY	COM.	DIFF.	IMP.
1	2	③	4	1	②	3	4

COMMENTS :- The speed bumps are very gradual and therefore did not pose any real problems for the pusher.

6. UNLOCKING AND OPENING DISABLED ENTRANCE GATE

Self Propelled				**Pushed**			
EASY	COM.	DIFF.	IMP.	EASY	COM.	DIFF.	IMP.
1	2	③	4	1	②	3	4

COMMENTS :- The Custodian had gone on ahead and unlocked the gate. It was large and heavy but swung out easily but may pose a traffic hazard for cars going to the adjacent Hotel.

7. ROUTE STUDY FROM DISABLED ENTRANCE GATE TO CASTLE ENTRANCE

(A) SURFACE FINISH UPWARD SLOPING GRASS-CRETE (A3.6)

SURFACE CONDITIONS :- Damp grass with long tufts through the concrete.

Self Propelled				**Pushed**			
EASY	COM.	DIFF.	IMP.	EASY	COM.	DIFF.	IMP.
1	2	3	④	1	2	③	4

COMMENTS :- Wheelchair user described the grass-crete as 'bumpy' but not uncomfortable although Pearl expressed concern that some

wheelchair users would dislike being wheeled over this type of surface. The gradient of the slope should be lowered for safety.

(B) SURFACE FINISH LEVEL GRASS-CRETE
SURFACE CONDITIONS :- Damp with long tufts of grass through the concrete.

Self Propelled				**Pushed**			
EASY	COM.	DIFF.	IMP.	EASY	COM.	DIFF.	IMP.
1	2	3	④	1	2	③	4

COMMENTS :- Level grass-crete was also 'bumpy'.

(C) SURFACE FINISH UNEVEN GRASS
SURFACE CONDITIONS :- Damp and spongy.

Self Propelled				**Pushed**			
EASY	COM.	DIFF.	IMP.	EASY	COM.	DIFF.	IMP.
1	2	3	④	1	2	③	4

COMMENTS :- Hidden tree roots and the natural slope of the ground made the grass even more difficult to negotiate.

(D) SURFACE FINISH IMPACTED GRAVEL
SURFACE CONDITIONS :- Damp

Self Propelled				**Pushed**			
EASY	COM.	DIFF.	IMP.	EASY	COM.	DIFF.	IMP.
1	2	3	④	1	2	③	4

COMMENTS :- The grass was an easier surface to negotiate.

8. THRESHOLD MANOEUVRE - MAIN ENTRANCE (A3.7)

Self Propelled				**Pushed**			
EASY	COM.	DIFF.	IMP.	EASY	COM.	DIFF.	IMP.
1	2	3	④	1	2	③	4

COMMENTS :- Only achieved with great effort; Cara is fairly strong but the upward slope to the threshold made it even steeper and harder to cross.

9. THRESHOLD MANOEUVRE - EAST RANGE ONE STEP UP

Self Propelled					**Pushed**				
EASY	COM.	DIFF.	IMP.	**N/A**	EASY	COM.	DIFF.	IMP.	**N/A**
1	2	3	4		1	2	3	4	

COMMENTS :- After crossing the main entrance threshold the deep gravel embedded the small wheels of the wheelchair and no further progress could be made along this route.

10. THRESHOLD MANOEUVRE - TWO STEP DROP (A3.10)

Self Propelled					**Pushed**				
EASY	COM.	DIFF.	IMP.	**N/A**	EASY	COM.	DIFF.	IMP.	**N/A**
1	2	3	4		1	2	3	4	

COMMENTS :-

ROUTE ALONG THE FRONT OF THE CASTLE

11. STEEP SLOPE ALONG EAST RANGE (A3.22)
SURFACE FINISH IMPACTED GRAVEL
SURFACE CONDITIONS :- Damp

Self Propelled				**Pushed**			
EASY	COM.	DIFF.	IMP.	EASY	COM.	DIFF.	IMP.
1	2	3	④	1	2	③	4

COMMENTS :- This route had to be negotiated very slowly to avoid loosing control of the wheelchair.

12. CORNER TURN FROM EAST RANGE TO FRONT OF THE PALACE
SURFACE FINISH IMPACTED GRAVEL
SURFACE CONDITIONS :- Damp

Self Propelled				**Pushed**			
EASY	COM.	DIFF.	IMP.	EASY	COM.	DIFF.	IMP.
1	2	3	④	1	2	③	4

COMMENTS :- The gravel pulled the direction of the wheelchair.

13. ROUTE ALONG THE FRONT OF THE PALACE TO THE MAIN TOURIST ENTRANCE GATE (3.24)
SURFACE FINISH LEVEL IMPACTED GRAVEL
SURFACE CONDITIONS :- Damp

Self Propelled				**Pushed**			
EASY	COM.	DIFF.	IMP.	EASY	COM.	DIFF.	IMP.
1	2	3	④	1	2	③	4

COMMENTS :- Again the gravel pulled the wheelchair. A strong pusher is necessary.

14. MAIN TOURIST ROUTE TO THE STAIRS (A3.23)
SURFACE FINISH IMPACTED GRAVEL
SURFACE CONDITIONS :- Damp

Self Propelled				**Pushed**			
EASY	COM.	DIFF.	IMP.	EASY	COM.	DIFF.	IMP.
1	2	3	④	1	2	③	4

COMMENTS :- Route had varying gradients which were fairly steep with deeper gravel in certain areas making progress more difficult.

15. STAIRCASE (A3.23) EIGHT STEPS
SURFACE FINISH STONE
SURFACE CONDITIONS :- Damp

Self Propelled				**Pushed**			
EASY	COM.	DIFF.	IMP.	EASY	COM.	DIFF.	IMP.
1	2	3	④	1	2	③	4

COMMENTS :- Ms A. is capable of climbing a few stairs with assistance but the stone steps were uneven and there was no handrail. She didn't want to attempt the climb for fear of falling.

