KUWAIT ACCESS STRATEGY

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P.O. Box: 41 Safat, 13001 Kuwait
Tel.: 888 55 222 965+
Fax: 999 55 222 965+
www.ksh.com.kw

KUWAIT ACCESS STRATEGY

Kuwait Society for the Handicapped

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ACKNOWLEDGEMENT OF THE ARAB FUND FOR ECONOMIC AND SOCIAL DEVELOPMENT

It was the wish of the Kuwait Society for the Handicapped to implement the Convention on the Rights of Persons with Disabilities adopted by the United Nations at its 76th Session held on December 13, 2006 also keenness of the Society to implement resolutions and conventions that contribute to the well-being of persons with disabilities, allowing them to participate and giving them equal opportunities, the Kuwait Society for the Handicapped joined hands with Rehabilitation International to produce this study. Rehabilitation International was established in New York in 1922 and in 1974 Kuwait was the first Arab country to join as a member.

This study of providing accessibility for persons with disabilities was the result of cooperation between the Society and Rehabilitation International, in accordance to the Article (9) of the International Convention on the Rights of Persons with Disabilities. It prescribes that persons with disabilities have a right of access to various environments, such as transportation, public facilities, communications and other services, as well as, access to technical and electronic information, etc. aiming to include them in the community without looking at their physical, sensory and other types of disabilities.

In order to provide funding for the project, the Society requested the sponsorship of the Arab Fund for Economic and Social Development represented by Mr. Abdul Lateef Yusuf Al-Hamad – Director General of the Fund who has kindly approved sponsoring the study. This study would not be at your disposal without the Arab Fund's support. We thank all the members of the Fund who participated in this project that will be without a doubt a model in the Arab world. We also thank Mr. Abdel Lateef Al-Hamad - Director General of the Fund, for his consistent support and encouragement of the Society and its charitable projects. We would also like to extend our gratitude to all the employees working with Mr. Al-Hamad, especially to those who have facilitated and contributed to the success of the First Workshop organized for Undersecretaries and Assistant Undersecretaries of the Ministries that was hosted by the Arab Fund for Economic and Social Development. May God almighty help you all and reward you for all of your good deeds that contribute to the wellbeing and the development of our Arab society.

Abdel Rahman Salem Al-Atiqi
Chairman of the Society

THE KUWAIT ACCESS STRATEGY

Since its establishment in 1971, the Kuwait Society for the Handicapped has worked on providing care for children with disabilities of all categories. It is also continuously working on improving that care, on both the regional and international levels in order to integrate them into the society. The Society also tries to implement all international Conventions and legislations that call for equal opportunities for persons with disabilities and especially, the UN Convention on the Rights of Persons with Disabilities adopted by the United Nations in 2006, in order to oblige all countries of the world to include persons with disabilities in all aspects of life.

As it is our wish to implement international resolutions and to benefit from the best practices that will ease the lives of persons with disabilities in our country and help their inclusion in all fields of life and owing to the membership of the Kuwait Society for the Handicapped in Rehabilitation International for more than thirty years, we requested them to prepare a proposal for the Kuwait Access Strategy for persons with disabilities project.

Based on what is stipulated in Article 9 ("Accessibility") of the Convention, concerning enabling persons with disabilities to live independently and fully participate in all aspects of life, the UN Member States agreed to take appropriate measures to ensure access to persons with disabilities, on an equal basis with others, to various environments, such as transportation and other facilities, indoor and outdoor, access to information, communications and other services including electronic and emergency services.

The Kuwait Society for the Handicapped signed a contract with Rehabilitation International represented by the RI ICTA Global that is the International Commission on Technology and Accessibility, on 12.04.2012, to study the possibilities for applying Article (9) for the benefit of the State of Kuwait. The Arab Fund for Economic and Social Development funded this important project.

Kuwait Access Strategy project was realized through four visits of the RI Team to Kuwait during which details of the project proposal were discussed with representatives of the Kuwait Society for the Handicapped and ICTA Kuwait Commission members. The RI Team also audited some of the existing buildings and plans of proposed projects, such as schools, hospitals, some ministries, sports clubs and other premises. The total number of the audited buildings was 30 and the purpose of access audit was to verify to what extent those buildings provide access for persons with disabilities. In addition, workshops were organized for engineers and representatives of institutions providing care for persons with disabilities and the Access Strategy was developed.

The RI Team consisted of Eng. Michael Fox from Australia, in the capacity of the Chair of RI Working Team for Humanitarian Emergencies and the former Chair of the RI ICTA – International Commission on Technology and Accessibility, Eng. Joseph Kwan from Hong Kong, Chair of RI-ICTA Global and Mr. Khaled Al-Muhtar from Lebanon, RI Vice President for Arab Region at that time and RI Arab Region President.

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Workshops were organized for presentation of the UN-CRPD, Global Trends in access for persons with disabilities, examples of implementation of Universal Design and access to buildings, public transportation, information, communications and entertainment venues. They also presented findings of the access audit of public and private buildings carried out by the RI Team with assistance of the ICTA Kuwait Commission members and overview of the current situation in Kuwait regarding access, comments of the Team regarding lack of legislation, standards and policies that improve lives of persons with disabilities. The First Workshop was intended for policy makers, such as Undersecretaries, Assistant Undersecretaries and their representatives. The second Workshop was organized for engineers of the Ministry of Public Works and Municipality and the Third one for professionals in private sector like engineering offices, members of the Kuwait Engineering Society, architects, civil engineers, interior designs and contractors. The fourth workshop was intended for Academics and students of design, architecture and interior design of the Faculty of Engineering of the Kuwait University.

The ICTA Kuwait Commission continues its work on developing access to built environments and on implementation of the project recommendations. We hope that relevant authorities will take the necessary measures to adopt legislations to regulate all issues concerning provision of access for persons with disabilities in Kuwait.

Munira Khaled Al-Mutawa
KSH Vice Chair & Secretary General
RI National Secretary for Kuwait

ACKNOWLEDGEMENT OF THE RI - ICTA KUWAIT COMMISSION MEMBERS

When the Kuwait Society for the Handicapped decided to carry out the project of developing Kuwait Access Strategy in cooperation with Rehabilitation International, one of the first steps towards its realization was the establishment of ICTA Kuwait Commission. The project aimed to help the country in capacity building and implementation of technical standards in order to provide access for persons with disabilities to all environments. The Commission emanated from the RI International Commission on Technology and Accessibility (RI - ICTA Global) and comprised representatives of the Kuwait Society for the Handicapped, concerned Ministries, Kuwait Municipality and KEO International Consultants.

The members of the Commission were as following:

1) Mrs. Munira Khaled Al-Mutawa — **Chair**
Vice Chair & Secretary General of the Kuwait Society for the Handicapped
RI National Secretary for Kuwait

2) Mrs. Mouna Bourusly — **Adviser**
KSH Board Member

3) Mr. Hashem Taqi — **Member**
Director General of the Kuwait Society for the Handicapped
Chair of the RI Education Commission

4) Eng. Adel Al-Atram — **Member**
Director of the Engineering Systems Department in Kuwait Municipality

5) Eng. Aiman Al-Araj — **Member**
Head of Project Controls of the KEO International Consultants

6) Eng. Haifa Al-Juraiwi — **Member**
Representative of the Ministry of Public Works

7) Mr. Moujbel Al-Zafiri — **Member**
Head of the Systems Analysis & Design Department of the
Ministry of Communications

8) Mrs. Milica Ivancevic — **Reporter**
Executive Secretary to the Vice Chair & Secretary General of the Society

We extend our gratitude to the members of the RI - ICTA Kuwait Commission for their commitment to working with the RI Team, their participation in preparation of the project and following up its execution. We also thank Eng. Mona Bourusli – KSH Board member for attending some meetings of the ICTA Kuwait Commission.

Munira Khaled Al-Mutawa
KSH Vice Chair & Secretary General
RI National Secretary for Kuwait

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INTRODUCTION

The Kuwait Access Strategy (KAS) is an RI access consultancy project for the Kuwait Society for the Handicapped (KSH), headquartered in Kuwait City, Kuwait.

The KSH contract requires RI to – review the (Kuwait) legislations and regulations and prepare reports with recommendations; conduct access assessments within the State of Kuwait and prepare reports for each facility indicating the access improvements needed of each including design recommendations it (RI) deem necessary and relevant and to recommend good practice standards; provide capacity building workshops to organizations, professionals and personnel as nominated by KSH.

The intent of the KAS is to provide KSH and the Kuwait government with an access framework and guidelines suitable for access legislation and implementation, and including access enforcement / compliance procedures, appropriate for Kuwait and consistent with the 2008 UN Convention on the Rights of Persons with Disabilities (CRPD) and Protocol.

The KAS program included 4 Kuwait visits by RI personnel – and Reports 1 to 6 provide details of RI international and Kuwait access reviews, checklists and capacity building workshops.

The goal of the KAS is to provide an access strategy and framework for effective implementation and capacity building in Kuwait.

This Report should be read in conjunction with RI KAS Reports 1 to 6.

EXECUTIVE SUMMARY

The KSH recognizes the overall importance of accessibility in the process of the equalization of opportunities in all spheres of society.
RI recommendation to the Kuwait government is to introduce programs of action to make the built and virtual environment more equitable and accessible including:

- Initiate measures to remove the obstacles to participation in the built environment, including standards and guidelines, and enact legislation to ensure accessibility to all areas of society including – information, communications, public domains, transportation, housing, buildings, services and outdoor environments.
- Ensure educators, planners, architects, construction engineers and other stakeholders involved in the design and construction of the built environment have access to adequate information, policies and measures to achieve equitable accessibility.
- Include accessibility requirements in design and construction of the built environment from the beginning of the design process.
- Consult and involve organizations of persons with disabilities at all stages, including when standards and norms for access are being developed.

Good example of a building entry

Accessible environment should be multi-sectoral in scope, promote security, safety, health, and self-reliance for equal access to the environment, and to social, cultural, political and economic opportunities for all inhabitants of Kuwait.

Specific attention should be directed to promoting non-handicapping environments and opportunities for all persons with disabilities to receive education and training, to obtain employment and sustainable livelihoods, to enjoy recreation and leisure, and access to accessible information and communication services.

An essential pre-condition for formulation and implementation effective policy options and legislation on planning and design of accessible environment is commitment at

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the highest political level, together with key managerial and administrative levels of relevant public agencies, programs and services.

RI recommends that the Kuwait Government adopt a policy framework that provides appropriate enabling conditions for planning and design of accessible environments. In formulating policy options, strategic instruments and legislation on access, the Government of Kuwait should address both exterior and interior environments, including public buildings, privately owned facilities and public open spaces.

RI recommends that the Kuwait Government formulate and adopt policy instruments on access and appropriate mobility, which should include transportation systems, information and communication services and the interfaces between these systems.

Norms and standards on access are essential part of the accessibility 'chain' or 'process of access' requiring strategies, policies and programs on accessible environment and the institutions of society – including the public sector, NGOs and the private sector. At the level of strategies and policies, the access 'chain' includes legislation, codes, and technical design standards to guide planning and design processes, development approvals, financing decisions, implementation management, user evaluation and post-occupancy surveys. The institutional realm includes relevant technical standards bodies, academic institutions, and enforcement agencies.

Accessibility norms and standards should be drafted as part of an integrated whole, be performance based, flexible and appropriate to Kuwait conditions and capacity – to allow for consultation and feedback, reviews, indicate incentives for implementation and establishment of priorities.

RI recommends that Kuwait access legislation identifies basic minimum standards for accessible environments, address accessibility in both exterior and interior settings, provides technical guidance for application in practice and includes appropriate incentives to ensure efficient and effective implementation.

International organizations can make important contributions to complement initiatives in promotion of public awareness and guidelines and standards for accessible planning, design, implementation and evaluation. Consideration should be given to partnership or coordination with experienced international agencies in drafting legislation and standards for Kuwait.

The intent of the KAS is to provide KSH and the Kuwait government a generic access framework and guidelines suitable for access legislation and implementation. This includes access enforcement / compliance procedures, appropriate for Kuwait and consistent with the 2008 UN Convention on the Rights of Persons with Disabilities (CRPD) and Protocol. The access framework should be applied at the level of the Ministry of Public Works, Kuwait Municipality and all other organizations responsible for design standards, codes and all government authorities involved in granting approvals and permits for constructing built environments.

1. KUWAIT ACCESS STRATEGY

1.1 WHAT IS KUWAIT ACCESS STRATEGY?

The following Access Policy Provisions & Legislation guidelines provide a recommended strategy and process for implementing the KAS.

The KAS program provides important and relevant guidance and information towards implementing this recommended Strategic Road Map – including:

- International Access Review & Recommendations
- Kuwait Access Review & Recommendations
- Site Visits with Assessment Reports
- Review of Plans on Projects under design, Site Assessments and Recommendations
- Awareness & Involvement Guidelines with Access Checklists & Audit Process
- Access Training and Capacity Building Workshops to:
  - Under Secretaries, Deputy Undersecretaries of Ministries of Municipality, Public Works, Social Affairs, Education, Health, Communication and Ministry of Housing
  - Directors of Departments, Authorized Persons, Engineers & Architects in the Ministries
  - Architectural & Design Students and Academics
  - Professionals and Professional Practices
  - (Appendix 1)
- Workshop Recommendation Reports
- The Strategic Road Map
- Access Policy Provisions & Legislation – Approaches & Development
- Sample Outline of Access Legislation Development
- Kuwait Opportunities - discussions on future plans, implementation strategy and actions

The goal of the KAS is to provide an access strategy and framework for effective implementation and capacity building in Kuwait – and a best practice model for the Arab Region.

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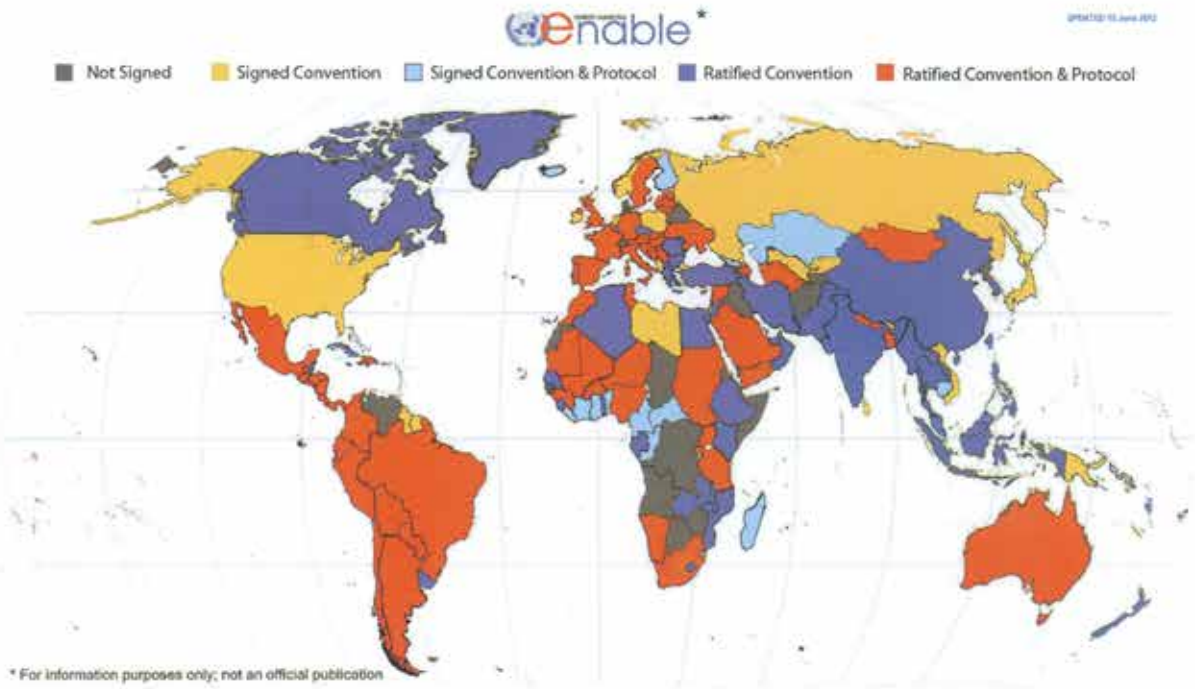
1.2 STRATEGIC ROAD MAP FOR AN ACCESSIBLE KUWAIT

The following strategy outlines the process to achieve equitable access for all inhabitants of Kuwait:

1. KAS recommended that the Kuwait Government to ratify the UN CRPD (Convention on the Rights of Persons with Disabilities) and the CRPD Optional Protocol as soon as practicable. Kuwait did indeed ratify the CRPD on August 22nd 2013.

2. Kuwait Government to prepare and adopt appropriate legislations on the protection of the rights of persons with disabilities similar to other countries legislation.



3. Kuwait Government to establish a Supreme Council on Equity & Accessibility to oversee the actions to be undertaken by the various authorities to fulfill the requirements of the CRPD.
4. Kuwait Government to establish a Commission on Human Rights and Equal Opportunities to monitor and implement the legislation on disability discrimination.
5. Kuwait Ministry of Communications to prepare and adopt appropriate Regulations, ICT Standards, Codes, Guidelines and Manuals on access to information and communication technology (ICT) and its services.
6. Kuwait Public Transport Company to prepare and adopt appropriate Regulations, Transport Standards, Codes, Design Guidelines and Technical Manuals on access to transportation systems.

7. Kuwait Municipality and Fire Directorate to prepare and adopt appropriate Building Regulations, Planning and Safety Standards and Codes, Design Guidelines and Technical Manuals on access to the built environment.

KPTC bus station

Example of a curb at KPTC bus station

8. Kuwait Municipality to establish an Access Department / Division with trained access officers to review approve or reject all planning and building applications received from both public authorities and private sectors in terms of the access provisions to be provided in all new projects.
9. The same vetting process shall apply to existing projects undergoing substantial alteration and addition works. The Access Officer shall have the power to refuse the issuance of a 'Building Permit' to projects that do not fully comply with the access requirements at the project permitting stage.
10. Kuwait Municipality to establish an Access Advisory Committee (AAC) comprised of stakeholders from the design and construction industry, DPOs and NGOs to regularly monitor and review the function and approval process of the Access Department/Division. The AAC shall have the additional function to review and make recommendations on new projects that seek waiver or exemption from the requirements of the Access Regulations.
11. Similar Access Advisory Committees shall be established under the Kuwait Public Transportation Company and Ministry of Communication.
12. Kuwait Government to launch a Kuwait City Access Action Plan addressing areas of the existing infrastructure that requires upgrading and retrofitting in terms of access to the built environment, transportation, ICT and its services. The Action Plan should be formulated with realistic goals, achievable outcomes within a reasonable timeframe.
13. Kuwait Government should have regular consultation meetings with stakeholders from relevant departments, industries, professions, DPOs and NGOs to review the progress of various access implementation plans.

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14. Professional institution/organization/society relating to the built environment, transportation and ICT should hold regular CPD (Continuing Professional Development) programmes on access issues for their members

15. Kuwait Universities and Schools with faculties and departments providing studies on the built environment, transportation and ICT should incorporate within its curriculum courses and subjects relating to accessibility.

16. Civic education and public awareness campaigns should be held on the International Day of Person with Disabilities, and other events, to highlight the importance of accessibility and to focus on the need to provide an equitable and accessible society for Kuwait.

Example of an accessible walkway at a public place

Bad example of an accessible curb side ramp

Example of a non-accessible KPTC bus

1.3 KAS STAKEHOLDERS

In order to achieve an accessible Kuwait, significant input and commitment from various stakeholders are required.

1. **Legislators and Policy Makers**

2. **Ministries**
   - Planning
   - Information and Communications
   - Ministry of Electricity & Water
   - Kuwait Municipality

3. **Government Departments**
   - Planning Department
   - Public Works Department
   - Department of Constructions
   - Highways and Roads Department
   - Transport Department
   - Department of Parks and Gardens
   - Department of Information and Communications Services
   - Kuwait Fire Services Department
   - Environment Protection Department
   - Civil Aviation Department
   - Ministry of Al-Awqaf & Islamic Affairs

4. **Professionals, Institutes and Associations**
   - Planners
   - Architects
   - Engineers
   - Interior Designers
   - Landscape Architects
   - Transport Planners
   - Road and Pavement Designers
   - Industrial Designers
   - Project Managers

5. **Building Contractors and the Construction Industry**
6. **Universities and Educational Institutions**
7. **Public Social and Welfare Organizations**
8. **Private Associations, Societies and NGOs caring for PwDs**
9. **Disabled persons Organizations (DPOs)**

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1.4 ACTION PLAN TO ACHIEVING ACCESSIBILITY

1.4.1 LEGISLATORS AND POLICY MAKERS

- Formulate National Accessibility Strategic Plans
- Establish National Access Oversight Committee
- Enact new National Access Legislations and Regulations
- Empower Human Rights and Equal Opportunities.

1.4.2 MINISTRIES

- Promulgate National Accessibility Strategic Plans
- Formulate new National Access Regulations, Codes and Standards
- Form Access Monitoring Committees and Task Force
- Report on progress of Accessibility Strategic Plans to Legislators

1.4.3 GOVERNMENT DEPARTMENTS

- Promulgate new National Access Legislations and Regulations
- Implement new Access Codes and Standards, Regulations, Guidelines and Design Manual
- Set up Access Codes and Standards, Regulations, Guidelines and Design Manual Compliance Units within each Department
- Form Access Working Groups to review Projects
- Train and assign Access Managers and Access Officers to each Department
- Audit the implementation of Access Code and Standards, Regulations, Guidelines and Design Manual on a regular basis
- Report on progress of Accessibility Action Plans to Ministers on a regular basis
- Grants, subsidies and allowances to be provided for people with disabilities to modify and adapt their homes and work places to be fully accessible to support independent living and sustainable employment
- Technical advice and support to be given to people with disabilities in the modification and adaptation of their homes and work places
- Assistance in terms of ICT and assistive technology to be provided for people with disabilities to support independent living and sustainable employment.

1.4.4 PROFESSIONALS, INSTITUTES AND ASSOCIATIONS

- Implement and apply new Access Codes and Standards, Regulations, Guidelines and Design Manual in all their projects
- Innovate new and sustainable designs that facilitate access for all
- Develop, adopt and promulgate Universal Access Policy for their respective professional institute/society
- Provide CPD (Continuing Professional Development) courses on accessibility for the members of their professional institute/society

1.4.5 BUILDING CONTRACTORS AND THE CONSTRUCTION INDUSTRY

- Apply new Access Codes and Standards, Regulations, Guidelines and Design Manual in all their construction projects

- Innovate new and affordable buildings and products that facilitate access for all
- Develop, adopt and promulgate Universal Access Policy for their respective construction industry councils
- Provide CPD (Continuing Professional Development) courses on accessibility for the members of their respective construction industry
- Fully comply with the Access Codes and Standards, Regulations, Guidelines and Design Manual to facilitate access for all

1.4.6 UNIVERSITIES AND EDUCATIONAL INSTITUTIONS

- Teachers and Students all to be inducted to the concept of Universal Design and Accessibility
- Courses and Curriculum to incorporate concepts of Universal Design and Accessibility
- Students to participate in disabilities simulation exercises in the course of their studies
- Study projects to include elements of designing or provision of access for people with disabilities
- University Grants to be provided for research projects that include elements that relate to people with disabilities

1.4.7 PUBLIC AND PRIVATE SOCIAL AND WELFARE ORGANIZATIONS

- All public social and welfare organization premises and facilities are to be fully accessible to people with disabilities complying with all relevant access legislations and regulations
- Services provided to be fully accessible and inclusive of people with disabilities

1.4.8 DISABLED PERSONS ORGANIZATIONS (DPOS)

- Members of DPOs should actively be included in achieving accessibility in the following ways:
- Advise and consult on the National Accessibility Strategic Plans and in the National Access Oversight Committee.
- Advise and consult on the new National Access Legislations and Regulations, Codes and Standards, Human Rights, Equal Opportunities Commission, Committees, Task Force, Access Working Groups, Monitoring Units of the Ministries, Government Departments, public Social and Welfare Organizations.
- Members of DPOs to collaborate with relevant Government Departments to assist in the training of Access Managers and Access Officers
- Members of DPOs to partner with professional institutes/societies, the construction industry and educational institutions to provide Disability Awareness and Sensitivity Training to their respective constituents
- Members of DPOs to be actively involved in all monitoring and feedback processes in relation to the National Accessibility Strategic Plans
- Members of DPOs must themselves be educated and experienced in access issues and equipped with the expertise to advise on a professional level to all stakeholders related to achieving access for all

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2. ACCESS POLICY PROVISIONS AND LEGISLATION

2.1 INTRODUCTION

The formulation of access policies and enactment of access legislation are the most effective means to ensure the rights of people with disabilities. Effective access legislation should result in the creation of more accessible environments – and the access legislation should be based on a continuous and accessible path of travel around, to and within buildings, transport and other facilities used by all members of the public, including older persons and people with a range of disabilities.

Many buildings and transportation systems, considered to be accessible, provide isolated accessible facilities, and this is not adequate. Access legislation should include provisions to assist persons with:

- Physical disabilities
- Sensory limitations
- Intellectual, developmental and psychological limitations

Access guidelines, standards and legislations should be developed and strengthened through consultation, monitoring and reviews on a regular basis, with a time-frame for such reviews stipulated in the guidelines and legislation. Continuous review and revision of relevant guidelines, codes and legislation is essential if an accessible environment is to be properly provided and maintained.

Revision procedures should include consultations with Government, building owners and providers, transport owners and operators and people with disabilities. The establishment of Access Committees to liaise between Government and community stakeholders is an effective mean of encouraging the implementation of access legislation.

Concerning implementation of access legislation, consideration needs to be given to timeframes for achieving accessible environments and the relationship between access legislation and the wide and complex range of other built environment legislations.

Efforts to resolve any conflicts that may arise between access legislations and policy provisions and safety regulations should be undertaken – to avoid any misunderstanding about access legislation as opposed to health and safety regulations.

2.2 APPROACHES TO PROMOTING ACCESSIBLE ENVIRONMENTS

2.2.1 INITIATIVE APPROACH

This approach focuses on increasing the awareness, sensitivity and responsiveness of various sectors of society to the access needs of persons with disabilities, so that these stakeholders may play an active role in the promotion of equitable access.

The various stakeholders may include individuals, government officials, politicians, professionals, educators, private sectors, non-governmental organizations and disabled persons organizations.

Inclusion of persons with disabilities in the community

2.2.2 SOCIAL RESPONSIBILITY APPROACH

Although social responsibility arises as part of public concern for commitment to the promotion of accessible environments, it is not the same as public awareness. This is because awareness of the need to create an accessible environment does not necessarily incorporate a moral obligation to do so.

Moral and social obligation can be brought about by educating society about the difficulties faced by persons with disabilities in an environment full of physical barriers.

Another example of inclusion of persons with disabilities in the community

This approach emphasizes the fulfillment of the social responsibility of various sectors of society to contribute to the elimination of barriers encountered by people with disabilities. Actions taken in this regard are directed at publicizing good efforts through positive publicity and discouraging poor examples through negative publicity.

2.2.3 GOOD PRACTICE APPROACH

This approach is closely related to the social responsibility approach, and shows that creating an accessible environment could be incorporated into everyday thinking in society.

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It is directed at generating positive examples of access promotion as a means of encouraging similar efforts on a larger and broader scale.

2.2.4 MANDATORY APPROACH

This approach is based on pressure from legal instruments or administrative decrees. In the case of non-compliance, penalties such as fines, withholding permit issuance or even demolition of the building may be imposed.

2.2.5 INCENTIVE/DISINCENTIVE APPROACH

In this approach the promotion of accessibility is encouraged by a combination of incentives, such as the awarding of government building contracts or soft loans for purchases, and disincentives, such as the withholding of permits or refusal to grant preferential rates for the purchase of construction sites.

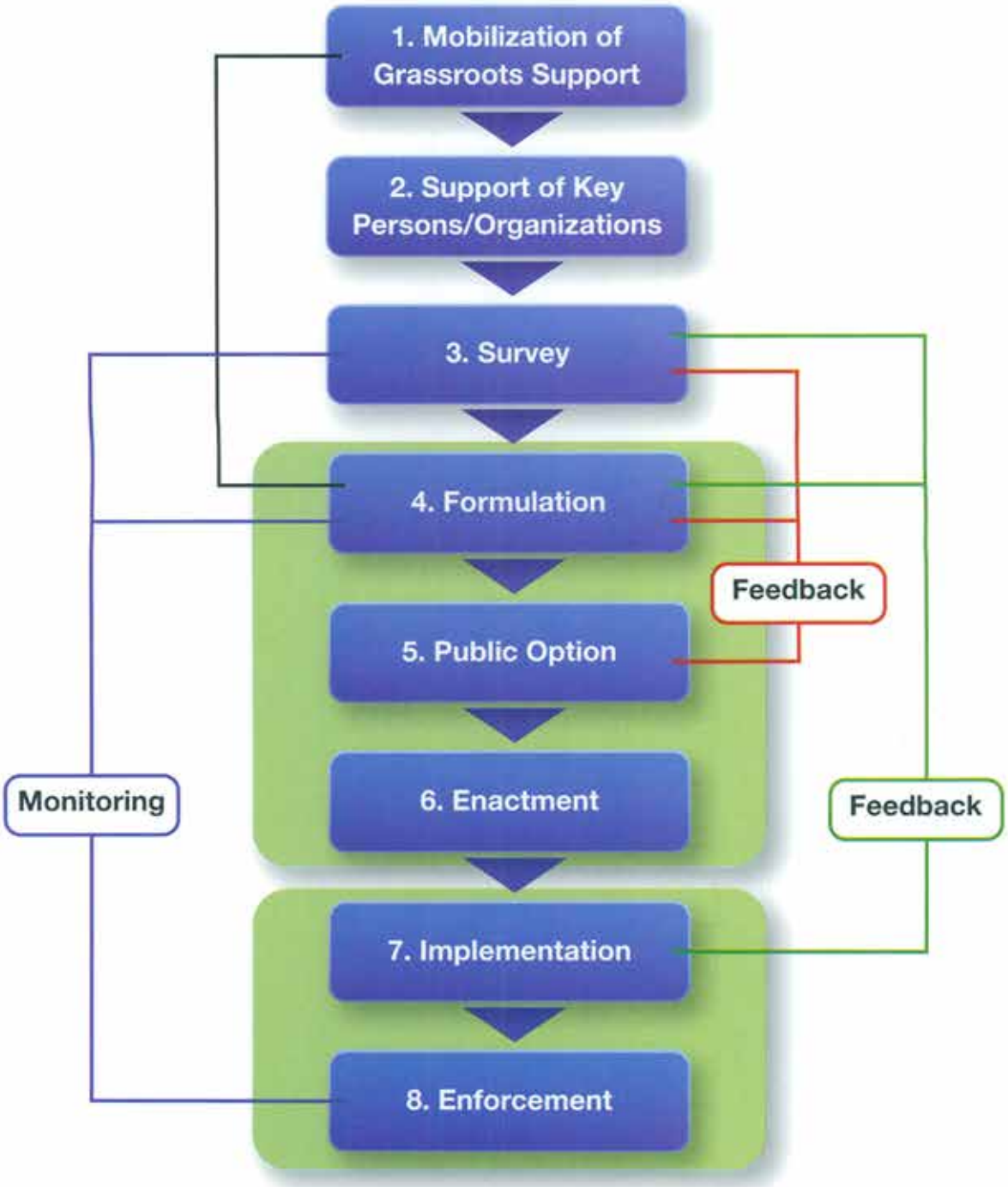
2.2.6 ECONOMIC APPROACH

This approach focuses on increasing the involvement of various stakeholders in the promotion of an accessible built environment for persons with disabilities by publicizing the cost effectiveness and other consequential economic benefits of accessible built environments.

2.2.7 COMBINATION OF THE ABOVE APPROACHES IN AN OVERALL STRATEGY

An overall strategy for the promotion of accessible environments would include a combination of the above approaches. At different stages, a particular approach may be more useful, depending on the key person or organization whose participation is to be encouraged and the desired outcome obtained.

2.2.8 KEY STEPS TOWARDS THE FORMULATION AND APPLICATION OF ACCESS LEGISLATION



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Note:

Steps 1, 2 and 3 would be the pre-formulation stages within the process of creating the policy provisions and access legislation. The mobilization of grassroots support (step 1) and its results will be taken into account in the formulation stage (step 4).

Further, the mobilization of grassroots support will necessarily lead into bringing about support of the key persons or organizations (step 2). Vice versa, garnering the support of key persons or organizations would necessarily lead to the mobilization of grassroots support (step 1).

Steps 4, 5 and 6 are the formulation stages and involve the creation of policy provisions and access legislation. Here, the feedback obtained through public opinion (step 5) will have to be taken into account in the actual stage of formulation (step 4). Feedback obtained in the formulation stage (step 4) must be taken into account in the survey stage (step 3).

It must be noted that, at times, feedback from public opinion (step 5) does not only go to formulation stage (step 4), but also to the survey stage (step 3). This would depend on the gravity and scope of public opinion (step 5).

Step 7 is the implementation stage for policy provisions and access legislation. Feedback obtained through the implementation of policy provisions and access legislation will be taken into account at both the formulation stage (step 4) and survey stage (step 3).

Step 8 is the enforcement stage of policy provisions and access legislation. This enforcement stage (step 8) will be monitored through feedback generated from the consumers and the public. The monitoring will be done on a regular basis and will be taken into account at both the formulation stage (step 4) and survey stage (step 3). Monitoring will be done through effective review of access policy provisions and access legislation.

2.3 DEVELOPMENT OF ACCESS POLICY PROVISIONS AND LEGISLATION

2.3.1 MAIN STAGES IN THE DEVELOPMENT

The process for development of access policy provisions and legislation may be envisaged in terms of five main stages:

- Pre-formulation
- Formulation
- Enforcement
- Survey
- Implementation
- Monitoring & Reviewing

2.3.2 PRE-FORMULATION

1) Mobilization of grass root support

Self-help organizations of people with disabilities have a vital role to play in the process for the development of access policy and legislation.
In order to fulfill this responsibility they should acquire basic technological knowledge of access issues and the skills for cooperative action with the relevant sectors of Government.

A self-help organization may consider developing an access team drawn from its members and concerned professionals who may include prominent and skilled persons with disabilities to play the important role in mobilizing grass root support.

2) Role of key persons and organizations

Relevant government authorities should develop training courses on access issues for the concerned government officials, in consultation with knowledgeable representatives of disabled persons organizations (DPOs) and professional organizations, such as planners, architects/engineers, transport planners and ICT experts.

National bureau and institutes of standards should develop policy documents pertaining to access standards and design guidelines for access environment, transportation and ICT.

Urban planners should include access requirements in the preparation of plans for towns and cities, and urban renewal developments for existing town and city centres.

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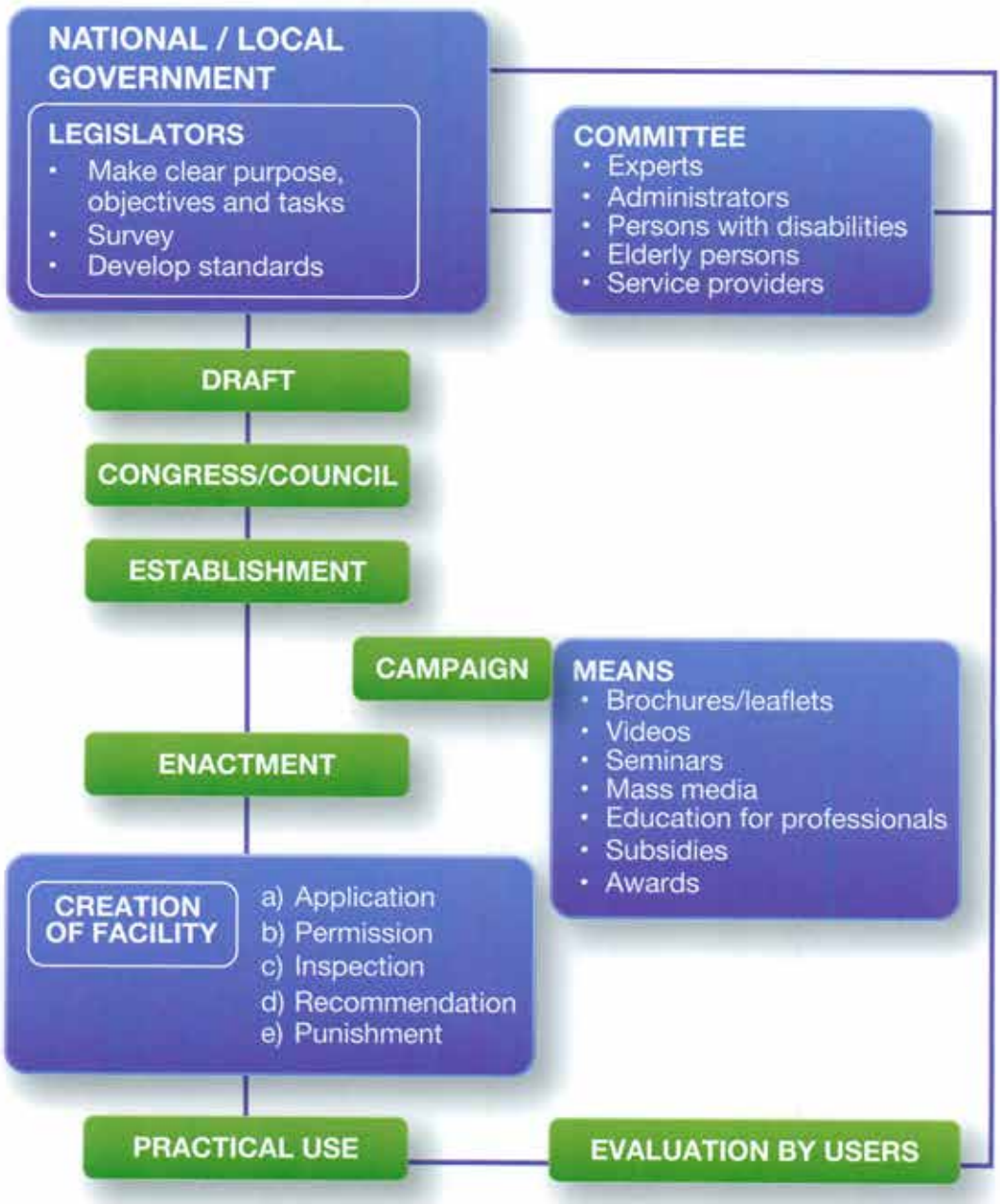
Government officials responsible for rural and urban planning and renewal developments should incorporate access requirements into all areas and stages of their substantive and administrative responsibilities.

Government officials and legislators play an important role throughout the process of developing access policies and legislation at national, provincial or regional, and municipal levels.

The following actions may be taken

- Identify in close collaboration with DPOs and relevant stakeholders the access needs of diverse social groups
- Mobilize the concerned stakeholders for involvement in a Committee to comprise of representatives of diverse disability groups, administrators, professionals, service providers and local authorities
- Request the Committee to submit recommendations on access policy provisions and legislations.

3) Role of Government Officials and Legislators



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2.3.3 SURVEY

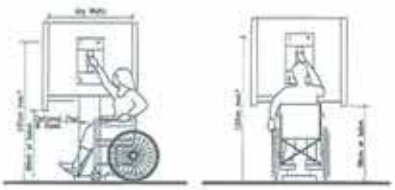
Prior to formulation of policies and legislation, a survey should be conducted to identify obstacles and physical barriers in the built environment, public transportation, ICT and services encountered by user groups. Two approaches to the survey are available:

- Conduct a survey within an area of approximately 2 – 3 km radius from a public facility (e.g. Department of Social Affairs)
- Conduct a survey in and around selected types of public facilities such as a community hall, transport terminal, shopping centres

Area surveyed should include the following:

- Access routes
- Stairs and ramps
- Tunnels and overhead walkways and bridges
- Fixed barriers, movable barriers and temporary barriers
- Signage
- Pedestrian crossings and signage
- Traffic signals
- Bus stops and platforms
- Car parking & taxi stands
- Parks and playgrounds
- Public squares
- Public toilets
- Educational facilities
- Work places
- Administrative and government centres
- Social services and community centres
- Healthcare centres and hospitals
- Places of public entertainment
- Recreational centres
- Cultural and sporting facilities
- Religious centres and mosques
- Markets shopping and commercial centres
- Transportation terminals
- Communication centres

Good example of a public ramp



Good example of accessible public telephone

Non-accessible designated parking for persons with disabilities

2.3.4 FORMULATION

Key aspects of access legislation include:
a) Legal structure
b) Formulation of access policy provisions and legislation
c) Access policy provisions
d) Access legislation
e) Scope and Coverage of access policy provisions and legislation, including
- » Buildings
- » Public Facilities
- » Roads and Waterways
- » Transportation Systems
- » Information and Communication Technology (ICT)
- » Services

2.3.5 IMPLEMENTATION

Accessible public phone

Access policy and legislation should be implemented by existing agencies or authorities responsible for implementation of building regulations, maintenance of public facilities, roads, waterways and transport systems. Municipal officers and officials of transportation and communications corporations are examples of existing implementation mechanisms.