16. 'RECOMMENDED ROUTE'
SURFACE FINISH IMPACTED GRAVEL

Self Propelled					**Pushed**				
EASY	COM.	DIFF.	IMP.	**N/A**	EASY	COM.	DIFF.	IMP.	**N/A**
1	2	3	4		1	2	3	4	

COMMENTS :-

17. GENERAL MOVEMENT AROUND STABLE AND BAILEY AREAS (A3.7) (A3.8)
SURFACE FINISH UNEVEN COBBLES

Self Propelled					**Pushed**				
EASY	COM.	DIFF.	IMP.	**N/A**	EASY	COM.	DIFF.	IMP.	**N/A**
1	2	3	4		1	2	3	4	

COMMENTS :-

EXIT ROUTE
18. 'RECOMMENDED ROUTE'
SURFACE FINISH IMPACTED GRAVEL
SURFACE CONDITIONS :-_____

Self Propelled					**Pushed**				
EASY	COM.	DIFF.	IMP.	**N/A**	EASY	COM.	DIFF.	IMP.	**N/A**
1	2	3	4		1	2	3	4	

COMMENTS :-

19. STAIRCASE (A3.23) EIGHT STEPS
SURFACE FINISH STONE
SURFACE CONDITIONS :-_____

Self Propelled					**Pushed**				
EASY	COM.	DIFF.	IMP.	**N/A**	EASY	COM.	DIFF.	IMP.	**N/A**
1	2	3	4		1	2	3	4	

COMMENTS :-

20. MAIN TOURIST ROUTE FROM THE STAIRS (A3.23)
SURFACE FINISH IMPACTED GRAVEL
SURFACE CONDITIONS :- Damp

Self Propelled				**Pushed**			
EASY	COM.	DIFF.	IMP.	EASY	COM.	DIFF.	IMP.
1	2	3	(4)	1	2	(3)	4

COMMENTS :- A view into the moat was achieved from here by the wheelchair user.

21. ROUTE ALONG THE FRONT OF THE PALACE FROM THE MAIN TOURIST ENTRANCE GATE (A3.24)
SURFACE FINISH LEVEL IMPACTED GRAVEL
SURFACE CONDITIONS :- Damp

Self Propelled				**Pushed**			
EASY	COM.	DIFF.	IMP.	EASY	COM.	DIFF.	IMP.
1	2	3	(4)	1	2	(3)	4

COMMENTS :- Slight camber on the path pulled the wheelchair to the right.

22. CORNER TURN FROM FRONT OF THE PALACE TO THE EAST RANGE
SURFACE FINISH IMPACTED GRAVEL
SURFACE CONDITIONS :- Damp

Self Propelled				**Pushed**			
EASY	COM.	DIFF.	IMP.	EASY	COM.	DIFF.	IMP.
1	2	3	(4)	1	2	(3)	4

COMMENTS :- As before.

23. STEEP SLOPE UP ALONG THE EAST RANGE
SURFACE FINISH IMPACTED GRAVEL
SURFACE CONDITIONS :- Damp

Self Propelled				**Pushed**			
EASY	COM.	DIFF.	IMP.	EASY	COM.	DIFF.	IMP.
1	2	3	(4)	1	2	(3)	4

COMMENTS :- The gradient of the path was so steep that the wheelchair skidded to the left on two occasions as the pusher momentarily lost control. Not a pleasant experience for the wheelchair user.

24. ROUTE STUDY FROM CASTLE TO DISABLED EXIT GATE
(A) SURFACE FINISH IMPACTED GRAVEL
SURFACE CONDITIONS :- Damp

Self Propelled				**Pushed**			
EASY	COM.	DIFF.	IMP.	EASY	COM.	DIFF.	IMP.
1	2	3	(4)	1	2	(3)	4

COMMENTS :-

(B) SURFACE FINISH UNEVEN GRASS (A3.25)
SURFACE CONDITIONS :- Damp and spongy.

Self Propelled				**Pushed**			
EASY	COM.	DIFF.	IMP.	EASY	COM.	DIFF.	IMP.
1	2	3	(4)	1	2	(3)	4

COMMENTS :- Difficult negotiating the path round the outside edge of the Bakehouse where the path narrows and slopes diagonally across.

C) SURFACE FINISH LEVEL GRASS-CRETE
SURFACE CONDITIONS :- Damp with long tufts of grass through the concrete.

Self Propelled				**Pushed**			
EASY	COM.	DIFF.	IMP.	EASY	COM.	DIFF.	IMP.
1	2	3	(4)	1	2	(3)	4

COMMENTS :- 'Bumpy'

(D) SURFACE FINISH DOWNWARD SLOPING GRASS-CRETE (A3.26)
SURFACE CONDITIONS :- Damp

Self Propelled				**Pushed**			
EASY	COM.	DIFF.	IMP.	EASY	COM.	DIFF.	IMP.
1	2	3	(4)	1	2	(3)	4

COMMENTS :- The gradient of this slope would also require a strong pusher to maintain control of the wheelchair.

25. OPENING DISABLED EXIT GATE

Self Propelled				**Pushed**			
EASY	COM.	DIFF.	IMP.	EASY	COM.	DIFF.	IMP.
1	2	3	④	1	2	③	4

COMMENTS :- Difficult to stop the wheelchair first on the steep slope and then open the gate. Danger of brakes not stabilising the wheelchair on such a steep slope.

26. ROUTE FROM DISABLED EXIT GATE TO THE CAR PARK

Self Propelled				**Pushed**			
EASY	COM.	DIFF.	IMP.	EASY	COM.	DIFF.	IMP.
1	2	③	4	1	②	3	4

COMMENTS :- Camber of the road pulled the wheelchair to the left. The wheelchair had to be stopped twice for oncoming traffic.

COMMENTS ON THE OVERALL IMPRESSION OF THE MOVEMENT STUDY

WHEELCHAIR USER :- Ms. A was disappointed not to have been able to see inside the Palace but also commented that only relatively minor adaptations to surface finishes would enable a greater degree of penetration of the site although not the Palace. This was Ms A's first ever trip to a Castle! She was under the impression that they wouldn't be accessible for her wheelchair and unfortunately to a large extent this was proved at Huntly Castle.

WHEELCHAIR ASSISTANT :- Ms. X expressed concern that the surface finish of some of the paths along with very steep gradients were deceptive. She came very close to losing control of the wheelchair on several occasions. She felt that a pusher who was not as strong as she was would have far more problems.