Supplementary implementation mechanisms include access committees with the community and concerned government departments, information and communication services, as well as access officers and ombudsmen as applicable.

An incentive approach can assist in the implementation of access policy. Many incentive schemes may be considered, including government subsidies, soft loans, additional floor space, preferential consideration and government contracts related to exemplary compliance – as in the following example:

Buildings, public facilities, roads and waterways and transport systems are regulated through a variety of procedures. One example of the procedure concerning building construction activity is that building plans and an Application for Building Permit are required to be submitted prior to any construction activity.

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The relevant competent authorities examine the building plans with reference to access conditions set out in the building codes for the construction of that particular type of building. Permission to build is granted if the building plans are designed in accordance with those access, egress and safety standards.

Upon completion of the construction, a Certificate of Access Compliance is required to be obtained from the competent authority before the building or facility can be occupied.

Renewal of a Certificate of Access Compliance should be done annually and there should be a link to E-Government websites.

2.3.6 ENFORCEMENT

Methods and mechanisms for enforcement of access policy and legislation relate to the legal effectiveness of the provisions.

1) Access Policy

The enforcement of access policy is distinct from implementation. While implementation is the procedure for translating policy into action, enforcement is the procedure for ensuring its compliance through incentives or punitive measures.

Potential incentives are outlined above and punitive measures could range from negative publicity of non-compliance to imposition of fines and penalties. Enforcement authorities should be the same as those responsible for implementation.

2) Access Legislation

An effective provision for enforcement should be included in access legislation. Such a provision may stipulate the right of all users of the built environment, public transportation systems, and ICT services to take legal recourse in the event that there is a breach in the compliance of the legislation.

Consideration may be given to inclusion of a provision for users to claim punitive damages should there be a lapse or omission in the discharge of a statutory responsibility.

In the event of non-compliance, the following punitive measures could be considered for inclusion in access legislation to deal with violations:

- Disqualifying an architect, developer or builder from applying for a building permit.

- Disqualifying a builder or developer from obtaining government subsidies or loans.
- Disqualifying an architect, developer or builder from participating in any government contract or tender
- Imposition of fines; and/or
- Passing an order of demolition

Courts of law can be an effective enforcement mechanism. The setting up of special courts for enforcement of access legislation can also be included in access legislation. Consumer protection forums can also be used for enforcement of access legislation.

2.3.7 MONITORING AND REVIEWING

To enhance and sustain positive outcomes of implementation, regular monitoring of the results is essential.

Provision for periodic review of access policy and legislation must be included.

Paralegal education and training should be provided for those involved.

Mass media campaigns should be used to support implementation.

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3. SAMPLE OUTLINE OF ACCESS LEGISLATION

3.1 EXAMPLE CHAPTERS

The following chapters are an outline of the necessary components that need to be included in an Access Legislation document.

3.1.1 CHAPTER 1: PREAMBLE

- Title, extent and commencement
- Application and Scope
- Definitions
- WHO details of 15% PWDs – main disability groups & functional abilities

3.1.2 CHAPTER 2: RIGHTS - UNCRPD

- Rights of People with Disabilities (UN-CRPD)
- Government obligation to incorporate the access requirements of people with disabilities
- Involvement of people with disabilities in all stages of the legislation process

3.1.3 CHAPTER 3: ACCESS BOARDS & COMMITTEE

- Appointment of Access Boards or Committees by central, provincial and local or municipal Governments
- Composition of Access Boards
- Functions of Access Boards
- Resource mobilization
- Role, authority and function of Access Officers

3.1.4 CHAPTER 4: ACCESS TO ICT & SERVICES

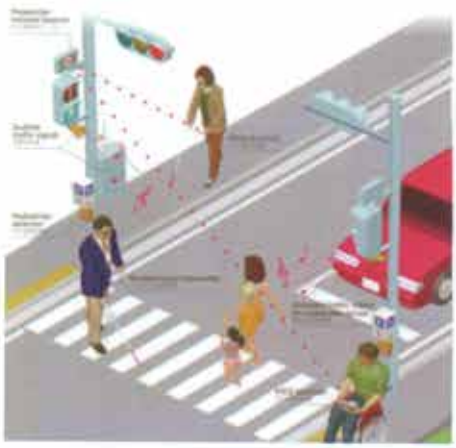
- All information and communication technology (ICT) systems to be made accessible and available in alternative format
- All ICT systems in any sector to conform to the requirements of the National Access Standards
- Government broadcasting of public information to be provided with sign language and appropriate captioning
- Incorporate access to information and communication before issuing any franchise or permit to operate public information services

Accessible communication services

3.1.5 CHAPTER 5: ACCESS TO TRANSPORTATION SYSTEMS

- All transportation systems and infrastructure to be accessible
- All transportation systems in any sector to conform to requirements of the National Access Standards
- Incorporate accessibility before issuing any franchise or permit to operate public transportation systems
- Preparation and notification of Access Standards by the National Access Board for different types of transport systems
- Appointment of Transport Access Officers
- Existing transportation systems to be accessible within a reasonable prescribed time frame

3.1.6 CHAPTER 6: ACCESS TO PUBLIC DOMAINS



- Access to and within all public facilities
- Accessibility and usability of existing public facilities by People with Disabilities
- Preparation and notification of access standards for all types of public facilities by Access Board
- Appointment of Access Officers in Government offices regulating public facilities
- Concurrence of an Access Officer for the granting of a license or permission to establish any public facility

3.1.7 CHAPTER 7: ACCESS TO ROADS & WATERWAYS

- Access to and within all roads and waterways
- Design criteria for accessible roads and waterways by Access Board
- Government promotion of accessible roads and waterways
- Establishment of annual expenditure budgets for maintenance and construction of civil works to improve accessibility of roads and waterways
- Mandatory requirements for covering of drainage channels, open manholes etc.

Accessible ferry

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3.1.8 CHAPTER 8: ACCESS TO & USE OF BUILDINGS

- Design and construction, repairs or renovation of buildings that are not in compliance with the Building Access Standards
- Access guidelines and standards
- Design and construction of buildings to the satisfaction of the Access Officer
- Certificates from an Access Officer or self-certification of compliance before the granting an occupation permit
- The preparation of a Building Access Standards by the National Access Board
- Consideration of Access Officer's report before granting/ refusing building permit
- Revocation of building permit
- Inspection by an Access Officer during construction
- Procedure in case of deviation from approved plans during construction
- Occupancy Permit or Certificate
- Appeal to the Access Boards
- Timeframe for making existing buildings accessible
- Exemptions

3.1.9 CHAPTER 9: INCENTIVES

- Obligation of Government at central, provincial, and municipal level to provide incentives to individuals or corporate bodies promoting accessibility
- Recommendation by Access Board for granting of incentives and benefits

3.1.10 CHAPTER 10: MISCELLANEOUS

- Monitoring and review of access legislation, access standards, and design criteria by Access Board
- Notification by the National Access Board within three months, or as agreed, of constitution of all stipulated access standards and design requirements

4. KUWAIT OPPORTUNITIES

4.1 KEY OPPORTUNITIES AVAILABLE IN KUWAIT

Resulting from RI visits 1 to 4 and Reports 1 to 6 – a number of key opportunities are available in Kuwait to successfully implement the KAS. These opportunities include:

- ICTA Kuwait key role as Chair of ICTA Arab Region – connecting interested groups and individuals to promote best practice accessibility across Arab Region.
- Liaison and programs with the University of Kuwait – including access agenda, best practice links with ADA and APS, and curriculum assistance.
- Construction of best practice accessible KSH facilities.
- Professionals – access audits & accreditation, and joint promotion of CRPD signing & ratification.
- Provide peer reviews and assist in developing University accessibility standards to enable bench marking and consistency across all campuses in Kuwait.
- Consultants Union – partnership opportunities with KSH and DPOs regarding access audits, accreditation and lobbying government

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5. ACCESSIBILITY CHALLENGES

INTRODUCTION

The following chapter looks into six aspects of society: the public domain, transportation, government, education, non-government organizations and mosques. Each sub-section presents summary reports of access surveys as examples for the types of access improvements needed. These include design recommendations deemed necessary and relevant as well as recommendations for good practice standards.

5.1 SUMMARY REPORTS OF ACCESS SURVEYS

5.1.1 PUBLIC DOMAIN

THE WATERFRONT

The Waterfront is a major public domain with parking, walkways and landscaped areas along the Arabian Gulf Road beachfront.

Curb ramps connect parking areas to walkways, with clear paths of travel.

Trees, bollards, street lights and seating are horizontally aligned with minimum pedestrian hazards in the path of travel. Seats have backs and no armrests.

Waterfront parking areas

Curb ramps to walkways

Waterfront walkway

Curb ramps with bollards

Pedestrian paths of travel to adjacent restaurants and commercial areas typically include steps and ramps.

Steps have no handrails, nosings or tactile indicators.

Ramps have 1:10 gradients, no handrails or tactile indicators.

Pedestrian steps and ramp

Pedestrian steps and ramp

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Several accessible parking spaces are provided with ISA (International Symbol of Access) vertical signage. Accessible spaces do not provide ground signage or curb ramps to adjacent walkways.

Driveways cross the pedestrian walkways without curb ramps.

Accessible parking with vertical ISA

Driveway across walkways

Some entries have driveways, steps and ramps. Steps have no handrails, nosings or tactile indicators. Ramps have 1:10 gradients, handrails one side and no tactile indicators.

Trees in paths of travel have wide open tree pits that are hazardous.

Entry driveway with steps

Hazardous walkways around trees

Access issues - Public Domains	Recommendation
Accessible parking	Provide accessible parking spaces and paths of travel.
Paths of travel	Provide accessible paths of travel with accessible curb ramps, ramps, steps and walkways. Provide minimum %30 luminance contrast between ground and vertical surfaces. Provide minimum %10 seats with backs and armrests.

5.1.2 TRANSPORTATION

KUWAIT PUBLIC TRANSPORTATION COMPANY

The Kuwait Public Transportation Company (KPTC) bus terminal is located adjacent to the Liberation Tower.

KPTC bus terminal

Incomplete path of travel

The bus terminal provides KPTC bus services throughout Kuwait, and private KGL Minibus and CBD Citybus routes.

KPTC services do not include any low floor accessible buses. The bus terminal is generally level with PA systems, raised kerbs and covered bus waiting / loading areas. Paths of travel are not accessible and incomplete, with typical 150mm step up to bus boarding areas. Bench seats have no backs or armrests.

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Benches with no backs or armrests

Walkways with no curb ramps

Central ticket / information area

Grates in paths of travel

Central ticket / information is a 150 raised area with 1100mm high counter and no hearing augmentation. Grates in paths of travel have 25mm openings. Signage is not consistent.

Ticket office entry

Ticket office counter

The Ticket Office is not accessible, with 150mm entry step, pair of doors with 600mm leaf and internal 1200mm high counter. Bus ticket machines were out of order during the RI inspection, and public toilets inside the adjacent office area are not accessible.

Access issues - Transportation	Recommendation
Accessible transport	Progressively introduce low floor accessible buses and transport to Kuwait. Provide continuous accessible paths of travel with accessible curb ramps & walkways.
Ticket & information areas	Provide accessible paths of travel with curb ramps & walkways. Ticket and information counters to include minimum 1m wide 20±850 high accessible section with wheelchair space under Signage and directories to include Braille and tactile information

Access issues - Transportation	Recommendation
Signage & street furniture	Provide consistent & accessible signage Provide minimum %10 seats with backs and armrests.
Accessible toilets	Provide at least one accessible toilet.

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MPW – NEW INTERNATIONAL AIRPORT

Level 1 is arrival, level 2 is departures and level 3 provides lounges, cafes etc. Building area is 200,000m2 and projected usage is 13 to 25 million passengers per annum in Stage 1 and in Stage 2 usage will be 25 to 45 million passengers.

An APM (automated passenger mover) is planned between Stages 1 and 2.

MPW requires a best practice with design to be barriers free and advised that reference is generally made to either Schedule 15 – Conditions and Specifications related to People of Special Needs or the ADA (The Americans with Disability Act).

With the absence of mandatory code at the time of designing a new airport, MPW relied on the designers to utilize the applicable best practice standards.

New Airport

Travelators between levels

Airport plans generally include level entries with tactile paving at crossings and 'pick-up bays for the disabled'. Car park stairs include handrails on both sides with no tactile indicators or tread nosings.

A fourth level parking structure is located below the entry with accessible parking and shared spaces.

Vertical pedestrian movement is by elevators and travelators with no ramps. Travelators are considered unsafe for many people with a disability.

Male and female toilets are planned. Accessible cubicles are located in male and female toilets. A hotel is located in the new Airport with no details of accessible rooms.

Access issues - Transportation	Recommendation
Access legislation & standards	Develop and implement Kuwaiti standards, procedures and legislation as recommended by KAS (Kuwait Access Strategy), to ensure consistent best practice construction and signoff certification process.
Metro	Metro to be accessible with elevators at all stations and accessible paths of travel between transport infrastructure and trains and use of audio augmentation.
Entries & Terminal	Provide accessible entries, consistent signage and wayfinding, and accessible paths of travel. Provide accessible elevators, stairs, ramps and audio augmentation.
Accessible parking	Provide accessible parking and ISA signage. Clarify the operation and access to the 'pick-up bays for the disabled'.
Accessible toilets	Provide at least one accessible toilet within each group of toilets.
Airport hotel	Provide accessible environment with a minimum of %10 accessible rooms and suites.

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5.1.3 GOVERNMENT

MINISTRY OF COMMUNICATIONS

Generally level entry is provided with automatic framed glazed doors, 1500mm high decals to 1100mm high reception and counters. Ground and level 1 toilets are not accessible.

Street frontage

Main entry

Atrium elevators

Typical counter

Elevators have 1m wide doors, 1500mm diameter car size, no Braille or tactile signage and no audio announcements.

Tower elevators travel to 150m observation level and include 1m wide doors, 1.2m x 2.5m car size, no Braille or tactile signage and no audio announcements.

Atrium elevators

Atrium elevator car

Atrium stairs have handrails both sides contrasting nosings and no tactile indicators.

Temporary metal steps provide access to some offices.

Atrium stairs

Ramp to offices

Tower level includes 1100 high handrail and an accessible toilet.

Accessible toilet has external ISA, 820mm door, lever handles, no lock, 1.5m x 1.5 room size and 400 between WC and basin.

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Observation level

Observation level accessible toilet

Access issues - Government	Recommendation
Entries & paths of travel	Provide accessible elevators, stairs and lower counters.
Accessible parking	Provide accessible parking, ISA signage and paths of travel.
Accessible toilets	Provide one accessible toilet adjacent to each group of toilets.

SOCIAL CARE HOMES

The Ministry of Social Affairs Homes provide accommodation for 600 residents and 300 day care clients.
The Homes are for Kuwaitis only. Residents and clients are of all ages and a wide range of disabilities. Staff work in 3 shifts – and separate male and female accommodations and facilities are provided.

Social Care Homes

Parking & gardens

The site is generally level with covered parking and no designated accessible spaces.

Main entry pathways have posts in the path of travel obstructing access way widths to 600mm.

Main entry has no curb ramp access to automatic opening doors.

Non-accessible entry

Main entry with no curb ramp

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Main reception is 1m high with no hearing augmentation.

Corridors have minimum luminance contrast between walls and floors.

Corridors generally have handrails on both sides.

Typical accommodation includes wheelchair circulation space.

Non-accessible reception

Non-accessible main entry corridor

Typical corridor with handrails

Typical accommodation

An elevator between levels has no Braille or tactile signage, and no audio announcements.

Internal stairs have handrails on both sides, and no nosings or tactile indicators. Signage is consistent and generally in accessible formats, with luminance contrast. An external ramp provides alternative access and egress between levels.

Non-accessible elevator

Non-accessible internal stairs

Signage

External ramp

Access issues - Government	Recommendation
Accessible parking & main entry	Provide designated accessible parking and paths of travel.
Paths of travel	Provide accessible paths of travel including ramps and stairs with handrails on both sides, nosings and tactile indicators. Reception counters to incluce an accessible section. Signage and directories to include Braille and tactile information. Elevators to include Braille and tactile signage and audio announcements.
Accessible toilets	Provide accessible toilets and showers.

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5.1.4 HEALTH CARE

AL SALAM INTERNATIONAL HOSPITAL

The hospital provides general services on levels 2 through 7 with maternity on level 8.

Emergency / ambulance entry is via a 1:15 gradient driveway leading to 1:10 step ramp and automatic framed and glazed sliding doors 2m wide with 100mm wide decals with 30% contrast to surrounding surfaces.

Pedestrian entry from street is via 1m wide steps with no handrails, nosings or tactile indicators.

Signage panel restricts the path of travel to 500mm wide. Signage is not consistent.

Main entry – restricted access

Main entry doors with decals

Main entry reception is 1m high with 1200 wide x 800 high wheelchair accessible lower section. Level access is available to elevator lobby.

Main entry reception

Elevator lobby

Elevator car size is 1.4m x 3m with 1200 wide automatic doors, no Braille or tactile signage and no audio announcements. The hospital advised that new Braille and tactile controls were scheduled for the later date.

Car parking is provided with ramped and stair access to the hospital. A designated 'accessible' parking space is 2.5m wide adjacent to the pedestrian entry with ISA (international Symbol of Access). Grates project 50mm and have 40mm openings.

Paths of travel are not accessible or consistent and include step ramps and curbs. Entry ramp is via steps with no nosings or tactile indicators and minimal handrail on one side.

Adjacent ramp and step ramp have 1:10 gradient with no handrails or tactile indicators. Glazed framed entry doors are 1500 wide with contrasting decals.

Non-complying 'accessible' parking

Pedestrian paths of travel

Hospital entry steps and ramp

Restricted paths of travel and grates

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Car park elevators have 1m automatic sliding doors, 1m x 1.4m car size, no Braille or tactile signage and no audio announcements.

Car park driveway grates

Elevator lobby

Signage is generally consistent with 30% luminance contrast to adjacent surfaces.

Internal stairs are 1.2m wide with handrails on one side, nosings with minimal luminance contrast and no tactile indicators.

Consistent signage

Internal stairs

Level 2 to 7 typical floors include elevator access, 2.5m wide corridors with handrails on both sides and directional paving, two level receptions 1m and 800 high, 1200 wide doors to wards and patient areas, and seats with backs and armrests.

Typical floor reception

Typical floor patient area

Typical floor bathrooms are generally accessible with 20mm step at entry, 850mm wide doors, and 20mm step to shower. Basin, WC and shower are generally accessible.

Typical floor bathroom

Level 8 reception

Level 8 consists of (8) VIP suites with two level reception 900 and 700 high with central nurses station and common areas. Doors are 800 to 850 wide with some restricted nib space.

Suites include reception and bedroom area with generally accessible bathrooms. Showers have 25mm step down.

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Typical suite

Level 8 bathroom

Access issues – Health Care	Recommendation
Entries & paths of travel	Provide minimum 1m wide accessible steps, ramps and paths of travel with consistent signage. Provide continuous accessible paths of travel with maximum 13mm grate openings.
Accessible parking	Provide accessible parking with ISA signage.
Health care areas	Elevators to provide Braille and tactile signage and audio announcements.
Accessible bathrooms & toilets	Provide at least one accessible toilet. Install maximum 1:8 gradient thresholds at changes in floor levels

5.1.5 EDUCATION

ALI BIN ABU TALEB PRIMARY SCHOOL

This Primary School is for non-disabled male students – with expectation of some students with disability. The School opened its doors in September 2012 for 600 to 700 students in 30 classes, and includes an assembly / multi-purpose hall for 400 people. The School was designed by MPW in consultation with the Ministry of Education Design Section.

The two storey building has extensive covered parking, with no designated accessible spaces. There is no curb ramp adjacent to entry ramp and steps. Handrails, nosings and tactile indicators are not provided.

Primary School

Parking area

Entry ramp & stairs

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Internal ramps and steps do not provide handrails on both sides, nosing or tactile indicators. Ramp down to theatre has 1:5 gradient with slippery surface.

Typical internal ramp & steps

Ramp & steps to theatre

Doors typically have 850mm leaf with 1200 to 1800 high vision panels and 1m high lever handles.

Recreation areas include an indoor gymnasium / basketball facility. Access to external recreation area is by steps only.

Theatre / multi-purpose hall

Typical doors

Steps have handrails on both sides, nosings with minimum luminance contrast and no tactile indicators.

Ramp access should be provided.

Gymnasium

Only steps lead to outdoor recreation

Internal door thresholds typically have a 25 step.

Classrooms and laboratories are generally accessible – with similar, institutional character throughout.

Typical door threshold step

Typical classroom / laboratory

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An accessible toilet cubicle is provided in the toilet. The door opens in with limited circulation, fold down grab rail is provided one side of the WC, and the basin height is adjustable.