APPENDIX 3

USEFUL ADDRESSES

NATIONAL BODIES

Disability Scotland
Princes House
5 Shandwick Place,
Edinburgh EH2 4RG
Tel: 0131 229 8632

Centre for Accessible Environments
60 Gainsford Street
London SE1 2NY
Tel: 0171 357 8182
Information, training and design guidance on access provision and assessment.

Disabled Living Foundation
380 / 384 Harrow Road,
London W9 2HU
Tel: 0171 289 6111
Information and demonstration of equipment for people with disabilities.

Partially Sighted Society
Queen's Road,
Doncaster,
South Yorks DN1 2NX
Tel: 01302 323132
Design advice, equipment and printing services to help people with restricted vision.

Hearing Concern
7–11 Armstrong Road,
London W3 7JL
Tel: 0181 743 1110
Advisory, information and training services on communication with hearing impaired people.

Royal National Institute for the Blind
224 Great Portland Street,
London W1N 6AA
Tel: 0171 388 1266
Advice on access provision for sight-impaired people.

Royal National Institute for Deaf People
105 Gower Street,
London WC1E 6AH
Tel: 0171 387 8033
Information on environmental design and equipment to help hearing impaired people.

Royal Society for Mentally Handicapped Children and Adults (MENCAP)
123 Goldenlane,
London EC1Y 0RT
Tel: 0171 454 0454
Information, design advice, on environments to help people with learning difficulties.

OTHER ORGANISATIONS

Disability Access Advisory Services
Gorslwyd Farm,
Tanygroes, Cardigan,
Dyfed SA43 2HZ
Tel: 01239 810593
Consultancy on design and marketing of accessible environments.

Fieldfare Trust
67A The Wicker,
Sheffield S3 8HT
Tel: 01742 701 668
Design advice and assessment of countryside access.
Accessible gate design.

Holiday Care Services
2 Old Bank Chambers,
Station Road, Horley,
Surrey RH6 9HW
Tel: 01293 774535
Advisory service for the public and tourism industry.

Handicapped Adventure Playground Association
Fulham Palace, Bishops Ave,
London SW6 6EA
Tel: 0171 736 4443
Information service on play areas for children with disabilities.

Lothian Coalition of Disabled People
13 Johnston Terrace,
Edinburgh EH1 2PW

Museums and Galleries Commission
16 Queen Anne's Gate,
London SW1H 9AA
Tel: 0171 233 4200
Design guidelines and code of practice on access for disabled visitors.

Penton, Smart and Grimwade
8 Spicer Street,
St. Albans, Herts, AL3 4PQ
Tel: 01727 840911
Specialist consultants in designing for accessibility.

Scottish Natural Heritage
Education & Training,
Publications,
Battleby,
Redgorton,
Perth PH1 3EW
All aspects concerned with the care of Scotland's natural heritage.

Society for Horticultural Therapy
Goulds Ground, Vallis Way
Frome, Somerset BA11 3DW
Tel: 01373 464 782
Advisory service on accessible garden design and planting.

The Living Paintings Trust
Silchester House, Silchester
Reading RG7 2LT
Tel: 01734 700 776
Produces Thermoform tactile representations of paintings with accompanying audio descriptions.

Age Concern
Astral House,
1268 London Road,
London SW16 4ER
Tel: 0181 679 2832
Advisory service on needs for elderly people.

The Royal Association for Disability & Rehabilitation (RADAR)
12 City Forum
250 City Road
London ECV 8AF
Tel: 0171 250 3222
Campaigning organisation which provides information on all areas of disability.

British Council of Organisations of Disabled People
Unit 4, De Bradelei House,
Chapel Street, Belper,
Derbyshire DE56 1AR
Tel: 01773 828182
A forum for the exchange of information, ideas and views on the needs of the disabled.

People First
207 - 215 Kings Cross Road
London WC1X 4DS
Tel: 0171 713 6400
Aim to help and support people with learning needs by teaching people who don't have learning difficulties about the rights and needs of people with disabilities.

Sense
11 -13 Clifton Terrace
London N4 3SR
Tel: 0171 272 7774
Provides a range of services for deaf/blind people.

National Federation of the Blind
Unity House, Westgate,
Wakefield, W Yorkshire
WF1 1ER
Tel: 01924 291313

British Deaf Association
38 Victoria Place, Carlisle,
Cumbria CA1 1HU
Tel: 01228 48844.

Help the Aged
St. James Walk
London EC1R 0BE
Tel: 0171 253 0253

FLOOR SURFACES

British Floorcovering Manufacturers Association
10 Bristol Road,
Kempton,
Brighton BN2 1AP
Tel: 01273 694285

British Rubber Manufacturers Association
90 Tottenham Court Road,
London W1P 0BR
Tel: 0171 580 2794

TEXTURED PAVING

Interpave (The Concrete Block Paving Association)
60 Charles Street,
Leicester LE1 1FB
Tel: 01533 536161

SIGNS

British Sign Association
Swan House,
207 Balham High Road,
London SW17 7BQ
Tel: 0181 675 7241

DOORS AND DOOR IRONMONGERY

Automatic Door Suppliers Association
411 Limpsfield Road,
The Green, Warlingham,
Surrey CR6 9HA
Tel: 01883 624961

Guild of Architectural Ironmongers
8 Stepney Green,
London E1 3JU
Tel: 0171 790 3431

Association of Builders' Hardware Manufacturers
Heath Street, Tamworth,
Stafford B79 7JH
Tel: 01827 52337

LIFT EQUIPMENT

National Association of Lift Makers
33 - 34 Devonshire Street,
London W1N 1RF
Tel: 0171 935 3013

SANITARY EQUIPMENT

Disabled Living Foundation
380 - 384 Harrow Road,
London W9 2HU
Tel: 0171 289 6111

British Bathroom Council
Federation House,
Station Road,
Stoke on Trent ST4 2RT
Tel: 01782 747074

OUTDOOR SEATING

Institute of Leisure and Amenity Management
ILAM House,
Lower Basildon,
Reading RG8 9NE
Tel: 01491 874222

Association of Play Industries
23 Brighton Road
South Croydon CR2 6EA
Tel: 0181 681 1242

HEARING ENHANCEMENT SYSTEMS

Institute of Sound and Communications Engineers
4B High Street,
Burnham,
Slough SL1 7JH
Tel: 01628 667633

Acoustiguide Ltd
188 Sutton Court Road,
London W4 3HR
Tel: 0181 747 3744
Offer a comprehensive audio interpretation design, supply and installation service including cassette tours.

Broxap and Corby Ltd.
Walker Street, Radcliffe,
Manchester M26 9JH
Tel: 0161 796 5600
Manufacture mild steel kissing gate accessible for wheelchair users.

Fibredec Ltd.
Vale Road, Tonbridge,
Kent, TN9 1SX
Tel: 01732 354024
Supplier of path surface material Fibredec.

Fieldsman Trails
Fron Deg, Clayton Road,
Mold, Clwyd, CH7 ISU
Tel: 01352 756202
Produce audio trails and touch maps for the countryside.

APPENDIX 4

ACCESS AND DISCRIMINATION LEGISLATION

4.1 Introduction

This Appendix identifies legislative provision in Scotland in relation to access. In general, access legislation is applicable to new buildings and where possible the recommendations should be applied to existing buldings. Historic monuments are only specifically mentioned in the Disability Discrimination Act 1995.

4.2 British Standard 5810 : 1979. Code of practice for access for the disabled to buildings

In recent years concerns have been voiced about the limitations of BS 5810. This British Standard is now recognised as being inadequate and is currently being completely revised.

4.3 Published Document 6523 : 1989

PD 6523 is the draft basis for the revised BS 5810 with investigation into the world-wide access legislation situation. "The scope of any future British Standard on access for disabled people should cover all the basic elements and features common to buildings. However the problem of special building types...needs careful consideration." The PD states that the future British Standard will have a very wide scope with a specialist requirement for additional information on the application to particular buildings and their associated areas. This would suggest that any future British Standard will have an application to properties not previously included but will not necessarily include the adaptation of existing buildings.

4.4 The Building Standards (Scotland) Regulations 1990

The Building Standards (Scotland) Regulations 1990, Part T: Access Facilities for Disabled People, apply to all new buildings except dwellings and some storage buildings. Extensions and alterations to existing buildings must comply with the regulations. The regulations enforce access for disabled people to all floors of new buildings and where sanitary facilities are provided , sanitary facilities for disabled people must also be provided. Measures are also included which assist people with sight and hearing impairments.

4.5 The Disabled Persons Act : 1981

The Disabled Persons Act applies in England and Wales and imposes a duty on local planning authorities to draw attention to certain provisions as to access for the benefit of disabled persons. Attention is also drawn to the **Chronically Sick and Disabled Persons Act 1970** and to the **Chronically Sick and Disabled Persons (Amendment) Act 1976**. These acts, which apply in Scotland, relate to access to, and facilities at, premises open to the public, provision for sanitary conveniences at certain premises open to the public and the provision of notices or signs indicting such provision (1970 Act). The 1976 Amendment Act applies to premises in which persons are employed to work, to improve the employment prospects for disabled persons.

4.6 The National Code of Practice for Visitor Attractions

The National Code of Practice for Visitor Attractions, Visitors' Charter, encourages members to make a positive and effective response to the requirements of disabled people. It states that, amongst other things, the owners and managers have undertaken,:

- To describe accurately in any advertisement, brochure or any other printed means, the amenities, facilities and services provided and to indicate on all such promotional material any significant restrictions on entry. (Article 2)

- To give due consideration to the requirements of disabled people and people with special needs, and to make suitable provision where practicable. (Article 7).

4.7 Disability Discrimination Act 1995

Transport and physical access are not the only hurdles disabled people must confront before they can enjoy historic buildings. Ignorance and a widely-held misconception that the presence of disabled people can discourage non-disabled customers must also be overcome. The Disability Discrimination Act contains wide-ranging, comprehensive measures to tackle discrimination against disabled people. The act includes right of access by disabled people to goods and services. In practice this means that it will be against the law for service providers to refuse to serve someone who is disabled or to treat a person less favourably, without good reason, because of his or her disability. A duty will be placed on service providers to make sure that their services are not impossible or unreasonably difficult for a disabled person to use. Equipment will have to be provided to make it easier for disabled people to use services and physical barriers will have to be removed, or other ways provided, to allow disabled people to use services.

The Act however recognises that there will be circumstances where it will be impossible or unreasonable to provide access due to excessive expenditure, or without radically altering the nature of the building. Future guidance will be given for these situations. The right to be served provisions are expected to come into force from around the end of 1996. The remaining access provisions will be phased in from 1997 onwards. The Act does not override existing legislation i.e. Listed Building Consent and Scheduled Monument Consent.

4.8 Memorandum of Guidance on Listed Buildings and Conservation Areas

A revised version, due to be published by Historic Scotland towards the end of 1996, will include detailed advice on the provision of access for people with disabilities to historic sites.

4.9 Conclusions

The introduction of the Disability Discrimination Act 1995 places a statutory duty on service providers to ensure that appropriate and dignified access to buildings is provided. Historic buildings, monuments and sites are recognised as a special case where the greatest level of accessibility should be provided without threatening or destroying materials that convey the monument's significance. Firstly, the individuality and uniqueness of each site in question must rule out 'across the board' legislation, and secondly it is inevitable that in some circumstances conservation must override accessibility.

APPENDIX 5

SPATIAL REQUIREMENTS TO MAXIMISE INDEPENDENCE

In order to make the environment at a historic site accessible to a variety of visitors spatial requirements of individuals must be sufficient to meet their needs. It will not always be possible to provide them in an historic building.