Elevator under construction

Accessible toilet

A central covered assembly / play area is provided.

Ramp access to the main kitchen is provided – with 150 step at kitchen entry.

Central covered area

Ramp & step to main kitchen

Access issues – Education	Recommendation
Accessible parking & main entry	Provide designated accessible parking and entry.
Paths of travel	Provide accessible paths of travel and flush door thresholds. Information counters to include an accessible section. Signage and directories to include Braille and tactile information. Elevators to include Braille and tactile signage, and audio announcements.
Accessible toilets	Provide at least one accessible toilet and shower to each group of toilets.

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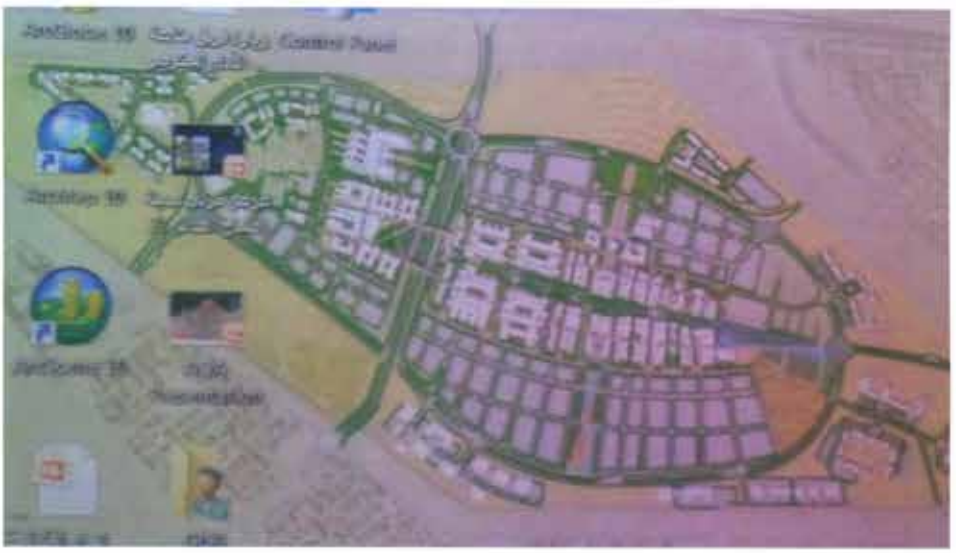
NEW KUWAIT UNIVERSITY

The new Kuwait University is being constructed in stages over 10 years and as noted in project information provided to RI – the University is based on the requirements of the Kuwait segregation policy, with two adjacent campuses, one for male students (north) and one for female students (south). The total planned University is for 40,000 male and female students – integrating all colleges for arts, humanities, sciences, engineering and medical specialties.

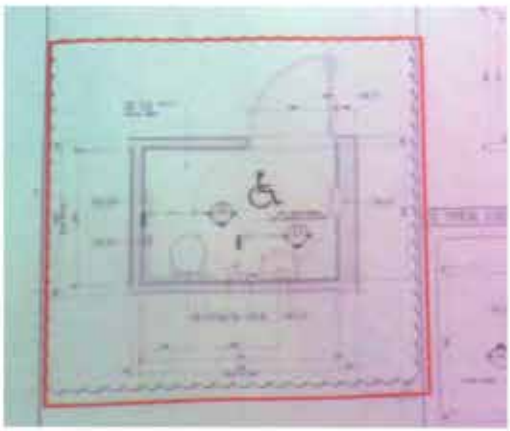
Kuwait University is committed to providing equal access for persons with disabilities to all buildings. This includes all public accessible outdoor spaces, all buildings and building signage and wayfinding.



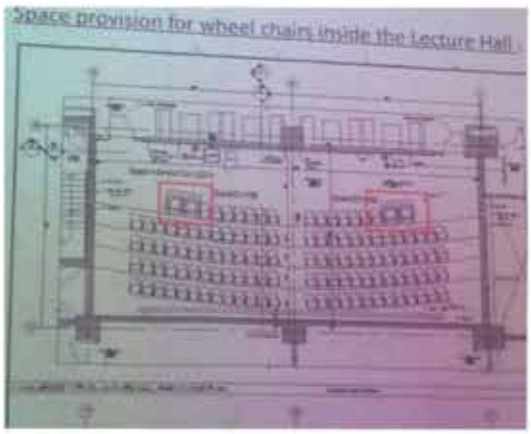
Kuwait University Site Plan

Management team members advised that the accessibility is based on the ADA with compliance to be managed by the University. Accessible parking spaces are to be a minimum 1.5% to 2% of all parking – and as close as possible to point of destination. Elevators are to include directional indicators at each entrance together with Braille and tactile signage.

Accessible toilets and Lecture Hall details were provided. Accessible toilets provide minimum circulation space between WC and basin and wheelchair spaces in the Hall do not include adjacent companion seats.



Accessible toilet detail



Lecture Hall wheelchair spaces

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Access issues - Education	Recommendation
Equal access provisions	Comply with the CRPD (Convention on the Rights of Persons with Disabilities) Articles 3 and 9.
Access compliance	Comply with the best practice access requirements on the ADA (The Americans with Disability Act) and APS (Australian Public Service).
Paths of travel	Provide accessible paths of travel minimum 1m wide, with maximum 1:40 cross fall, maximum 1:14 gradient ramps with maximum 9m length for each ramp, handrails both sides and tactile indicators

Access issues - Education	Recommendation
Reception	Reception counters to include minimum 1m wide 20±850 high accessible section with 400 deep wheelchair space under the counter.
Accessible parking	Provide accessible parking spaces minimum 2.5m wide with adjacent 2.5m wide shared space, maximum 1:40 cross fall, minimum 2.5m clear height and ISA (International Symbol of Access) ground and vertical signage.
Elevators	Elevators to include audio announcements
Assembly areas	Provide companion seats adjacent to each wheelchair space
Accessible toilets	Provide an equitable range of accessible toilets with ISA (International Symbol of Access) signage, minimum 850 wide door, cubicle minimum 2.3m x 1.9m, minimum 1400 clear between WC and basin, vertical mirror 900 to 1850 high and 800 high basin and grab rails

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5.1.6 NON-GOVERNMENT ORGANIZATIONS (NGOs)

Kuwait Blind Association

The Association provides services for Kuwaiti and non-Kuwaiti clients.

Generally level entry from parking is via a 1:15 ramp with handrails on both sides and no top landing. Accessible parking spaces are not provided.

No Parking area

Non-accessible main entry

Entry glazed doors have black frames and corridors have minimal luminance contrast and no orientation or handrails.

The elevator has 900mm door, 1200mm x 1220mm car size, 700mm to 1m high controls, handrails, Braille and tactile signage and no audio announcement except door closing.

Example of an elevator

Corridors

Toilets are not accessible and a 150mm door step is a trip hazard to the printing area and offices. Doors have 800mm to 900mm leaf.

The IT centre is located at Level 1 including IT repairs and library. Books do not have Braille labeling on covers or spine.

Internal stairs have handrails both sides with no end returns, nosings with no luminance contrast and no tactile indicators.

Door step

Braille printing area

Office area

IT library

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Internal stairs

Theatre

Access issues - NGOs Kuwait Blind Association	Recommendation
Entries & paths of travel	Provide accessible entries, paths of travel and elevators – and consistent signage, orientation, colour coding and wayfinding. Provide handrails both sides of corridors, contrasting directional finishes and chairs with backs and armrests. Provide accessible elevators, stairs and ramps.
Accessible parking	Provide accessible parking and ISA (International Symbol of Access) signage.
IT library	Install Braille cover / spine names to books.
Accessible toilets	Provide one accessible toilet adjacent to each group of toilets.

5.1.7 MOSQUES

Mohammed & Ali Shaya Mosque

Main entry includes 2 steps up with no handrails, nosings or tactile indicators to a pair of 800mm wide doors into the mosque. Steps provide access to side entries.

Mosque internal areas are level and accessible. Ablution area is generally accessible with no accessible toilets.

Mosque main entry

Non-accessible entry

Side entry doors

Mosque interior

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Ablution area

Toilets

Access issues - Mosques	Recommendation
Entries & paths of travel	Provide accessible entries.
Accessible parking	Provide accessible parking and paths of travel.
Accessible toilets	Provide an accessible toilet adjacent to each group of toilets.

6. ACCESS LEGISLATIONS & REGULATIONS

The following sections are various examples of access legislation and regulations from across the world as well as laws and protocols from a global perspective. In order to obtain access legislation please refer to the following international standards.

6.1 KUWAIT

- Kuwait Municipality – Schedule 15 – Special Needs Conditions & Specifications – 2008
- Saudi Building Code 201 – 2007
- Assessment of building accessibility – 2009
- Kuwait Law 8 of 2010
- Explanatory Memorandum on Law 8 of 2010
- KEO International Consultants Draft Barrier Free Environment Regulations and A Developers Guide www.keoic.com

6.2 UN – CRPD

- United Nations - Convention on the Rights of Persons with Disabilities
- CRPD and Protocol www.un.org/disabilities
- UN-ESCAP Promotion of Non-Handicapping Physical Environments for Disabled Persons: Guidelines 1995

6.3 ADA – USA

- Americans with Disabilities Act (ADA)
- Rehabilitation Act of 1973
- ADA Home Page www.ada.gov
- US Access Board www.access-board.gov
- ADA Amendment Act of 2008 www.govtrack.us/congress/
- ADA Standards for Accessible Design 2010 www.ada.gov

6.4 DDA – Australia

- Disability Discrimination Act 1992
- Disability Discrimination Regulations 1996
- Australian Human Rights Commission www.hreoc.gov.au
- Australian Building Codes Board www.abcb.gov.au
- Access to Premises Standards (APS) 2010 www.comlaw.gov.au
- Building Code of Australia (BCA) 2011 www.abcb.gov.au

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6.5 DDA & PART M – UNITED KINGDOM

- Disability Discrimination Act 1992
- Equality Act 2012 www.odi.gov.uk/equalityact
- UK DirectGov www.direct.gov.uk
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APPENDIX 1

GUIDELINES, TECHNICAL SPECIFICATIONS AND ACCESS DESIGN GUIDELINES

The following Guidelines, Technical Specifications and Access Design Guidelines are extracted from 2010 ADA Standards for Accessible Design.

PUBLIC DOMAIN

4. External Facilities

4.1. Accessible Sites and Exterior Facilities

An accessible site shall meet the following minimum requirements:

- At least one accessible route complying with 4.3 shall be provided from public external area adjacent of the site, transportation stops, accessible parking spaces, passenger loading zones if provided, and public streets or sidewalks, leading to an accessible Site entrance.
- Ground surfaces along accessible routes and in accessible spaces shall comply with 4.5. Accessible route identifies with pedestrian paths, from a site external area access point to an accessible site entrance.
- If Toilet Facilities are provided, then each such public or common use toilet facility shall comply with 4.22.
- If Public Pay Telephones are provided, then they shall comply with 4.31.2 through 4.31.8.
- If exterior stairs connecting levels that are not connected by an elevator, ramp, or other accessible means of vertical access shall comply with 4.9.

4.2 (Signage) Symbols of Accessibility

External facilities and elements required to be identified as accessible by 4.1 shall use the International Symbol of Accessibility (ISA). The symbol shall be displayed as shown in Fig. 43(a) and (b).

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2.2 PUBLIC OPEN SPACES AND PARKS

2.2.1. Design Considerations

Accessible route shall be provided connecting the Site Boundary Entrance from existing Public Open Spaces and Parks, if provided.

Basic specifications for elements within the existing public open spaces and parks, general level of usability should be designed / created accessible to and usable for children with varying levels of ability, as well as, rest areas with benches and picnic tables for access by public and adults with disability on ensuring integration and continuity of access across a diversity of play components within the existing open space and parks (play area).

2.2.2 Technical Guidelines

Where ground level play components are provided, at least one of each type shall be located on an accessible route, while elevated play components, at least 50% should be located on an accessible route.

Changes in levels along the route, slip resistant curb ramps where pedestrians must walk across, shall have a flared sides, or ramps with 1:12 slope shall be provided.

Color contrast between surroundings and elements should be incorporated in all play structures. Playground surfaces should be firm, stable, level, be non-abrasive and drain rapidly.

Surfaces below playground equipment, including swings, slides and climbing structures, should be level, free-draining and provide a softer, resilient landing surface in case of fall.

3.1.7 Pedestrian Environment

3.1.7.1 Design Considerations

Accessible route shall be provided across the existing Pedestrian Environment, if provided, crossing the road connecting the Site Boundary Entrance.

Where pedestrian route is required, it should incorporate features to enhance safety for everyone. It should incorporate color and texture contrast to reinforce the separation between people and vehicles.

3.1.7.2 Application Guidelines

- Path of Travel: Pedestrian crossings should provide a minimum 1500 mm wide, continuous, unobstructed and linear path across the vehicular route.
- Surface: Surface of pedestrian crossings should be firm, stable, slip-resistant and produce low or minimal glare. Surface should have a texture that is easily distinguishable from the surrounding surface.
- Curb Cuts: Where the surface of the pedestrian crossing is at different elevation to either sidewalk that it connects, accessible kerb cuts shall be provided to allow people to move safely and efficient across roadways.
- Drainage: Pedestrian crossing should be designed to drain water away from the crossing and should not allow water to accumulate on the path of travel.
- Markings: Edge markings should be provided along both sides of pedestrian crossings, and should extend the entire length of the crossing, a minimum of 300 mm wide, and marked with permanent high-color markings possessing 70% reflectance with the surface of the crossing and the adjacent vehicle roadway.
- Traffic Control Signals: Traffic control signals should provide enough time for people to cross the street safely, based on a slow walking person, and should also include time for people with low or no vision to verify that traffic has stopped.
- All crossings incorporating traffic control signals should include audible signals in addition to visual signals with one audible signal for the north-south direction of travel and another for the east-west direction of travel.
- Audible signals should provide continued directional assistance to vision impaired pedestrians for the entire time period of crossing and be loud enough to be heard over traffic noise.
- Traffic Control Buttons: Where traffic or pedestrian signals are controlled by a push button, the button should be color contrasted from the surrounding surfaces and a minimum of 100 in diameter.
- Push buttons should be aligned parallel to the traffic signals they service, be mounted 900-1200 mm above the ground, and adjacent to a clear and level area suitable for an approach by a person using a wheelchair, mobility scooter, or walker.

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4.1 BUS STOPS AND TAXI STANDS

4.1.1 Parking and Passenger Loading / Unloading Zones

At least one accessible route shall be provided connecting the entrance of the site boundary from public transportation stops, passenger loading zones, bus stops and taxi stands, if provided.

Passenger drop-off areas should be as close as possible to an accessible route / entrance for individual who may have difficulty walking distances, people using mobility assistive devices, will benefit from weather-protection features such as sun shades and canopies.

Where passenger loading /unloading zones are provided, at least one should comply with the following:

- Accessible passenger loading / unloading zones should be identified with signage (ISA Signs) in color contrasted with the surrounding environment at a height of at least 2100 mm from the ground.

- Signs should be posted at both ends of the drop-off zones.

4.1.2 Floor and Ground Surface

Floor and ground surfaces at adjacent access aisles should have a firm, stable surface, and no steps en-route to entrance from street parking and passenger loading/ unloading zones.

4.1.3 Illumination

Site entrances should be adequately illuminated.

4.1.4 Protection from Environmental Factors

Passenger loading / unloading zones should provide sufficient protection from wind, rain, sun, and other environmental factors, for persons embarking and disembarking from vehicles.

3.1.9 Car Parking

3.1.9.1 Design Considerations

The parking area should be directly connected to the Site Entrance. It should be clearly marked and free of steps and curbs.

Outdoor travel distance should be minimized as weather conditions and ground surfaces can make travel both difficult.

3.1.9.3 Technical Guidelines

- Location: Designated accessible spaces should be located adjacent to an accessible route and at the shortest distance to the accessible Site Entrance.

- Path of Travel: The path of travel from the accessible parking space to the accessible Site Entrance should minimize crossing of vehicular and pedestrian traffic flows.

- Identification Signage. Designated parking space should be capable of being identified clearly from a distance by the International Symbol of Access (ISA), mounted vertically on a post that is color contrasted. Where designated parking spaces are not clearly visible, directional signage should be provided to the designated parking space.

- Pavement Markings: Designated parking spaces should include pavement markings that contain the ISA symbol, with size of 1500 x 1500 mm of white border and blue color background.

- Floor and Ground Surface: Floor and ground surfaces at designated parking spaces and adjacent access aisles should have a firm and stable surface.

Site Accessibility (Exterior)

4.1.2 Accessible Sites and Exterior Facilities: New Construction

- At least one accessible route shall be provided within the boundary of the Site from public transportation stops, accessible parking spaces, passenger loading zones if provided, or sidewalks, to an accessible building entrance.

- At least one accessible route complying with 4.3 shall connect accessible buildings, accessible facilities, accessible elements, and accessible spaces that are on the same site.

- All objects that protrude from surfaces or posts into circulation paths shall comply with 4.4.

- Ground surfaces along accessible routes and in accessible spaces shall comply with 4.5.

- If parking spaces are provided, then accessible spaces complying with 4.6 shall be provided.

- If toilet facilities are provided on a site, then each such public or common use toilet facility shall comply with 4.22.

- Building Signage. Signs which designate permanent rooms and spaces shall comply with 4.30.1, 4.30.2, 4.30.3 and 4.30.5.

Elements and spaces of accessible facilities shall be identified by the International Symbol of Accessibility and which shall comply with 4.30.7.

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4.3 ACCESSIBLE ROUTES

4.3.2 Location

- At least one accessible route within the boundary of the Site shall be provided from accessible loading zones, streets or sidewalks to the accessible building entrance they serve.
- At least one accessible route shall connect accessible buildings, facilities, elements and spaces that are on the same site, and shall comply with 4.3.3 Minimum Clear Width, 4.3.4 Passing Spaces, 4.3.5 Head Room, 4.3.6 Surface Textures, 4.3.7 Slope, 4.3.8 Changes in Levels, 4.3.9 Doors, if any, and 4.3.10 Egress, if any. Accessible route include ramps, curb ramps, stairs, elevators or other elevating devices where a difference in elevation exists.

4.4 PROTRUDING OBJECTS

4.4.1 General

All objects projecting from walls (for example, telephones) with their leading edges between 27 inches and 80 inches (685 mm and 2030 mm) above the finished floor, shall protrude no more than 4 inches (100 mm) into external walks, corridors or passageways. Protruding objects shall not reduce the clear width of an accessible route or maneuvering space (see Fig. 8(e)).

4.4.2 Head Room

External walks, halls, corridors, passageways, aisles, or other circulation spaces, anything that protrude from surfaces or posts at external circulation paths within the Site, such objects shall protrude no more than 4 inches (100 mm) into walks, halls, corridors, passageways, or aisles (see Fig. 8(a)).

4.5 GROUND AND FLOOR SURFACES

4.5.1 General

Ground and floor surfaces of the Site external area along accessible routes, walks, ramps, stairs, and curb ramps, shall be stable, firms, slip-resistant, and shall comply with 4.5.

4.5.2 Changes in Levels

Changes in level greater than ½ in (13 mm) along accessible route shall be accomplished by means of a ramp that complies with 4.7 or 4.8.

4.5.3 Gratings

If gratings are located in walking surfaces, then they shall have spaces no greater than ½ in (13 mm) wide in one direction (see Fig. 8(g)). If gratings have elongated openings, then they shall be placed so that the long dimension is perpendicular to the dominant direction of travel (see Fig. 8(h)).

4.6 PARKING AND PASSENGER LOADING ZONES

4.6.2 Location
Accessible parking spaces within the Site area shall be located on the shortest accessible route of travel from adjacent parking to an accessible pedestrian entrance of the parking facility. In buildings with multiple accessible entrance with adjacent parking, accessible parking spaces shall be dispersed and located closest to the accessible entrances.

4.6.3 Parking Spaces
Accessible parking spaces shall be at least 96 in (2440 mm) wide. Parking access aisles shall be part of an accessible route to the building or facility entrance and shall comply with 4.3.

4.6.4 Signage
Accessible parking spaces shall be designated as reserved by a sign showing the symbol of accessibility (see 4.30.7). Such signs shall be located so they cannot be obscured by a vehicle parked in the space.

4.6.6 Passenger Loading Zones
Passenger loading zones shall provide an access aisles at least 60 inches (1525 mm) wide and 20 ft. (6100 mm) long adjacent and parallel to the vehicle pull-up space (see Fig. 10). If there are curbs between the access aisles and the vehicle pull-up space, then curb ramp complying with 4.7 shall be provided.