5.1 Space requirements for visitor using mobility aids

Independent wheelchair user	900mm wide x 1140mm
Assisted wheelchair user	640mm wide x 1750mm long
Crutch user	900mm wide
Walking stick user	750mm wide
Adult with guide dog	1100mm wide x 1500mm long
Tapping cane user	900mm wide

5.2 Passing space requirements

Wheelchair user passing adult with baggage	1800mm wide (900mm + 900mm)
Two wheelchair users	1540mm wide passing

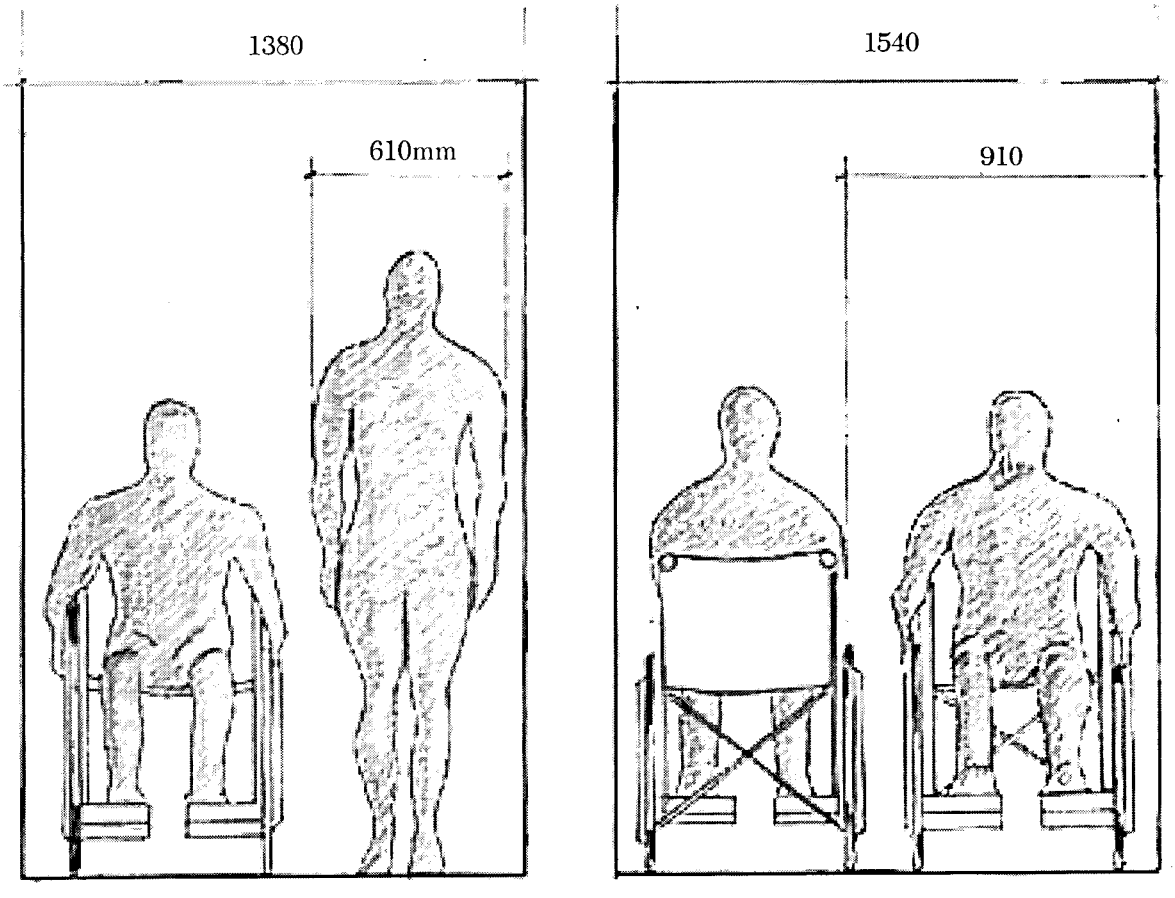


Figure A5.1 Circulation

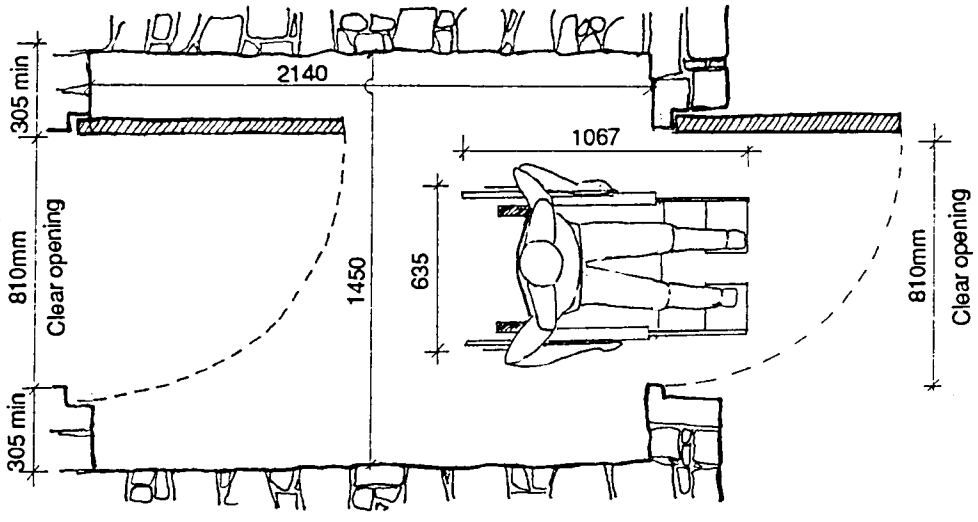
5.3 Wheelchair manoeuvre space

1100mm to manoeuvre through 90°

1500mm to manoeuvre through 180°

1800mm to manoeuvre through 360°

800mm minimum clear passageway / door opening



WHEELCHAIR CIRCULATION DOORS IN ALIGNMENT

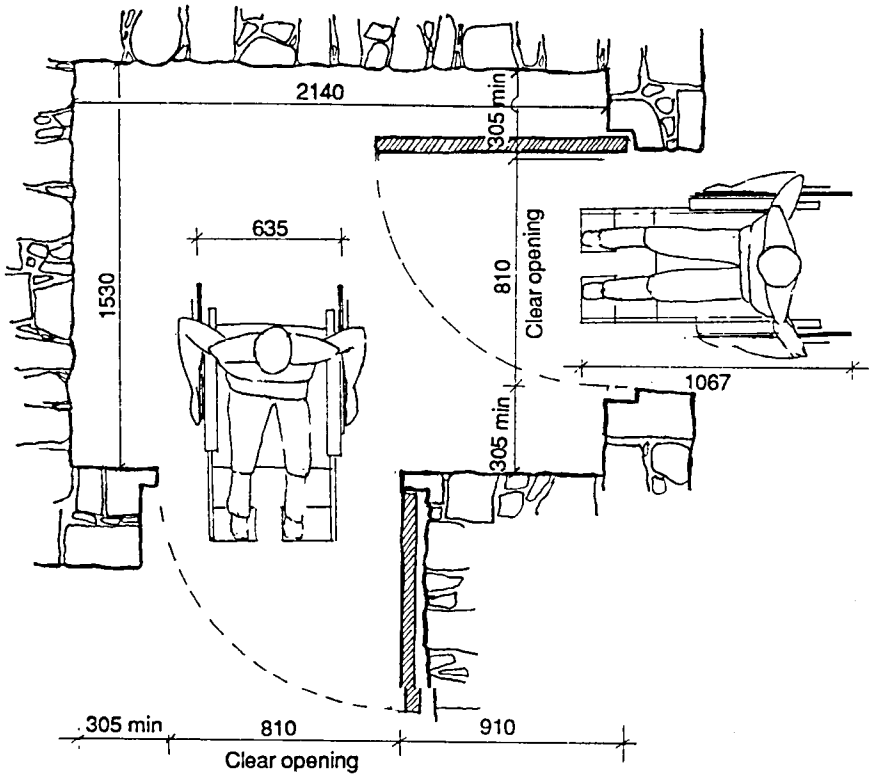


Figure A5.2 Wheelchair circulation through doorways

5.4 Average eye levels and wheelchair user's reach

Wheelchair user's reach

Shoulder height :	1000mm to 1100mm
Side reach :	1400mm
Forward reach :	1200mm
Accessible work surface reach :	600mm

Average eye levels

Seated adult using a wheelchair:	1115mm to 1220mm

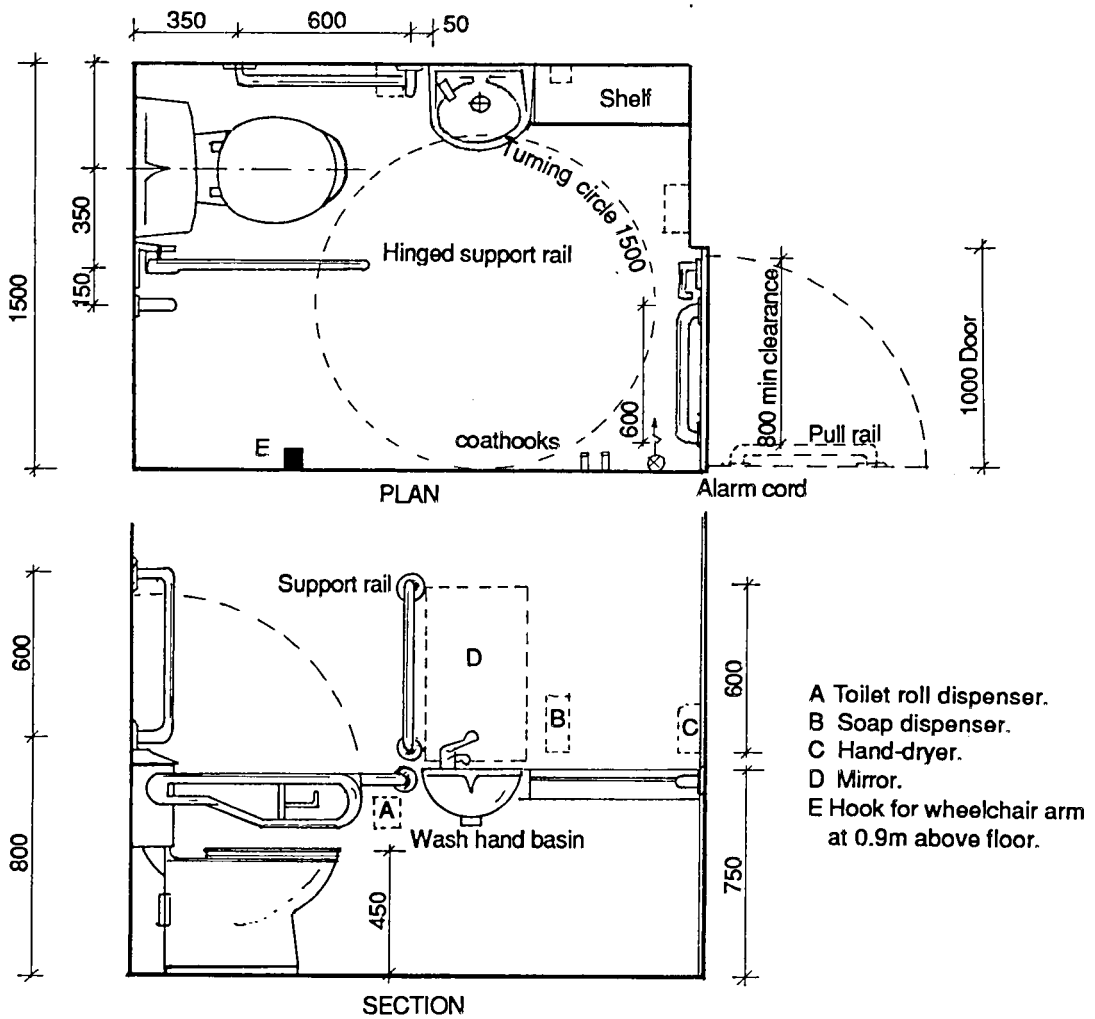
These are basic dimensions but it can be seen that by applying them in order to improve access to facilities for disabled visitors other visitors will also benefit. If it is possible to meet these space dimensions manoeuvring will be easy while minimising damage to other visitors and the property, particularly significant in historic houses with valuable furnishings. The performance and capabilities of a wheelchair as an aid to mobility depend very much on the individual user and / or helper. There are special wheelchair models that are narrower than the standard manual wheelchair and larger motorised chairs also exist.