4.7 CURB RAMPS

4.7.1 Location
Curb ramps shall be provided complying with 4.7, wherever an accessible route at external area within the Site crosses a curb.

4.7.2 Slope
Slopes of curb ramps shall comply with 4.8.2 as shown in Fig. 11.

4.7.3 Width
The minimum width of a curb shall 36 inches (915 mm), exclusive of flared sides.

4.7.4 Surface
Surfaces of curbs shall be stable, firm, and slip-resistant.

4.7.5 Sides of Curb Ramps
If a curb ramp is located where pedestrians must walk across the ramp, it shall have flared sides (see Fig. 12(a)). Curb ramps with returned curbs may be used where pedestrians would not normally walk across the ramp (See Fig. 12(b)).

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4.7.6 Built-up Curb Ramps
Built-up curb ramps shall be located so that they do not project into vehicular traffic lanes (see Fig. 13).

4.7.8 Obstructions
Curb ramps shall be located or protected to prevent their obstruction by parked vehicles.

4.7.9 Location at Marked Crossings
Curb ramps at marked crossings shall be wholly contained within the markings, excluding any flared sides (see Fig. 15).

4.7.10 Diagonal Curb Ramps
If diagonal (or corner type) curb ramps have returned curbs or other well-defined edges, such edges shall be parallel to the direction of pedestrian flow. The bottom of diagonal curb ramps shall have 48 inches (1220 mm) minimum clear space as shown in Fig. 15(c) and (d).

If diagonal curb ramps are provided at marked crossings, the 48 inches (1220 mm) clear space shall be within the markings (see Fig. 15(c) and (d)). If diagonal curb ramps have flared sides, they shall also have at least a 24 inches (610 mm) long segment of straight curb located on each side of the curb ramp and within the marked crossing (see Fig. 15(c)).

4.7.11 Islands
Any raised islands in crossings shall be cut through level with the street or have curb ramps at both sides and a level area at least 48 inches (1220 mm) long between the curb ramps in the part of the island intersected by the crossings (see Fig. 15(a) and (b)).

4.8 RAMPS (EXTERNAL AREA)

4.8.1 General
Any part of an accessible route with a slope greater than 1:20 at external area within the Site shall be used for any ramp and shall comply with 4.8.

4.8.2 Slope and Rise
The least possible slope shall be used for any ramp. The maximum slope of a ramp in new construction shall be 1:12. The maximum rise for any run shall be 30 inches (760 mm) (see Fig. 16).

4.8.3 Clear Width
The minimum clear width of a ramp shall be 36 inches (9154 mm).

4.8.4 Landings

Ramps shall have level landings at bottom and top of each ramp and each ramp run. Landings shall have the following features:

- Landing shall be at least as wide as then ramp run leading to it
- Landing length shall be a minimum of 60 inches (1525 mm) clear
- If ramps change direction at landings, the minimum landing size shall be 60 inches (1525 mm)
- If a doorway is located at a landing, then the area in front of the doorway shall comply with 4.13.6.

4.8.5 Handrails

If a ramp run has a rise greater than 6 in (150 mm) or a horizontal projection greater than 72 inches (1830 mm), then it shall have handrails on both sides. Handrails are not required on curb ramps or adjacent to seating in assembly areas. Handrails shall comply with 4.26 and shall have the following features:

- Handrails shall be provided along both sides of ramp segments. The inside handrail on switchback or dogleg ramps shall always be continuous.
- If handrails are not continuous, they shall extend at least 12 inches (305 mm) beyond the top and bottom of the ramp segment and shall be parallel with the floor or ground surface (see Fig. 17).
- The clear space between the handrail and the wall shall be 1 - 1/2 inches (38 mm).
- Gripping surfaces shall be continuous.
- Top of handrail gripping surfaces shall be mounted between 34 inches and 38 inches (865 mm and 965 mm) above ramp surfaces.
- Ends of handrails shall be either rounded or returned smoothly to floor, wall, or post.
- Handrails shall not rotate within their fittings.

4.8.6 Cross Slope and Surfaces

The cross slope of ramp surfaces shall be no greater than 1:50. Ramp surfaces shall comply with 4.5.

4.8.7 Edge Protection

Ramps and landings with drop-offs shall have curbs, walls, railings, or projecting surfaces that prevent people from slipping off the ramp. Curbs shall be a minimum of 2 inches (50 mm) high (see Fig. 17).

4.8.8 Outdoor Conditions

Outdoor ramps and their approaches shall be designed so that water will not accumulate on walking surfaces

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4.9 STAIRS (EXTERNAL AREA)

4.9.1 Minimum Number

Stairs at external area of the Site connecting levels that are not connected by an elevator, ramp or other accessible means of vertical access shall comply with 4.9.

4.9.2 Treads and Risers

On any given flight of external stairs, all steps shall have uniform riser heights and uniform tread widths. Stair treads shall be no less than 11 inches (280 mm) wide, measured from riser to riser (see Fig. 18(a)). Open risers are not permitted.

4.9.3 Nosings

The undersides of nosings shall not be abrupt. The radius of curvature at the leading edge of the tread shall be no greater than 1/2 inches (13 mm). Risers shall be sloped or the underside of the nosing shall have an angle not less than 60 degrees from the horizontal. Nosings shall project no more than 1-1/2 inches (38 mm) (see Fig. 18).

4.9.4 Handrails

Stairways shall have handrails at both sides of all stairs. Handrails shall comply with 4.26 and shall have the following features:

- Handrails shall be continuous along both sides of stairs. The inside handrail on switchback or dogleg stairs shall always be continuous (see Fig. 19(a) and (b)).
- If handrails are not continuous, they shall extend at least 12 inches (305 mm) beyond the top riser and at least 12 inches (305 mm) plus the width of one tread beyond the bottom riser. At the top, the extension shall be parallel with the floor or ground surface. At the bottom, the handrail shall continue to slope for a distance of the width of one tread from the bottom riser; the remainder of the extension shall be horizontal (see Fig. 19(c) and (d)). Handrail extensions shall comply with 4.4.
- The clear space between handrails and wall shall be 1-1/2 inches (38 mm).
- Gripping surfaces shall be uninterrupted by newel posts, other construction elements, or obstructions.
- Top of handrail gripping surface shall be mounted between 34 inches and 38 inches (865 mm and 965 mm) above stair nosings.
- Ends of handrails shall be either rounded or returned smoothly to floor, wall or post.
- Handrails shall not rotate within their fittings.

4.9.5 Outdoor / External Conditions

Outdoor/external stairs and their approaches shall be designed so that water will not accumulate on walking surfaces.

4.3.8 Changes in Levels

Changes in levels along an accessible route shall comply with 4.5.2. If an accessible route has changes in level greater than 1/2 inches (13 mm), then a curb ramp, ramp, elevator, or platform lift (as permitted in 4.1.3 and 4.1.6) shall be provided that complies with 4.7, 4.8, 4.10, or 4.11, respectively. An accessible route does not include stairs, steps, or escalators.

4.3.9 Doors

Doors along an accessible route shall comply with 4.13.

4.3.10 Egress

Accessible routes serving any accessible space or element shall also serve as a means of egress for emergencies or connect to an accessible area of rescue assistance.

4.3.11 Areas of Rescue Assistance

4.3.11.1 Location of Construction

An area of rescue assistance shall be one of the following:

- A portion of a stairway landing within a smoke proof enclosure (complying with local requirements).
- A portion of an exterior exit balcony located immediately adjacent to an exit stairway when the balcony complies with local requirements for exterior exit balconies.
- Openings to the interior of the building located within 20 feet (6 m) of the area of rescue assistance shall be protected with fire assemblies having a three-fourths hour fire protection rating.
- A portion of a one-hour fire resistive corridor (complying with local requirements for resistive construction and for openings) located immediately adjacent to an exit enclosure.
- A vestibule located immediately adjacent to an exit enclosure and constructed to the same fire-resistive standards as required for corridors and openings.
- A portion of a stairway landing within an exit enclosure which is vented to the interior and is separated from the interior of the building with not less than one-hour fire-resistive doors.
- When approved by the appropriate local authority, an area or a room which is separated from other portions of the building by a smoke barrier. Smoke barriers shall have a fire-resistive rating of not less than one hour and shall completely enclose the area or room.
- Doors in the smoke barrier shall be tight-fitting smoke- and draft-control assemblies having a fire-protection rating of not less than 20 minutes and shall be self-closing or automatic closing.
- The area or room shall be provided with an exit directly to an exit enclosure. Where the room or area exits into an exit enclosure which is required to be of more than one-hour fire-resistive construction, the room or area shall have the same fire-resistive construction, including the same opening protection, as required for the adjacent exit enclosure.

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- An elevator lobby when elevator shafts and adjacent lobbies are pressurized as required for smoke proof enclosures by local regulations and when complying with requirements herein for size, communication, and signage.
- Such pressurization system shall be activated by smoke detectors on each floor located in a manner approved by the appropriate local authority. Pressurization equipment and its duct work within the building shall be separated from other portions of the building by a minimum two-hour fire-resistive construction.

4.3.11.2 Size

Each area of rescue assistance shall provide at least two accessible areas each being not less than 30 inches by 48 inches (760 mm by 1220 mm). The area of rescue assistance shall not encroach on any required exit width. The total number of such 30-inches by 48-inches (760 mm by 1220 mm) areas per story shall be not less than one for every 200 persons of calculated occupant load served by the area of rescue assistance.

EXCEPTION: The appropriate local authority may reduce the minimum number of 30-inches by 48-inches (760 mm by 1220 mm) areas to one for each area of rescue assistance on floors where the occupant load is less than 200.

4.3.11.3* Stairway Width

Each stairway adjacent to an area of rescue assistance shall have a minimum clear width of 48 inches between handrails.

4.3.11.4* Two-way Communication.

A method of two-way communication, with both visible and audible signals, shall be provided between each area of rescue assistance and the primary entry. The fire department or appropriate local authority may approve a location other than the primary entry.

4.3.11.5 Identification

Each area of rescue assistance shall be identified by a sign which states "AREA OF RESCUE ASSISTANCE" and displays the international symbol of accessibility. The sign shall be illuminated when exit sign illumination is required. Signage shall also be installed at all inaccessible exits and where otherwise necessary to clearly indicate the direction to areas of rescue assistance. In each area of rescue assistance, instructions on the use of the area under emergency conditions shall be posted adjoining the two-way communication system.

4.4 PROTRUDING OBJECTS

4.4.1 General

Objects projecting from walls (for example, telephones) with their leading edges between 27 inches and 80 inches (685 mm and 2030 mm) above the finished floor shall protrude no more than 4 inches (100 mm) into walks, halls, corridors, passageways, or aisles (see Fig. 8(a)).

Objects mounted with their leading edges at or below 27 inches (685 mm) above the finished floor may protrude any amount (see Fig. 8(a) and (b)).

Free-standing objects mounted on posts or pylons may overhang 12 inches (305 mm) maximum from 27 inches to 80 inches (685 mm to 2030 mm) above the ground or finished floor (see Fig 8(c) and (d)).

Protruding objects shall not reduce the clear width of an accessible route or maneuvering space (see Fig. 8(e)).

4.4.2 Head Room

Walks, halls, corridors, passageways, aisles, or other circulation spaces shall have 80 inches (2030 mm) minimum clear head room (see Fig. 8(a)). If vertical clearance of an area adjoining an accessible route is reduced to less than 80 inches (nominal dimension), a barrier to warn blind or visually-impaired persons shall be provided (see Fig. 8(c-1)).

4.5 GROUND AND FLOOR SURFACES

4.5.1 General

Ground and floor surfaces along accessible routes and in accessible rooms and spaces including floors, walks, ramps, stairs, and curb ramps, shall be stable, firm, slip-resistant, and shall comply with 4.5.

4.5.2 Changes in Level

Changes in level up to ¼ inches (6mm) may be vertical and without edge treatment (see Fig. 7(c)). Changes in level between 1/4 inches and 1/2 inches (6mm and 13mm) shall be beveled with a slope no greater than 1:2 (see Fig. 7(d)). Changes in level greater than 1/2 inches (13mm) shall be accomplished by means of a ramp that complies with 4.7 or 4.8.

4.5.3 Carpet

If carpet or carpet tile is used on a ground or floor surface, then, it shall be securely attached; have affirm cushion, pad, or backing, or no cushion or pad; or level cut/uncut pile texture. The maximum pile thickness shall be 1/2 inches (13mm) (see Fig. 8(f). Exposed edges of carpet shall be fastened to floor surfaces and have trim along the entire length of the exposed edge. Carpet edge trim shall comply with 4.5.2.

4.5.4 Gratings

If gratings are located in walking surfaces, then they shall have spaces no greater than 1/2 inches (13mm) wide in one direction (see Fig. 8(g)). If gratings have elongated openings, then they shall be placed so that the long dimension is perpendicular to the dominant direction of travel (see Fig. 8(h)).

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4.6 PARKING AND PASSENGER LOADING ZONES

4.6.1 Minimum Number
Parking spaces required to be accessible by 4.1 shall comply with 4.6.2 through 4.6.5. Passenger loading zones required to be accessible by 4.1 shall comply with 4.6.5 and 4.6.6.

4.6.2 Location
Accessible parking spaces serving a particular building shall be located on the shortest accessible route of travel from adjacent parking to an accessible entrance. In parking facilities that do not serve a particular building, accessible parking shall be located on the shortest accessible route of travel to an accessible pedestrian entrance of the parking facility. In buildings with multiple accessible entrances with adjacent parking, accessible parking spaces shall be dispersed and located closest to the accessible entrances.

4.6.3 Parking Spaces
Accessible parking spaces shall be at least 96 inches (2440 mm) wide. Parking access aisles shall be part of an accessible route to the building or facility entrance and shall comply with 4.3. Two accessible parking spaces may share a common access aisle (see Fig. 9). Parked vehicle overhangs shall not reduce the clear width of an accessible route. Parking spaces and access aisles shall be level with surface slopes not exceeding 1:50 (2%) in all directions.

4.6.4 Signage
Accessible parking spaces shall be designated as reserved by a sign showing the symbol of accessibility (see 4.30.7). Spaces complying with 4.1.2(5)(b) shall have an additional sign "Van-Accessible" mounted below the symbol of accessibility. Such signs shall be located so they cannot be obscured by a vehicle parked in the space.

4.6.5 Vertical Clearance
Provide minimum vertical clearance of 114 inches (2895 mm) at accessible passenger loading zones and along at least one vehicle access route to such areas from Site entrance(s) and exit(s). At parking spaces complying with 4.1.2(5)(b), provide minimum vertical clearance of 98 inches (2490 mm) at the parking space and along at least one vehicle access route to such spaces from Site entrance(s) and exit(s).

4.6.6 Passenger Loading Zones
Passenger loading zones shall provide an access aisle at least 60 inches (1525 mm) wide and 20 ft. (6100 mm) long adjacent and parallel to the vehicle pull-up space (see Fig. 10). If there are curbs between the access aisle and the vehicle pull-up space, then a curb ramp complying with 4.7 shall be provided. Vehicle standing spaces and access aisles shall be level with surface slopes not exceeding 1:50 (2%) in all directions.

4.7 CURB RAMPS

4.7.1 Location
Curb ramps complying with 4.7 shall be provided wherever an accessible route crosses a curb.

4.7.2 Slope
Slopes of curb ramps shall comply with 4.8.2. The slope shall be measured as shown in Fig. 11. Transitions from ramps to walks, gutters, or streets shall be flush and free of abrupt changes. Maximum slopes of adjoining gutters, road surface immediately adjacent to the curb ramp, or accessible route shall not exceed 1:20.

4.7.3 Width
The minimum width of a curb ramp shall be 36 inches (915 mm), exclusive of flared sides.

4.7.4 Surface
Surfaces of curb ramps shall comply with 4.5.

4.7.5 Sides of Curb Ramps
If a curb ramp is located where pedestrians must walk across the ramp, or where it is not protected by handrails or guardrails, it shall have flared sides; the maximum slope of the flare shall be 1:10 (see Fig. 12(a)). Curb ramps with returned curbs may be used where pedestrians would not normally walk across the ramp (see Fig.12 (b)).

4.7.6 Built-up Curb Ramps
Built-up curb ramps shall be located so that they do not project into vehicular traffic lanes (see Fig. 13).

4.7.7 Detectable Warnings
A curb ramp shall have a detectable warning complying with 4.29.2. The detectable warning shall extend the full width and depth of the curb ramp.

4.7.8 Obstructions
Curb ramps shall be located or protected to prevent their obstruction by parked vehicles.

4.7.9 Location at Marked Crossings
Curb ramps at marked crossings shall be wholly contained within the markings, excluding any flared sides (see Fig. 15).

4.7.10 Diagonal Curb Ramps
If diagonal (or corner type) curb ramps have returned curbs or other well-defined edges, such edges shall be parallel to the direction of pedestrian flow. The bottom of diagonal curb ramps shall have 48 inches (1220 mm) minimum clear space as shown in Fig. 15(c) and (d). If diagonal curb ramps are provided at marked crossings, the 48

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inches (1220 mm) clear space shall be within the markings (see Fig. 15(c) and (d)). If diagonal curb ramps have flared sides, they shall also have at least a 24 inches (610 mm) long segment of straight curb located on each side of the curb ramp and within the marked crossing (see Fig. 15(c)).

4.7.11 Islands

Any raised islands in crossings shall be cut through level with the street or have curb ramps at both sides and a level area at least 48 inches (1220 mm) long between the curb ramps in the part of the island intersected by the crossings (see Fig. 15(a) and (b))

4.8 RAMPS

4.8.1 General

Any part of an accessible route with a slope greater than 1:20 shall be considered a ramp and shall comply with 4.8.

4.8.2 Slope and Rise

The least possible slope shall be used for any ramp. The maximum slope of a ramp in new construction shall be 1:12. The maximum rise for any run shall be 30 inches (760 mm) (see Fig. 16). Curb ramps and ramps to be constructed on existing sites or in existing buildings or facilities may have slopes and rises as allowed in 4.1.6(3)(a) if space limitations prohibit the use of a 1:12 slope or less.

4.8.3 Clear Width

The minimum clear width of a ramp shall be 36 inches (915 mm).

4.8.4 Landings

Ramps shall have level landings at bottom and top of each ramp and each ramp run. Landings shall have the following features:

- The landing shall be at least as wide as the ramp run leading to it.
- The landing length shall be a minimum of 60 inches (1525 mm) clear.
- If ramps change direction at landings, the minimum landing size shall be 60 inches by 60 inches (1525 mm by 1525 mm).
- If a doorway is located at a landing, then the area in front of the doorway shall comply with 4.13.6.

4.8.5 Handrails

If a ramp run has a rise greater than 6 inches (150 mm) or a horizontal projection greater than 72 inches (1830 mm), then it shall have handrails on both sides.

Handrails are not required on curb ramps or adjacent to seating in assembly areas. Handrails shall comply with 4.26 and shall have the following features:

- Handrails shall be provided along both sides of ramp segments. The inside handrail on switchback or dogleg ramps shall always be continuous.
- If handrails are not continuous, they shall extend at least 12 inches (305 mm)

beyond the top and bottom of the ramp segment and shall be parallel with the floor or ground surface (see Fig. 17).

- The clear space between the handrail and the wall shall be 1 - 1/2 inches (38 mm).
- Gripping surfaces shall be continuous.
- Top of handrail gripping surfaces shall be mounted between 34 inches and 38 inches (865 mm and 965 mm) above ramp surfaces.
- Ends of handrails shall be either rounded or returned smoothly to floor, wall, or post.
- Handrails shall not rotate within their fittings.

4.8.6 Cross Slope and Surfaces

The cross slope of ramp surfaces shall be no greater than 1:50. Ramp surfaces shall comply with 4.5.

4.8.7 Edge Protection

Ramps and landings with drop-offs shall have curbs, walls, railings, or projecting surfaces that prevent people from slipping off the ramp. Curbs shall be a minimum of 2 inches (50 mm) high (see Fig. 17).

4.8.8 Outdoor Conditions

Outdoor ramps and their approaches shall be designed so that water will not accumulate on walking surfaces.

4.9 STAIRS

4.9.1 Minimum Number

Stairs required to be accessible by 4.1 shall comply with 4.9.

4.9.2 Treads and Risers

On any given flight of stairs, all steps shall have uniform riser heights and uniform tread widths. Stair treads shall be no less than 11 inches (280 mm) wide, measured from riser to riser (see Fig. 18(a)). Open risers are not permitted.

4.9.3 Nosings

The undersides of nosings shall not be abrupt. The radius of curvature at the leading edge of the tread shall be no greater than 1/2 inches (13 mm). Risers shall be sloped or the underside of the nosing shall have an angle not less than 60 degrees from the horizontal. Nosings shall project no more than 1-1/2 inches (38 mm) (see Fig. 18).