APPENDIX 6

SITE FACILITIES

1 Toilets

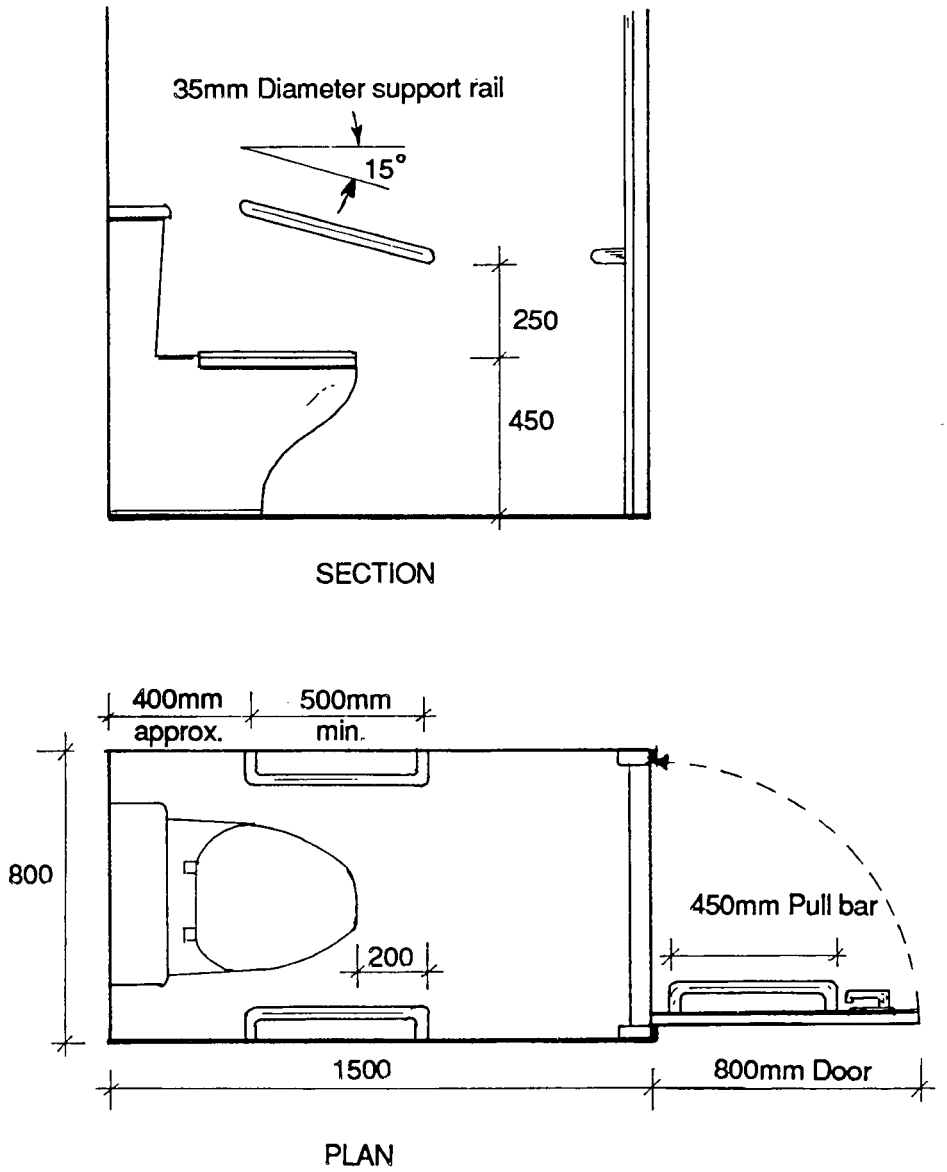
Figure A6.1 Standard layout of adapted unisex WC



Details of the conventional unisex WC have been illustrated above. This layout can accommodate a number of transfer methods and allows users to wash their hands while sitting on the WC before returning to their chair. Attention to detail is important. For example the flushing lever must be within reach and the mirror must be low enough to see reflections. Facility must be provided for emergencies, an alarm pull cord should be included that reaches to the floor and the door should be openable outwards in case someone falls across the doorway. Fixtures and fittings must be secure, they may be used for assistance and support.

Further details and more comprehensive dimensions are available from 'Designing for Accessibility - an introductory guide,' produced by the Centre for Accessible Environments (see Appendix 3). These design details should always be met in new facilities outside the historic setting.

Figure A6.2 Adapted compartment for ambulant visitors with disabilities



A WC compartment that is provided for the ambulant disabled could also be used by parents with children. Wheelchair users are unable to use this style of WC (above).

2 Retail Outlets

Displays are accessible to a wheelchair user at heights of 1400mm maximum reaching sideways and 1200mm maximum reaching forward.

Two-way aisles should not be less than 1300mm wide.

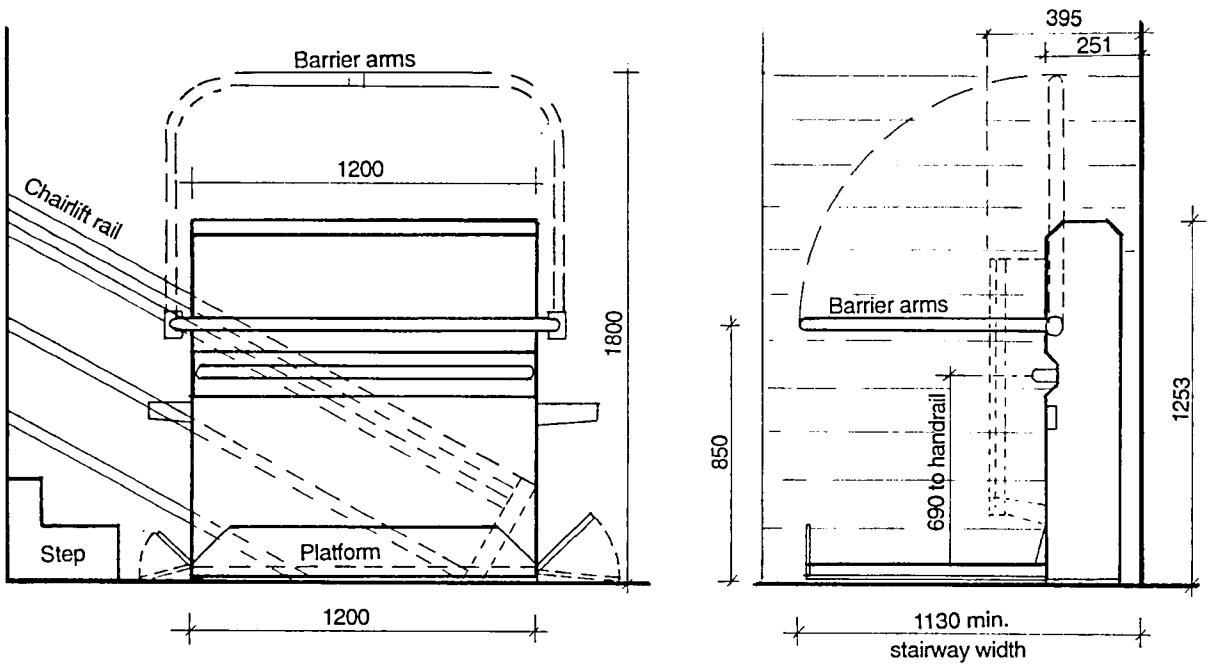
Accessible counters and tables should be 800mm high with 700mm high x 450mm deep kneespace.