4.9.4 Handrails

Stairways shall have handrails at both sides of all stairs. Handrails shall comply with 4.26 and shall have the following features:

- Handrails shall be continuous along both sides of stairs. The inside handrail on switchback or dogleg stairs shall always be continuous (see Fig. 19(a) and (b)).

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- If handrails are not continuous, they shall extend at least 12 inches (305 mm) beyond the top riser and at least 12 inches (305 mm) plus the width of one tread beyond the bottom riser. At the top, the extension shall be parallel with the floor or ground surface. At the bottom, the handrail shall continue to slope for a distance of the width of one tread from the bottom riser; the remainder of the extension shall be horizontal (see Fig. 19(c) and (d)). Handrail extensions shall comply with 4.4.
- The clear space between handrails and wall shall be 1-1/2 inches (38 mm).
- Gripping surfaces shall be uninterrupted by newel posts, other construction elements, or obstructions.
- Top of handrail gripping surface shall be mounted between 34 inches and 38 inches (865 mm and 965 mm) above stair nosings.
- Ends of handrails shall be either rounded or returned smoothly to floor, wall or post.
- Handrails shall not rotate within their fittings.

4.9.6 Outdoor Conditions

Outdoor stairs and their approaches shall be designed so that water will not accumulate on walking surfaces

4.10 ELEVATORS, LIFTS AND ESCALATORS

4.10.1 General

Accessible elevators shall be on an accessible route and shall comply with 4.10 and with the ASME A17.1-1990, Safety Code for Elevators and Escalators.

Freight elevators shall not be considered as meeting the requirements of this section unless the only elevators provided are used as combination passenger and freight elevators for the public and employees.

4.10.2 Automatic Operation

Elevator operation shall be automatic. Each car shall be equipped with a self-leveling feature that will automatically bring the car to floor landings within a tolerance of 1/2 inches (13 mm) under rated loading to zero loading conditions. This self-leveling feature shall be automatic and independent of the operating device and shall correct the over-travel or under-travel.

4.10.3 Hall Call Buttons

Call buttons in elevator lobbies and halls shall be centered at 42 inches (1065 mm) above the floor. Such call buttons shall have visual signals to indicate when each call is registered and when each call is answered. Call buttons shall be a minimum of 3/4 inches (19 mm) in the smallest dimension. The button designating the up direction shall be on top. (See Fig. 20.) Buttons shall be raised or flush. Objects mounted beneath hall call buttons shall not project into the elevator lobby more than 4 inches (100 mm).

4.10.4 Hall Lanterns

A visible and audible signal shall be provided at each hoistway entrance to indicate which car is answering a call.

Audible signals shall sound once for the up direction and twice for the down direction or shall have verbal annunciators that say "up" or "down." Visible signals shall have the following features:

- Hall lantern fixtures shall be mounted so that their centerline is at least 72 inches (1830 mm) above the lobby floor. (See Fig. 20.)
- Visual elements shall be at least 2-1/2 inches (64 mm) in the smallest dimension.
- Signals shall be visible from the vicinity of the hall call button (see Fig. 20). In-car lanterns located in cars, visible from the vicinity of hall call buttons, and conforming to the above requirements, shall be acceptable.

4.10.5 Raised and Braille Characters on Hoistway Entrances

All elevator hoistway entrances shall have raised and Braille floor designations provided on both jambs. The centerline of the characters shall be 60 inches (1525 mm) above finish floor. Such characters shall be 2 inches (50 mm) high and shall comply with 4.30.4. Permanently applied plates are acceptable if they are permanently fixed to the jambs. (See Fig. 20).

4.10.6 Door Protective and Reopening Device

Elevator doors shall open and close automatically. They shall be provided with a reopening device that will stop and reopen a car door and hoistway door automatically if the door becomes obstructed by an object or person. The device shall be capable of completing these operations without requiring contact for an obstruction passing through the opening at heights of 5 inches and 29 inches (125 mm and 735 mm) above finish floor (see Fig. 20). Door reopening devices shall remain effective for at least 20 seconds. After such an interval, doors may close in accordance with the requirements of ASME A17.1-1990.

4.10.7 Door and Signal Timing for Hall Calls

The minimum acceptable time from notification that a car is answering a call until the doors of that car start to close shall be calculated from the following equation:

$$T = D/(1.5 \text{ ft/s}) \text{ or } T = D/(445 \text{ mm/s})$$

where T total time in seconds and D distance (in feet or millimeters) from a point in the lobby or corridor 60 inches (1525 mm) directly in front of the farthest call button controlling that car to the centerline of its hoistway door (see Fig. 21). For cars with in-car lanterns, T begins when the lantern is visible from the vicinity of hall call buttons and an audible signal is sounded. The minimum acceptable notification time shall be 5 seconds.

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4.10.8 Door Delay for Car Calls

The minimum time for elevator doors to remain fully open in response to a car call shall be 3 seconds.

4.10.9 Floor Plan of Elevator Cars

The floor area of elevator cars shall provide space for wheelchair users to enter the car, maneuver within reach of controls, and exit from the car. Acceptable door opening and inside dimensions shall be as shown in Fig. 22. The clearance between the car platform sill and the edge of any hoistway landing shall be no greater than 1-1/4 inches (32 mm).

4.10.10 Floor Surfaces

Floor surfaces shall comply with 4.5.

4.10.11 Illumination Levels

The level of illumination at the car controls, platform, and car threshold and landing sill shall be at least 5 foot-candles (53.8 lux).

4.10.12 Car Controls

Elevator control panels shall have the following features:

- Buttons. All control buttons shall be at least 3/4 inches (19 mm) in their smallest dimension. They shall be raised or flush.
- Tactile, Braille, and Visual Control Indicators. All control buttons shall be designated by Braille and by raised standard alphabet characters for letters, Arabic characters for numerals, or standard symbols as shown in Fig. 23(a), and as required in ASME A17.1-1990. Raised and Braille characters and symbols shall comply with 4.30.
- The call button for the main entry floor shall be designated by a raised star at the left of the floor designation (see Fig. 23(a)). All raised designations for control buttons shall be placed immediately to the left of the button to which they apply. Applied plates, permanently attached, are an acceptable means to provide raised control designations.
- Floor buttons shall be provided with visual indicators to show when each call is registered. The visual indicators shall be extinguished when each call is answered.
- Height. All floor buttons shall be no higher than 54 inches (1370 mm) above the finish floor for side approach and 48 inches (1220 mm) for front approach. Emergency controls, including the emergency alarm and emergency stop, shall be grouped at the bottom of the panel and shall have their centerlines no less than 35 inches (890 mm) above the finish floor (see Fig. 23(a) and (b)).
- Location. Controls shall be located on a front wall if cars have center opening doors, and at the side wall or at the front wall next to the door if cars have side opening doors (see Fig. 23(c) and (d)).

4.10.13 Car Position Indicators

In elevator cars, a visual car position indicator shall be provided above the car control

panel or over the door to show the position of the elevator in the hoistway. As the car passes or stops at a floor served by the elevators, the corresponding numerals shall illuminate, and an audible signal shall sound. Numerals shall be a minimum of 1/2 inches (13 mm) high. The audible signal shall be no less than 20 decibels with a frequency no higher than 1500 Hz. An automatic verbal announcement of the floor number at which a car stops or which a car passes may be substituted for the audible signal.

4.10.14 Emergency Communications

If provided, emergency two-way communication systems between the elevator and a point outside the hoistway shall comply with ASME A17.1-1990. The highest operable part of a two-way communication system shall be a maximum of 48 inches (1220 mm) from the floor of the car. It shall be identified by a raised symbol and lettering complying with 4.30 and located adjacent to the device. If the system uses a handset then the length of the cord from the panel to the handset shall be at least 29 inches (735 mm). If the system is located in a closed compartment the compartment door hardware shall conform to 4.27, Controls and Operating Mechanisms. The emergency intercommunication system shall not require voice communication.

4.11 PLATFORM LIFTS (WHEELCHAIR LIFTS)

4.11.1 Location

Platform lifts (wheelchair lifts) permitted by 4.1 shall comply with the requirements of 4.11.

4.11.2 Other Requirements

If platform lifts (wheelchair lifts) are used, they shall comply with 4.2.4, 4.5, 4.27, and ASME A17.1 Safety Code for Elevators and Escalators, Section XX, 1990.

4.11.3 Entrance

If platform lifts are used then they shall facilitate unassisted entry, operation, and exit from the lift in compliance with 4.11.2.

4.12 WINDOWS (GENERAL & WINDOW HARDWARE)

4.12.1 Design Considerations

Window sills and operating mechanisms should be placed at an appropriate height to accommodate the lowered eye level and decreased reach range of people using wheelchairs or mobility devices.

4.12.2 Viewing Windows or Vision Panels

The sill height for viewing windows or vision panels should be a maximum of 30 inches (750 mm) above the floor. Horizontal transoms should not be positioned between 40 inches-49 inches (1000-1225 mm) above the floor.

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4.12.3 Window Opening Hardware

Window opening hardware, where installed, should be mounted 16 inches-48 inches (400-1200 mm) above the floor and controls should be placed at a height that acknowledges the lower vantage point of people with wheelchairs or mobility scooters, children, and people of short stature. People with wheelchairs and mobility scooters require additional space in front of operating machines for unobstructed maneuverability

4.13 DOORS

4.13.1 General

Doors required to be accessible by 4.1 shall comply with the requirements of 4.13.

4.13.2 Revolving Doors and Turnstiles

Revolving doors or turnstiles shall not be the only means of passage at an accessible entrance or along an accessible route. An accessible gate or door shall be provided adjacent to the turnstile or revolving door and shall be so designed as to facilitate the same use pattern.

4.13.3 Gates

Gates, including ticket gates, shall meet all applicable specifications of 4.13.

4.13.4 Double-Leaf Doorways

If doorways have two independently operated door leaves, then at least one leaf shall meet the specifications in 4.13.5 and 4.13.6. That leaf shall be an active leaf.

4.13.5 Clear Width

Doorways shall have a minimum clear opening of 32 inches (815 mm) with the door open 90 degrees, measured between the face of the door and the opposite stop (see Fig. 24(a), (b), (c), and (d)). Openings more than 24 inches (610 mm) in depth shall comply with 4.2.1 and 4.3.3 (see Fig. 24(e)).

EXCEPTION: Doors not requiring full user passage, such as shallow closets, may have the clear opening reduced to 20 inches (510 mm) minimum.

4.13.6 Maneuvering Clearances at Doors

Minimum maneuvering clearances at doors that are not automatic or power-assisted shall be as shown in Fig. 25. The floor or ground area within the required clearances shall be level and clear.

EXCEPTION: Entry doors to acute care hospital bedrooms for in-patients shall be exempted from the requirement for space at the latch side of the door (see dimension "x" in Fig. 25) if the door is at least 44 inches (1120 mm) wide.

4.13.7 Two Doors in Series

The minimum space between two hinged or pivoted doors in series shall be 48 inches

(1220 mm) plus the width of any door swinging into the space. Doors in series shall swing either in the same direction or away from the space between the doors (see Fig. 26).

4.13.8 Thresholds at Doorways

Thresholds at doorways shall not exceed 3/4 inches (19 mm) in height for exterior sliding doors or 1/2 inches (13 mm) for other types of doors. Raised thresholds and floor level changes at accessible doorways shall be beveled with a slope no greater than 1:2 (see 4.5.2).

4.13.9 Door Hardware

Handles, pulls, latches, locks, and other operating devices on accessible doors shall have a shape that is easy to grasp with one hand and does not require tight grasping, tight pinching, or twisting of the wrist to operate. Lever-operated mechanisms, push-type mechanisms, and U-shaped handles are acceptable designs. When sliding doors are fully open, operating hardware shall be exposed and usable from both sides. Hardware required for accessible door passage shall be mounted no higher than 48 inches (1220 mm) above finished floor.

4.13.10 Door Closers

If a door has a closer, then the sweep period of the closer shall be adjusted so that from an open position of 70 degrees, the door will take at least 3 seconds to move to a point 3 inches (75 mm) from the latch, measured to the leading edge of the door.

4.13.11 Door Opening Force

The maximum force for pushing or pulling open a door shall be as follows:

- Fire doors shall have the minimum opening force allowable by the appropriate administrative authority.
- Other doors.
  (a) Exterior hinged doors: (Reserved).
  (b) Interior hinged doors: 5 lbf (22.2N)
  (c) Sliding or folding doors: 5 lbf (22.2N)

These forces do not apply to the force required to retract latch bolts or disengage other devices that may hold the door in a closed position.

4.13.12 Automatic Doors and Power- Assisted Doors

If an automatic door is used, then it shall comply with ANSI/BHMA A156.10-1985. Slowly opening, low-powered, automatic doors shall comply with ANSI A156.19-1984. Such doors shall not open to back check faster than 3 seconds and shall require no more than 15 lbf (66.6N) to stop door movement.

If a power-assisted door is used, its door-opening force shall comply with 4.13.11 and its closing shall conform to the requirements in ANSI A156.19-1984.

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4.14 ENTRANCES

4.14.1 Minimum Number

Entrances required to be accessible by 4.1 shall be part of an accessible route complying with 4.3. Such entrances shall be connected by an accessible route to public transportation stops, to accessible parking and passenger loading zones, and to public streets or sidewalks if available (see 4.3.2(1)). They shall also be connected by an accessible route to all accessible spaces or elements within the building or facility.

4.14.2 Service Entrances

A service entrance shall not be the sole accessible entrance unless it is the only entrance to a building or facility (for example, in a factory or garage).

4.15 DRINKING FOUNTAINS AND WATER COOLERS

4.15.1 Minimum Number

Drinking fountains or water coolers required to be accessible by 4.1 shall comply with 4.15.

4.15.2 Spout Height

Spouts shall be no higher than 36 inches (915 mm), measured from the floor or ground surfaces to the spout outlet (see Fig. 27(a)).

4.15.3 Spout Location

The spouts of drinking fountains and water coolers shall be at the front of the unit and shall direct the water flow in a trajectory that is parallel or nearly parallel to the front of the unit. The spout shall provide a flow of water at least 4 inches (100 mm) high so as to allow the insertion of a cup or glass under the flow of water. On an accessible drinking fountain with a round or oval bowl, the spout must be positioned so the flow of water is within 3 inches (75 mm) of the front edge of the fountain.

4.15.4 Controls

Controls shall comply with 4.27.4. Unit controls shall be front mounted or side mounted near the front edge.

4.15.5 Clearances

- Wall-and post-mounted cantilevered units shall have a clear knee space between the bottom of the apron and the floor or ground at least 27 inches (685 mm) high, 30 inches (760 mm) wide, and 17 inches to 19 inches (430 mm to 485 mm) deep (see Fig. 27(a) and (b)). Such units shall also have a minimum clear floor space 30 inches by 48 inches (760 mm by 1220 mm) to allow a person in a wheelchair to approach the unit facing forward.
- Free-standing or built-in units not having a clear space under them shall have a clear floor space at least 30 inches by 48 inches (760 mm by 1220 mm) that allows a person in a wheelchair to make a parallel approach to the unit (see Fig. 27(c) and (d)). This clear floor space shall comply with 4.2.4.

4.16 WATER CLOSETS (WC & SQUAT SUITE)

4.16.1 General
Accessible water closets shall comply with 4.16.

4.16.2 Clear Floor Space
Clear floor space for water closets not in stalls shall comply with Fig. 28. Clear floor space may be arranged to allow either a left-handed or right-handed approach.

4.16.3 Height
The height of water closets shall be 17 inches to 19 inches (430 mm to 485 mm), measured to the top of the toilet seat (see Fig. 29(b)). Seats shall not be sprung to return to a lifted position.

4.16.4 Grab Bars
Grab bars for water closets not located in stalls shall comply with 4.26 and Fig. 29. The grab bar behind the water closet shall be 36 inches (915 mm) minimum.

4.16.5 Flush Controls
Flush controls shall be hand operated or automatic and shall comply with 4.27.4. Controls for flush valves shall be mounted on the wide side of toilet areas no more than 44 inches (1120 mm) above the floor.

4.16.6 Dispensers
Toilet paper dispensers shall be installed within reach, as shown in Fig. 29(b). Dispensers that control delivery, or that do not permit continuous paper flow, shall not be used.

4.17 TOILET STALLS

4.17.1 Location
Accessible toilet stalls shall be on an accessible route and shall meet the requirements of 4.17.

4.17.2 Water Closets
Water closets in accessible stalls shall comply with 4.16.

4.17.3 Size and Arrangement
The size and arrangement of the standard toilet stall shall comply with Fig. 30(a), Standard Stall. Standard toilet stalls with a minimum depth of 56 inches (1420 mm) (see Fig. 30(a)) shall have wall-mounted water closets. If the depth of a standard toilet stall is increased at least 3 inches (75 mm), then a floor-mounted water closet may be used.
Arrangements shown for standard toilet stalls may be reversed to allow either a left- or right-hand approach.
Additional stalls shall be provided in conformance with 4.22.4.

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EXCEPTION: In instances of alteration work where provision of a standard stall (Fig. 30(a)) is technically infeasible or where plumbing code requirements prevent combining existing stalls to provide space, either alternate stall (Fig. 30(b)) may be provided in lieu of the standard stall.

4.17.4 Toe Clearances

In standard stalls, the front partition and at least one side partition shall provide a toe clearance of at least 9 inches (230 mm) above the floor. If the depth of the stall is greater than 60 inches (1525 mm), then the toe clearance is not required.

4.17.5 Doors

Toilet stall doors, including door hardware, shall comply with 4.13. If toilet stall approach is from the latch side of the stall door, clearance between the door side of the stall and any obstruction may be reduced to a minimum of 42 inches (1065 mm) (Fig. 30).

4.17.6 Grab Bars

Grab bars complying with the length and positioning shown in Fig. 30(a), (b), (c), and (d) shall be provided. Grab bars may be mounted with any desired method as long as they have a gripping surface at the locations shown and do not obstruct the required clear floor area. Grab bars shall comply with 4.26.

4.18 URINALS

4.18.1 General

Accessible urinals shall comply with 4.18.

4.18.2 Height

Urinals shall be stall-type or wall-hung with an elongated rim at a maximum of 17 inches (430 mm) above the finish floor.

4.18.3 Clear Floor Space

A clear floor space 30 inches by 48 inches (760 mm by 1220 mm) shall be provided in front of urinals to allow forward approach. This clear space shall adjoin or overlap an accessible route and shall comply with 4.2.4. Urinal shields that do not extend beyond the front edge of the urinal rim may be provided with 29 inches (735 mm) clearance between them.

4.18.4 Flush Controls

Flush controls shall be hand operated or automatic, and shall comply with 4.27.4, and shall be mounted no more than 44 inches (1120 mm) above the finish floor.

4.19 WASH BASINS AND MIRRORS

4.19.1 General

The requirements of 4.19 shall apply to lavatory fixtures, vanities, and built-in lavatories.

(1220 mm) plus the width of any door swinging into the space. Doors in series shall swing either in the same direction or away from the space between the doors (see Fig. 26).

4.13.8 Thresholds at Doorways

Thresholds at doorways shall not exceed 3/4 inches (19 mm) in height for exterior sliding doors or 1/2 inches (13 mm) for other types of doors. Raised thresholds and floor level changes at accessible doorways shall be beveled with a slope no greater than 1:2 (see 4.5.2).

4.13.9 Door Hardware

Handles, pulls, latches, locks, and other operating devices on accessible doors shall have a shape that is easy to grasp with one hand and does not require tight grasping, tight pinching, or twisting of the wrist to operate. Lever-operated mechanisms, push-type mechanisms, and U-shaped handles are acceptable designs. When sliding doors are fully open, operating hardware shall be exposed and usable from both sides. Hardware required for accessible door passage shall be mounted no higher than 48 inches (1220 mm) above finished floor.

4.13.10 Door Closers

If a door has a closer, then the sweep period of the closer shall be adjusted so that from an open position of 70 degrees, the door will take at least 3 seconds to move to a point 3 inches (75 mm) from the latch, measured to the leading edge of the door.

4.13.11 Door Opening Force

The maximum force for pushing or pulling open a door shall be as follows:

- Fire doors shall have the minimum opening force allowable by the appropriate administrative authority.
- Other doors.
  (a) Exterior hinged doors: (Reserved).
  (b) Interior hinged doors: 5 lbf (22.2N)
  (c) Sliding or folding doors: 5 lbf (22.2N)

These forces do not apply to the force required to retract latch bolts or disengage other devices that may hold the door in a closed position.

4.13.12 Automatic Doors and Power- Assisted Doors

If an automatic door is used, then it shall comply with ANSI/BHMA A156.10-1985. Slowly opening, low-powered, automatic doors shall comply with ANSI A156.19-1984. Such doors shall not open to back check faster than 3 seconds and shall require no more than 15 lbf (66.6N) to stop door movement.

If a power-assisted door is used, its door-opening force shall comply with 4.13.11 and its closing shall conform to the requirements in ANSI A156.19-1984.

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4.14 ENTRANCES

4.14.1 Minimum Number

Entrances required to be accessible by 4.1 shall be part of an accessible route complying with 4.3. Such entrances shall be connected by an accessible route to public transportation stops, to accessible parking and passenger loading zones, and to public streets or sidewalks if available (see 4.3.2(1)). They shall also be connected by an accessible route to all accessible spaces or elements within the building or facility.

4.14.2 Service Entrances

A service entrance shall not be the sole accessible entrance unless it is the only entrance to a building or facility (for example, in a factory or garage).

4.15 DRINKING FOUNTAINS AND WATER COOLERS

4.15.1 Minimum Number

Drinking fountains or water coolers required to be accessible by 4.1 shall comply with 4.15.

4.15.2 Spout Height

Spouts shall be no higher than 36 inches (915 mm), measured from the floor or ground surfaces to the spout outlet (see Fig. 27(a)).

4.15.3 Spout Location

The spouts of drinking fountains and water coolers shall be at the front of the unit and shall direct the water flow in a trajectory that is parallel or nearly parallel to the front of the unit. The spout shall provide a flow of water at least 4 inches (100 mm) high so as to allow the insertion of a cup or glass under the flow of water. On an accessible drinking fountain with a round or oval bowl, the spout must be positioned so the flow of water is within 3 inches (75 mm) of the front edge of the fountain.

4.15.4 Controls

Controls shall comply with 4.27.4. Unit controls shall be front mounted or side mounted near the front edge.

4.15.5 Clearances

- Wall-and post-mounted cantilevered units shall have a clear knee space between the bottom of the apron and the floor or ground at least 27 inches (685 mm) high, 30 inches (760 mm) wide, and 17 inches to 19 inches (430 mm to 485 mm) deep (see Fig. 27(a) and (b)). Such units shall also have a minimum clear floor space 30 inches by 48 inches (760 mm by 1220 mm) to allow a person in a wheelchair to approach the unit facing forward.
- Free-standing or built-in units not having a clear space under them shall have a clear floor space at least 30 inches by 48 inches (760 mm by 1220 mm) that allows a person in a wheelchair to make a parallel approach to the unit (see Fig. 27(c) and (d)). This clear floor space shall comply with 4.2.4.

4.16 WATER CLOSETS (WC & SQUAT SUITE)

4.16.1 General
Accessible water closets shall comply with 4.16.

4.16.2 Clear Floor Space
Clear floor space for water closets not in stalls shall comply with Fig. 28. Clear floor space may be arranged to allow either a left-handed or right-handed approach.

4.16.3 Height
The height of water closets shall be 17 inches to 19 inches (430 mm to 485 mm), measured to the top of the toilet seat (see Fig. 29(b)). Seats shall not be sprung to return to a lifted position.

4.16.4 Grab Bars
Grab bars for water closets not located in stalls shall comply with 4.26 and Fig. 29. The grab bar behind the water closet shall be 36 inches (915 mm) minimum.

4.16.5 Flush Controls
Flush controls shall be hand operated or automatic and shall comply with 4.27.4. Controls for flush valves shall be mounted on the wide side of toilet areas no more than 44 inches (1120 mm) above the floor.

4.16.6 Dispensers
Toilet paper dispensers shall be installed within reach, as shown in Fig. 29(b). Dispensers that control delivery, or that do not permit continuous paper flow, shall not be used.

4.17 TOILET STALLS

4.17.1 Location
Accessible toilet stalls shall be on an accessible route and shall meet the requirements of 4.17.

4.17.2 Water Closets
Water closets in accessible stalls shall comply with 4.16.

4.17.3 Size and Arrangement
The size and arrangement of the standard toilet stall shall comply with Fig. 30(a), Standard Stall. Standard toilet stalls with a minimum depth of 56 inches (1420 mm) (see Fig. 30(a)) shall have wall-mounted water closets. If the depth of a standard toilet stall is increased at least 3 inches (75 mm), then a floor-mounted water closet may be used.
Arrangements shown for standard toilet stalls may be reversed to allow either a left- or right-hand approach.
Additional stalls shall be provided in conformance with 4.22.4.

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EXCEPTION: In instances of alteration work where provision of a standard stall (Fig. 30(a)) is technically infeasible or where plumbing code requirements prevent combining existing stalls to provide space, either alternate stall (Fig. 30(b)) may be provided in lieu of the standard stall.

4.17.4 Toe Clearances

In standard stalls, the front partition and at least one side partition shall provide a toe clearance of at least 9 inches (230 mm) above the floor. If the depth of the stall is greater than 60 inches (1525 mm), then the toe clearance is not required.

4.17.5 Doors

Toilet stall doors, including door hardware, shall comply with 4.13. If toilet stall approach is from the latch side of the stall door, clearance between the door side of the stall and any obstruction may be reduced to a minimum of 42 inches (1065 mm) (Fig. 30).

4.17.6 Grab Bars

Grab bars complying with the length and positioning shown in Fig. 30(a), (b), (c), and (d) shall be provided. Grab bars may be mounted with any desired method as long as they have a gripping surface at the locations shown and do not obstruct the required clear floor area. Grab bars shall comply with 4.26.

4.18 URINALS

4.18.1 General

Accessible urinals shall comply with 4.18.

4.18.2 Height

Urinals shall be stall-type or wall-hung with an elongated rim at a maximum of 17 inches (430 mm) above the finish floor.

4.18.3 Clear Floor Space

A clear floor space 30 inches by 48 inches (760 mm by 1220 mm) shall be provided in front of urinals to allow forward approach. This clear space shall adjoin or overlap an accessible route and shall comply with 4.2.4. Urinal shields that do not extend beyond the front edge of the urinal rim may be provided with 29 inches (735 mm) clearance between them.

4.18.4 Flush Controls

Flush controls shall be hand operated or automatic, and shall comply with 4.27.4, and shall be mounted no more than 44 inches (1120 mm) above the finish floor.

4.19 WASH BASINS AND MIRRORS

4.19.1 General

The requirements of 4.19 shall apply to lavatory fixtures, vanities, and built-in lavatories.

4.19.2 Height and Clearances
Lavatories shall be mounted with the rim or counter surface no higher than 34 inches (865 mm) above the finish floor. Provide a clearance of at least 29 inches (735 mm) above the finish floor to the bottom of the apron. Knee and toe clearance shall comply with Fig. 31.

4.19.3 Clear Floor Space
A clear floor space 30 inches by 48 inches (760 mm by 1220 mm) complying with 4.2.4 shall be provided in front of a lavatory to allow forward approach. Such clear floor space shall adjoin or overlap an accessible route and shall extend a maximum of 19 inches (485 mm) underneath the lavatory (see Fig. 32).

4.19.4 Exposed Pipes and Surfaces
Hot water and drain pipes under lavatories shall be insulated or otherwise configured to protect against contact. There shall be no sharp or abrasive surfaces under lavatories.

4.19.5 Faucets
Faucets shall comply with 4.27.4. Lever-operated, push-type, and electronically controlled mechanisms are examples of acceptable designs. If self-closing valves are used the faucet shall remain open for at least 10 seconds.

4.19.6 Mirrors
Mirrors shall be mounted with the bottom edge of the reflecting surface no higher than 40 inches (1015 mm) above the finish floor (see Fig. 31).
4.20 Bathtubs and 4.21 Shower Stalls

4.20.1 and 4.21.1 General
Accessible bathtubs and accessible shower stalls shall comply with 4.20 and 4.21, respectively.

4.20.2 Floor Space
Clear Floor space in front of bathtubs shall be as shown in Fig. 33, and 4.21.2 Size and Clearances. Except as specified in 9.1.2, shower stall size and clear floor space shall comply with Fig. 35(a) or (b). The shower stall in Fig. 35(a) shall be 36 inches by 36 inches (915 mm by 915 mm). Shower stalls required by 9.1.2 shall comply with Fig. 57(a) or (b). The shower stall in Fig. 35(b) will fit into the space required for a bathtub.

4.20.3 Seat
An in-tub seat or a seat at the head end of the tub shall be provided as shown in Fig. 33 and 34. The structural strength of seats and their attachments shall comply with 4.26.3. Seats shall be mounted securely and shall not slip during use, and 4.21.3 Seat.

A seat shall be provided in shower stalls 36 inches by 36 inches (915 mm by 915 mm) and shall be as shown in Fig. 36. The seat shall be mounted 17 inches to 19 inches

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(430 mm to 485 mm) from the bathroom floor and shall extend the full depth of the stall. In a 36 inches by 36 inches (915 mm by 915 mm) shower stall, the seat shall be on the wall opposite the controls.

Where a fixed seat is provided in a 30 inches by 60 inches minimum (760 mm by 1525 mm) shower stall, it shall be a folding type and shall be mounted on the wall adjacent to the controls as shown in Fig. 57. The structural strength of seats and their attachments shall comply with 4.26.3.

4.20.4 Grab Bars

Grab bars for bathtubs and shower stalls complying with 4.26 shall be provided as shown in Fig. 33, 34, and 4.21.4 Grab Bars. Grab bars complying with 4.26 shall be provided as shown in Fig. 37.

4.20.5 Controls

Faucets and other controls complying with 4.27.4 shall be located as shown in Fig. 34, and 4.21.5 Controls. Faucets and other controls complying with 4.27.4 shall be located as shown in Fig. 37. In shower stalls 36 inches by 36 inches (915 mm by 915 mm), all controls, faucets, and the shower unit shall be mounted on the side wall opposite the seat.

4.20.6 and 4.21.6 Shower Unit

A shower spray unit with a hose at least 60 inches (1525 mm) long that can be used both as a fixed shower head and as a hand held shower shall be provided.

Exception: In unmonitored facilities where vandalism is a consideration, a fixed shower head mounted at 48 inches (1220 mm) above the shower floor may be used in lieu of a hand-held shower head.

4.20.7 Bathtub Enclosures

If provided, enclosures for bathtubs shall not obstruct controls or transfer from wheelchairs onto bathtub seats or into tubs. Enclosures on bathtubs shall not have tracks mounted on their rims, and 4.21.7 Curbs. If provided, curbs in shower stalls 36 inches by 36 inches (915 mm by 915 mm) shall be no higher than 1/2 inches (13 mm). Shower stalls that are 30 inches by 60 inches (760 mm by 1525 mm) minimum shall not have curbs.

4.20.8 Shower Enclosures

If provided, enclosures for shower stalls shall not obstruct controls or obstruct transfer from wheelchairs onto shower seats.

4.22 TOILET ROOMS AND REST AREA

4.22.1 Minimum Number

Toilet Rooms and Rest Area facilities required to be accessible by 4.1 shall comply with 4.22. Accessible toilet rooms and rest area shall be on an accessible route.

4.22.2 Doors
All doors to accessible toilet rooms and rest area shall comply with 4.13. Doors shall not swing into the clear floor space required for any fixture.

4.22.3 Clear Floor Space
The accessible fixtures and controls required in 4.22.4, 4.22.5, 4.22.6, and 4.22.7 shall be on an accessible route. An unobstructed turning space complying with 4.2.3 shall be provided within an accessible toilet / rest room. The clear floor space at fixtures and controls, the accessible route, and the turning space may overlap.

4.22.4 Water Closets
If toilet stalls are provided, then at least one shall be a standard toilet stall complying with 4.17; where 6 or more stalls are provided, in addition to the stall complying with 4.17.3, at least one stall 36 inches (915 mm) wide with an outward swinging, self-closing door and parallel grab bars complying with Fig. 30(d) and 4.26 shall be provided. Water closets in such stalls shall comply with 4.16. If water closets are not in stalls, then at least one shall comply with 4.16.

4.22.5 Urinals
If urinals are provided, then at least one shall comply with 4.18.

4.22.6 Lavatories and Mirrors
If lavatories and mirrors are provided, then at least one of each shall comply with 4.19.

4.22.7 Controls and Dispensers
If controls, dispensers, receptacles, or other equipment are provided, then at least one of each shall be on an accessible route and shall comply with 4.27.

4.23 BATHROOMS, BATHING FACILITIES & SHOWER ROOMS

4.23.1 Minimum Number
Bathrooms, bathing facilities, or shower rooms required to be accessible by 4.1 shall comply with 4.23 and shall be on an accessible route.

4.23.2 Doors
Doors to accessible bathrooms shall comply with 4.13. Doors shall not swing into the floor space required for any fixture.

4.23.3 Clear Floor Space
The accessible fixtures and controls required in 4.23.4, 4.23.5, 4.23.6, 4.23.7, 4.23.8, and 4.23.9 shall be on an accessible route. An unobstructed turning space complying with 4.2.3 shall be provided within an accessible bathroom. The clear floor spaces at fixtures and controls, the accessible route, and the turning space may overlap.

4.23.4 Water Closets
If toilet stalls are provided, then at least one shall be a standard toilet stall complying

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with 4.17; where 6 or more stalls are provided, in addition to the stall complying with 4.17.3, at least one stall 36 inches (915 mm) wide with an outward swinging, self-closing door and parallel grab bars complying with Fig. 30(d) and 4.26 shall be provided. Water closets in such stalls shall comply with 4.16. If water closets are not in stalls, then at least one shall comply with 4.16.

4.23.5 Urinals
If urinals are provided, then at least one shall comply with 4.18.

4.23.6 Lavatories and Mirrors
If lavatories and mirrors are provided, then at least one of each shall comply with 4.19.

4.23.7 Controls and Dispensers
If controls, dispensers, receptacles, or other equipment are provided, then at least one of each shall be on an accessible route and shall comply with 4.27.

4.23.8 Bathing and Shower Facilities
If tubs or showers are provided, then at least one accessible tub that complies with 4.20 or at least one accessible shower that complies with 4.21 shall be provided.

4.23.9 Medicine Cabinets
If medicine cabinets are provided, at least one shall be located with a usable shelf no higher than 44 inches (1120 mm) above the floor space. The floor space shall comply with 4.2.4.

4.24 SINKS

4.24.1 General
Sinks required to be accessible by 4.1 shall comply with 4.24.

4.24.2 Height
Sinks shall be mounted with the counter or rim no higher than 34 inches (865 mm) above the finish floor.

4.24.3 Knee Clearance
Knee clearance that is at least 27 inches (685 mm) high, 30 inches (760 mm) wide, and 19 inches (485 mm) deep shall be provided underneath sinks.

4.24.4 Depth
Each sink shall be a maximum of 6-1/2 inches (165 mm) deep.

4.24.5 Clear Floor Space
A clear floor space at least 30 inches by 48 inches (760 mm by 1220 mm) complying with 4.2.4 shall be provided in front of a sink to allow forward approach. The clear floor space shall be on an accessible route and shall extend a maximum of 19 inches (485 mm) underneath the sink (see Fig. 32).

4.24.6 Exposed Pipes and Surfaces
Hot water and drain pipes exposed under sinks shall be insulated or otherwise configured so as to protect against contact. There shall be no sharp or abrasive surfaces under sinks.

4.24.7 Faucets.
Faucets shall comply with 4.27.4. Lever-operated, push-type, touch-type, or electronically controlled mechanisms are acceptable designs.

4.25 STORAGE

4.25.1 General
Fixed storage facilities such as cabinets, shelves, closets, and drawers required to be accessible by 4.1 shall comply with 4.25.

4.25.2 Clear Floor Space
A clear floor space at least 30 inches by 48 inches (760 mm by 1220 mm) complying with 4.2.4 that allows either a forward or parallel approach by a person using a wheelchair shall be provided at accessible storage facilities.

4.25.3 Height
Accessible storage spaces shall be within at least one of the reach ranges specified in 4.2.5 and 4.2.6 (see Fig. 5 and Fig 6). Clothes rods or shelves shall be a maximum of 54 inches (1370 mm) above the finish floor for a side approach. Where the distance from the wheelchair to the clothes rod or shelf exceeds 10 inches (255 mm) (as in closets without accessible doors) the height and depth to the rod or shelf shall comply with Fig. 38(a) and Fig. 38(b).

4.25.4 Hardware
Hardware for accessible storage facilities shall comply with 4.27.4. Touch latches and U-shaped pulls are acceptable

4.26 HANDRAILS, GRAB BARS, AND TUB & SHOWER SEATS

4.26.1 General
All handrails, grab bars, and tub and shower seats required to be accessible by 4.1, 4.8, 4.9, 4.16, 4.17, 4.20 or 4.21 shall comply with 4.26.

4.26.2 Size and Spacing of Grab Bars and Handrails
The diameter or width of the gripping surfaces of a handrail or grab bar shall be 1-1/4 inches to 1-1/2 inches (32 mm to 38 mm), or the shape shall provide an equivalent gripping surface. If handrails or grab bars are mounted adjacent to a wall, the space between the wall and the grab bar shall be 1-1/2 inches (38 mm) (see Fig. 39(a), (b), (c), and (e)). Handrails may be located in a recess if the recess is a maximum of 3 inches (75 mm) deep and extends at least 18 inches (455 mm) above the top of the rail (see Fig. 39(d)).

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4.26.3 Structural Strength

The structural strength of grab bars, tub and shower seats, fasteners, and mounting devices shall meet the following specification:

- Bending stress in a grab bar or seat induced by the maximum bending moment from the application of 250 lbf (1112N) shall be less than the allowable stress for the material of the grab bar or seat.
- Shear stress induced in a grab bar or seat by the application of 250 lbf (1112N) shall be less than the allowable shear stress for the material of the grab bar or seat. If the connection between the grab bar or seat and its mounting bracket or other support is considered to be fully restrained, then direct and torsional shear stresses shall be totaled for the combined shear stress, which shall not exceed the allowable shear stress.
- Shear force induced in a fastener or mounting device from the application of 250 lbf (1112N) shall be less than the allowable lateral load of either the fastener or mounting device or the supporting structure, whichever is the smaller allowable load.
- Tensile force induced in a fastener by a direct tension force of 250 lbf (1112N) plus the maximum moment from the application of 250 lbf (1112N) shall be less than the allowable withdrawal load between the fastener and the supporting structure.
- Grab bars shall not rotate within their fittings.

4.26.4 Eliminating Hazards

A handrail or grab bar and any wall or other surface adjacent to it shall be free of any sharp or abrasive elements. Edges shall have a minimum radius of 1/8 inches (3.2 mm).

4.27 CONTROLS AND OPERATING MECHANISMS

4.27.1 General

Controls and operating mechanisms required to be accessible by 4.1 shall comply with 4.27.

4.27.2 Clear Floor Space

Clear floor space complying with 4.2.4 that allows a forward or a parallel approach by a person using a wheelchair shall be provided at controls, dispensers, receptacles, and other operable equipment.

4.27.3 Height

The highest operable part of controls, dispensers, receptacles, and other operable equipment shall be placed within at least one of the reach ranges specified in 4.2.5 and 4.2.6. Electrical and communications system receptacles on walls shall be mounted no less than 15 inches (380 mm) above the floor.

EXCEPTION: These requirements do not apply where the use of special equipment dictates otherwise or where electrical and communications systems receptacles are not normally intended for use by building occupants.

4.27.4 Operation

Controls and operating mechanisms shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate controls shall be no greater than 5 lbf (22.2 N).

4.28 ALARMS

4.28.1 General

Alarm systems required to be accessible by 4.1 shall comply with 4.28. At a minimum, visual signal appliances shall be provided in buildings and facilities in each of the following areas: restrooms and any other general usage areas (e.g., meeting rooms), hallways, lobbies, and any other area for common use.

4.28.2 Audible Alarms

If provided, audible emergency alarms shall produce a sound that exceeds the prevailing equivalent sound level in the room or space by at least 15 dbA or exceeds any maximum sound level with a duration of 60 seconds by 5 dbA, whichever is louder. Sound levels for alarm signals shall not exceed 120 dbA.

4.28.3 Visual Alarms

Visual alarm signal appliances shall be integrated into the building or facility alarm system. If single station audible alarms are provided then single station visual alarm signals shall be provided. Visual alarm signals shall have the following minimum photometric and location features:

- The lamp shall be a xenon strobe type or equivalent.
- The color shall be clear or nominal white (i.e., unfiltered or clear filtered white light).
- The maximum pulse duration shall be two-tenths of one second (0.2 sec) with a maximum duty cycle of 40 percent. The pulse duration is defined as the time interval between initial and final points of 10 percent of maximum signal.
- The intensity shall be a minimum of 75 candela.
- The flash rate shall be a minimum of 1 Hz and a maximum of 3 Hz.
- The appliance shall be placed 80 inches (2030 mm) above the highest floor level within the space or 6 inches (152 mm) below the ceiling, whichever is lower.
- In general, no place in any room or space required to have a visual signal appliance shall be more than 50 ft (15 m) from the signal (in the horizontal plane). In large rooms and spaces exceeding 100 ft (30 m) across, without obstructions 6 ft (2 m) above the finish floor, such as auditoriums, devices may be placed around the perimeter, spaced a maximum 100 ft (30 m) apart, in lieu of suspending appliances from the ceiling.
- No place in common corridors or hallways in which visual alarm signaling appliances are required shall be more than 50 ft (15 m) from the signal.