A tactile change of floor surface can indicate important features e.g. paypoint.

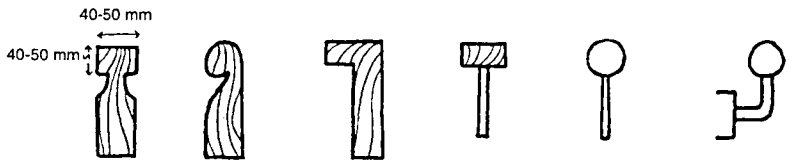
Provide large print tariff displays, menus etc.

3 Stairlifts

Figure A6.3 Details of stairlift

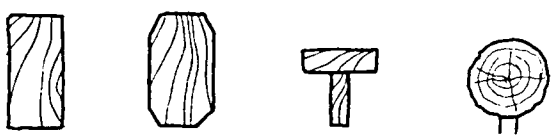


4 Handrails (Figure A6.4)

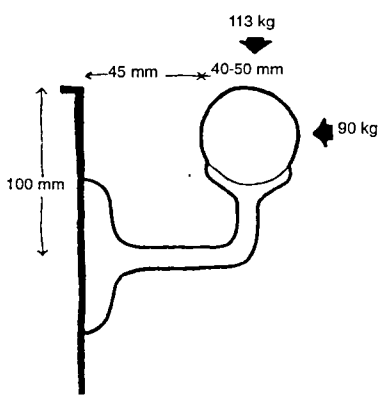


ACCEPTABLE:
size and shape of handrail allows hand to use natural grip

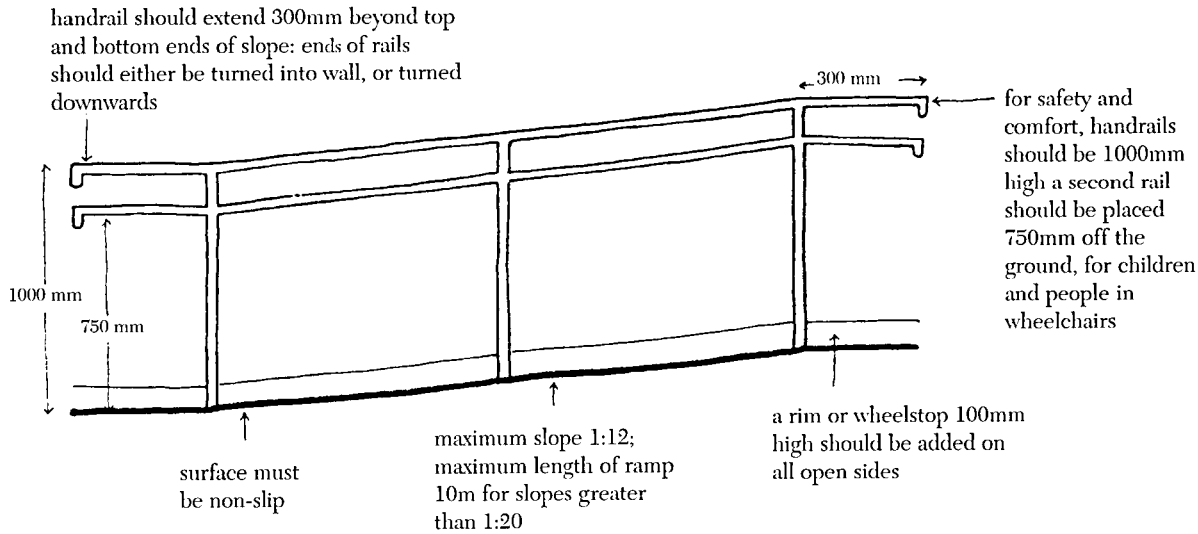
(curved edge faces away from step)



UNACCEPTABLE:
handrails measuring over 50mm in width or depth do not allow natural grip to be employed.



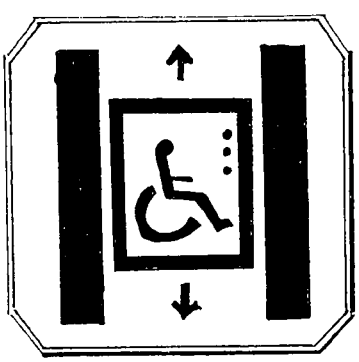
a low wall on its own is insufficient to support the weight of an elderly or disabled person: a handrail should be provided in addition. This should be capable of weight of 113 kg vertically, and 90 kg horizontally, fixings should be closely spaced and regularly inspected



SOURCE: AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS
COURTESY OF: COUNTRYSIDE COMMISSION

5 Standard Signs and Symbols

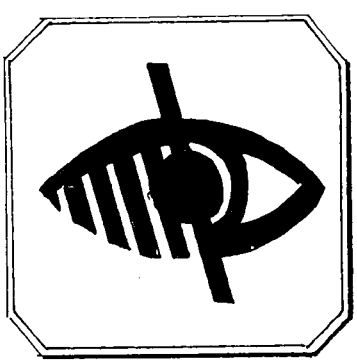
Access for wheelchair users.



Lifts usable by wheelchair users.

Ramp suitable for people in wheelchairs.

Provision for guide dogs.



Facilities for people with partial sight.

Induction loop facility for hearing aid users.

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Printed by The Stationery Office Scotland Dd 8456753 10/96 (131175)