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4.28.4 Auxiliary Alarms
Units and sleeping accommodations shall have a visual alarm connected to the building emergency alarm system or shall have a standard 110-volt electrical receptacle into which such an alarm can be connected and a means by which a signal from the building emergency alarm system can trigger such an auxiliary alarm. When visual alarms are in place the signal shall be visible in all areas of the unit or room. Instructions for use of the auxiliary alarm or receptacle shall be provided.

4.29 DETECTABLE WARNINGS

4.29.1 General
Detectable warnings required by 4.1 and 4.7 shall comply with 4.29.

4.29.2 Detectable Warnings on Walking Surfaces
Detectable warnings shall consist of raised truncated domes with a diameter of nominal 0.9 inches (23 mm), a height of nominal 0.2 inches (5 mm) and a center – to - center spacing of nominal 2.35 inches (60 mm) and shall contrast visually with adjoining surfaces, either light-on-dark, or dark-on-light.

The material used to provide contrast shall be an integral part of the walking surface. Detectable warnings used on interior surfaces shall differ from adjoining walking surfaces in resiliency or sound-on-cane contact.

4.29.3 Detectable Warnings at Hazardous Vehicular Areas
If a walk crosses or adjoins a vehicular way, and the walking surfaces are not separated by curbs, railings, or other elements between the pedestrian areas and vehicular areas, the boundary between the areas shall be defined by a continuous detectable warning which is 36 inches (915 mm) wide, complying with 4.29.2.

4.29.4 Detectable Warnings at Reflecting Pools
The edges of reflecting pools shall be protected by railings, walls, curbs, or detectable warnings complying with 4.29.2.

4.30 SIGNAGE

4.30.1 General
Signage required to be accessible by 4.1 shall comply with the applicable provisions of 4.30.

4.30.2 Character Proportion
Letters and numbers on signs shall have a width-to-height ratio between 3:5 and 1:1 and a stroke-width-to- height ratio between 1:5 and 1:10.

4.30.3 Character Height

Characters and numbers on signs shall be sized according to the viewing distance from which they are to be read. The minimum height is measured using an upper case X. Lower case characters are permitted.

Height above Finished Floor	Minimum Character Height
Suspended or Projected Overhead in compliance with 4.4.2	3 inches (75 mm) minimum

4.30.4 Raised and Braille Characters and Pictorial Symbol Signs (Pictograms)

Letters and numerals shall be raised 1/32 inches, upper case, sans serif or simple serif type and shall be accompanied with Grade 2 Braille. Raised characters shall be at least 5/8 inches (16 mm) high, but no higher than 2 inches (50 mm). Pictograms shall be accompanied by the equivalent verbal description placed directly below the pictogram. The border dimension of the pictogram shall be 6 inches (152 mm) minimum in height.

4.30.5 Finish and Contrast

The characters and background of signs shall be eggshell, matte, or other non-glare finish. Characters and symbols shall contrast with their background either light characters on a dark background or dark characters on a light background.

4.30.6 Mounting Location and Height

Where permanent identification is provided for rooms and spaces, signs shall be installed on the wall adjacent to the latch side of the door. Where there is no wall space to the latch side of the door, including at double leaf doors, signs shall be placed on the nearest adjacent wall. Mounting height shall be 60 inches (1525 mm) above the finish floor to the centerline of the sign. Mounting location for such signage shall be so that a person may approach within 3 inches (76 mm) of signage without encountering protruding objects or standing within the swing of a door.

4.30.7 Symbols of Accessibility

- Facilities and elements required to be identified as accessible by 4.1 shall use the International Symbol of Accessibility (ISA). The symbol shall be displayed as shown in Fig. 43(a) and (b).
- Volume Control Telephones. Telephones required to have a volume control by 4.1.3(17) (b) shall be identified by a sign containing a depiction of a telephone handset with radiating sound waves.
- Text Telephones. Text telephones required by 4.1.3(17) (c) shall be identified by the international TDD symbol (Fig 43(c)). In addition, if a facility has a public text telephone, directional signage indicating the location of the nearest text telephone shall be placed adjacent to all banks of telephones which do not contain a text telephone. Such directional signage shall include the international TDD symbol. If a facility has no banks of telephones, the directional signage shall be provided at the entrance (e.g., in a building directory).

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» Assistive Listening Systems. In assembly areas where permanently installed assistive listening systems are required by 4.1.3(19) (b) the availability of such systems shall be identified with signage that includes the international symbol of access for hearing loss (Fig 43(d)).

4.31 TELEPHONES

4.31.1 General
Public telephones required to be accessible by 4.1 shall comply with 4.31.

4.31.2 Clear Floor or Ground Space
A clear floor or ground space at least 30 inches by 48 inches (760 mm by 1220 mm) that allows either a forward or parallel approach by a person using a wheelchair shall be provided at telephones (see Fig. 44). The clear floor or ground space shall comply with 4.2.4. Bases, enclosures, and fixed seats shall not impede approaches to telephones by people who use wheelchairs.

4.31.3 Mounting Height
The highest operable part of the telephone shall be within the reach ranges specified in 4.2.5 or 4.2.6.

4.31.4 Protruding Objects
Telephones shall comply with 4.4.

4.31.5 Hearing Aid Compatible & Volume Control Telephones Required by 4.1
Telephones shall be hearing aid compatible.
Volume controls, capable of a minimum of 12 dbA and a maximum of 18 dbA above normal, shall be provided in accordance with 4.1.3. If an automatic reset is provided then 18 dbA may be exceeded.

4.31.6 Controls
Telephones shall have pushbutton controls where service for such equipment is available.

4.31.7 Telephone Books
Telephone books, if provided, shall be located in a position that complies with the reach ranges specified in 4.2.5 and 4.2.6.

4.31.8 Cord Length
The cord from the telephone to the handset shall be at least 29 inches (735 mm) long.

4.31.9 Text Telephones required by 4.1
» Text telephones used with a pay telephone shall be permanently affixed within, or adjacent to, the telephone enclosure. If an acoustic coupler is used, the telephone cord shall be sufficiently long to allow connection of the text telephone and the telephone receiver.

- Pay telephones designed to accommodate a portable text telephone shall be equipped with a shelf and an electrical outlet within or adjacent to the telephone enclosure. The telephone handset shall be capable of being placed flush on the surface of the shelf. The shelf shall be capable of accommodating a text telephone and shall have 6 in (152 mm) minimum vertical clearance in the area where the text telephone is to be placed.
- Equivalent facilitation may be provided. For example, a portable text telephone may be made available in a hotel at the registration desk if it is available on a 24-hour basis for use with nearby public pay telephones. In this instance, at least one pay telephone shall comply with paragraph 2 of this section. In addition, if an acoustic coupler is used, the telephone handset cord shall be sufficiently long so as to allow connection of the text telephone and the telephone receiver. Directional signage shall be provided and shall comply with 4.30.7.

4.32 FIXED OR BUILT-IN SEATING AND TABLES

4.32.1 Minimum Number
Fixed or built-in seating or tables required to be accessible by 4.1 shall comply with 4.32.

4.32.2 Seating.
If seating spaces for people in wheelchairs are provided at fixed tables or counters, clear floor space complying with 4.2.4 shall be provided. Such clear floor space shall not overlap knee space by more than 19 inches (485 mm) (see Fig. 45).

4.32.3 Knee Clearances
If seating for people in wheelchairs is provided at tables or counters, knee spaces at least 27 inches (685 mm) high, 30 inches (760 mm) wide, and 19 inches (485 mm) deep shall be provided (see Fig. 45).

4.32.4 Height of Tables or Counters
The tops of accessible tables and counters shall be from 28 inches to 34 inches (710 mm to 865 mm) above the finish floor or ground.

4.34 AUTOMATED TELLER MACHINES

4.34.1 General
Each automated teller machine required to be accessible by 4.1.3 shall be on an accessible route and shall comply with 4.34.

4.34.2 Clear Floor Space
The automated teller machine shall be located so that clear floor space complying with 4.2.4 is provided to allow a person using a wheelchair to make a forward approach, a parallel approach, or both, to the machine.

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4.35 DRESSING AND FITTING ROOMS

4.35.1 General

Dressing and fitting rooms required to be accessible by 4.1 shall comply with 4.35 and shall be on an accessible route.

4.35.2 Clear Floor Space

A clear floor space allowing a person using a wheelchair to make a 180-degree turn shall be provided in every accessible dressing room entered through a swinging or sliding door. No door shall swing into any part of the turning space. Turning space shall not be required in a private dressing room entered through a curtained opening at least 32 inches (815 mm) wide if clear floor space complying with section 4.2 renders the dressing room usable by a person using a wheelchair.

4.35.3 Doors

All doors to accessible dressing rooms shall be in compliance with section 4.13.

4.35.4 Bench

Every accessible dressing room shall have a 24 inches by 48 inches (610 mm by 1220 mm) bench fixed to the wall along the longer dimension. The bench shall be mounted 17 inches to 19 inches (430 mm to 485 mm) above the finish floor. Clear floor space shall be provided alongside the bench to allow a person using a wheelchair to make a parallel transfer onto the bench. The structural strength of the bench and attachments shall comply with 4.26.3. Where installed in conjunction with showers, swimming pools, or other wet locations, water shall not accumulate upon the surface of the bench and the bench shall have a slip-resistant surface.

4.35.5 Mirror

Where mirrors are provided in dressing rooms of the same use, then in an accessible dressing room, a full-length mirror, measuring at least 18 inches wide by 54 inches high (460 mm by 1370 mm), shall be mounted in a position affording a view to a person on the bench as well as to a person in a standing position.

NOTE: Sections 4.1.1 through 4.1.7 and Sections 5 through 10 are different from ANSI A117.1 in their entirety and are printed in standard type.

BUILDING TYPES

3.5.1 Mosques and Prayer Halls

3.5.1.1 Design Considerations

Access to all areas of worship and other activity areas in the Mosques, Prayer Halls and associated areas of worship should be provided. Access assumes that people with disabilities may be participants, leaders, staff, or volunteers.

3.5.1.2 Application Guidelines

Places of worship and/or reflection should comply with this section.

3.5.1.3 Technical Guidelines

a) General: In addition to complying with this section mosques should comply with applicable design requirements. Accessible paths of travel in mosques should be clear of shoes and other obstructions.

b) Seating. Seating should be provided at entrances and at other locations where people are required to remove their shoes. Seating should also be provided in a location within the prayer hall to accommodate people who cannot bend to pray. A designated area to accommodate people using mobility devices should be provided in a location that integrates people with mobility devices into the gathering. Provision should be made to address the potential lack of cleanliness of mobility device wheels where the route to the designated area crosses prayer hall carpeting.

4.33 Assembly Areas

4.33.1 Minimum Number

Assembly and associated areas required to be accessible by 4.1 shall comply with 4.33.

4.33.2 Size of Wheelchair Locations

Each wheelchair location shall provide minimum clear ground or floor spaces as shown in Fig. 46.

4.33.3 Placement of Wheelchair Locations

Wheelchair areas shall be an integral part of any fixed seating plan and shall be provided so as to provide people with physical disabilities a choice of admission prices and lines of sight comparable to those for members of the general public. They shall adjoin an accessible route that also serves as a means of egress in case of emergency.

At least one companion fixed seat shall be provided next to each wheelchair seating area.

When the seating capacity exceeds 300, wheelchair spaces shall be provided in more than one location.

Readily removable seats may be installed in wheelchair spaces when the spaces are not required to accommodate wheelchair users.

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EXCEPTION: Accessible viewing positions may be clustered for bleachers, balconies, and other areas having sight lines that require slopes of greater than 5 percent. Equivalent accessible viewing positions may be located on levels having accessible egress.

4.33.4 Surfaces
The ground or floor at wheelchair locations shall be level and shall comply with 4.5.

4.33.5 Access to Prayer Hall Areas
An accessible route shall connect wheelchair seating locations with prayer hall areas, including stages, arena floors, dressing rooms, locker rooms, and other spaces used by performers.

4.33.6 Placement of Listening Systems
If the listening system provided serves individual fixed seats, then such seats shall be located within a 50 ft (15 m) viewing distance of the stage or playing area and shall have a complete view of the stage or playing area.

4.33.7 Types of Listening Systems
Assistive listening systems (ALS) are intended to augment standard public address and audio systems by providing signals which can be received directly by persons with special receivers or their own hearing aids and which eliminate or filter background noise. The type of assistive listening system appropriate for a particular application depends on the characteristics of the setting, the nature of the program, and the intended audience. Magnetic induction loops, infra-red and radio frequency systems are types of listening systems which are appropriate for various applications

5.0 RESTAURANTS AND CAFETERIAS

5.1 General
Except as specified or modified in this section, restaurants and cafeterias shall comply with the requirements of 4.1 to 4.35. Where fixed tables (or dining counters where food is consumed but there is no service) are provided, at least 5 percent, but not less than one, of the fixed tables (or a portion of the dining counter) shall be accessible and shall comply with 4.32 as required in 4.1.3(18).
In establishments where separate areas are designated for smoking and non-smoking patrons, the required number of accessible fixed tables (or counters) shall be proportionally distributed between the smoking and non-smoking areas.
In new construction, and where practicable in alterations, accessible fixed tables (or counters) shall be distributed throughout the space or facility.

5.2 Counters and Bars
Where food or drink is served at counters exceeding 34 inches (865 mm) in height for consumption by customers seated on stools or standing at the counter, a portion of the main counter which is 60 inches (1525 mm) in length minimum shall be provided in compliance with 4.32 or service shall be available at accessible tables within the same area.

5.3 Access Aisles

All accessible fixed tables shall be accessible by means of an access aisle at least 36 inches (915 mm) clear between parallel edges of tables or between a wall and the table edges.

5.4 Dining Areas

In new construction, all dining areas, including raised or sunken dining areas, loggias, and outdoor seating areas, shall be accessible. In non-elevator buildings, an accessible means of vertical access to the mezzanine is not required under the following conditions:

- The area of mezzanine seating measures no more than 33 percent of the area of the total accessible seating area
- The same services and decor are provided in an accessible space usable by the general public; and
- The accessible areas are not restricted to use by people with disabilities.

In alterations, accessibility to raise or sunken dining areas, or to all parts of outdoor seating areas is not required provided that the same services and decor are provided in an accessible space usable by the general public and are not restricted to use by people with disabilities.

5.5 Food Service Lines

Food service lines shall have a minimum clear width of 36 inches (915 mm), with a preferred clear width of 42 inches (1065 mm) to allow passage around a person using a wheelchair. Tray slides shall be mounted no higher than 34 inches (865 mm) above the floor (see Fig. 53). If self-service shelves are provided, at least 50 percent of each type must be within reach ranges specified in 4.2.5 and 4.2.6.

5.6 Tableware and Condiment Areas

Self-service shelves and dispensing devices for tableware, dishware, condiments, food and beverages shall be installed to comply with 4.2 (see Fig. 54).

5.7 Raised Platforms

In banquet rooms or spaces where a head table or speaker's lectern is located on a raised platform, the platform shall be accessible in compliance with 4.8 or 4.11. Open edges of a raised platform shall be protected by placement of tables or by a curb.

5.8 Vending Machines and Other Equipment

Spaces for vending machines and other equipment shall comply with 4.2 and shall be located on an accessible route.

6.0 MEDICAL CARE FACILITIES

6.1 General

Medical care facilities included in this section are those in which people receive physical or medical treatment or care and where persons may need assistance in

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responding to an emergency and where the period of stay may exceed twenty-four hours. In addition to the requirements of 4.1 through 4.35, medical care facilities and buildings shall comply with 6.

- Hospitals - general purpose hospitals, psychiatric facilities, detoxification facilities - At least 10 percent of patient bedrooms and toilets, and all public use and common use areas are required to be designed and constructed to be accessible.
- Hospitals and rehabilitation facilities that specialize in treating conditions that affect mobility, or units within either that specialize in treating conditions that affect mobility - All patient bedrooms and toilets, and all public use and common use areas are required to be designed and constructed to be accessible.
- Long term care facilities, nursing homes - At least 50 percent of patient bedrooms and toilets, and all public use and common use areas are required to be designed and constructed to be accessible.
- Alterations to patient bedrooms.

  - When patient bedrooms are being added or altered as part of a planned renovation of an entire wing, a department, or other discrete area of an existing medical facility, a percentage of the patient bedrooms that are being added or altered shall comply with 6.3. The percentage of accessible rooms provided shall be consistent with the percentage of rooms required to be accessible by the applicable requirements of 6.1(1), 6.1(2), or 6.1(3), until the number of accessible patient bedrooms in the facility equals the overall number that would be required if the facility were newly constructed. (For example, if 20 patient bedrooms are being altered in the obstetrics department of a hospital, 2 of the altered rooms must be made accessible. If, within the same hospital, 20 patient bedrooms are being altered in a unit that specializes in treating mobility impairments, all of the altered rooms must be made accessible.) Where toilet/bathrooms are part of patient bedrooms which are added or altered and required to be accessible, each such patient toilet/bathroom shall comply with 6.4.

  - When patient bedrooms are being added or altered individually, and not as part of an alteration of the entire area, the altered patient bedrooms shall comply with 6.3, unless either: a) the number of accessible rooms provided in the department or area containing the altered patient bedroom equals the number of accessible patient bedrooms that would be required if the percentage requirements of 6.1(1), 6.1(2), or 6.1(3) were applied to that department or area; or b) the number of accessible patient bedrooms in the facility equals the overall number that would be required if the facility were newly constructed. Where toilet/bathrooms are part of patient bedrooms which are added or altered and required to be accessible, each such toilet/bathroom shall comply with 6.4.

6.2 Entrances

At least one accessible entrance that complies with 4.14 shall be protected from the weather by canopy or roof overhang. Such entrances shall incorporate a passenger loading zone that complies with 4.6.6.

6.3 Patient Bedrooms

Provide accessible patient bedrooms in compliance with 4.1 through 4.35. Accessible patient bedrooms shall comply with the following:

- Each bedroom shall have a door that complies with 4.13
  EXCEPTION: Entry doors to acute care hospital bedrooms for in-patients shall be exempted from the requirement in 4.13.6 for maneuvering space at the latch side of the door if the door is at least 44 inches (1120 mm) wide.
- Each bedroom shall have adequate space to provide a maneuvering space that complies with 4.2.3. In rooms with 2 beds, it is preferable that this space be located between beds.
- Each bedroom shall have adequate space to provide a minimum clear floor space of 36 inches (915 mm) along each side of the bed and to provide an accessible route complying with 4.3.3 to each side of each bed.

6.4 Patient Toilet Rooms

Where toilet/bath rooms are provided as a part of a patient bedroom, each patient bedroom that is required to be accessible shall have an accessible toilet/bath room that complies with 4.22 or 4.23 and shall be on an accessible route.

7.0 BUSINESS AND MERCANTILE

7.1 General

In addition to the requirements of 4.1 to 4.35, the design of all areas used for business transactions with the public shall comply with 7.

7.2 Sales and Service Counters, Teller Windows, Information Counters

- In department stores and miscellaneous retail stores where counters have cash registers and are provided for sales or distribution of goods or services to the public, at least one of each type shall have a portion of the counter which is at least 36 inches (915 mm) in length with a maximum height of 36 inches (915 mm) above the finish floor.
- It shall be on an accessible route complying with 4.3.
- The accessible counters must be dispersed throughout the building or facility. In alterations where it is technically infeasible to provide an accessible counter, an auxiliary counter meeting these requirements may be provided.
- At ticketing counters, teller stations in a bank, registration counters in hotels and motels, box office ticket counters, and other counters that may not have a cash register but at which goods or services are sold or distributed, either:
  - a portion of the main counter which is a minimum of 36 inches (915 mm) in length shall be provided with a maximum height of 36 inches (915 mm); or

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- an auxiliary counter with a maximum height of 36 inches (915 mm) in close proximity to the main counter shall be provided; or
- equivalent facilitation shall be provided (e.g., at a hotel registration counter, equivalent facilitation might consist of: (1) provision of a folding shelf attached to the main counter on which an individual with disabilities can write, and (2) use of the space on the side of the counter or at the concierge desk, for handing materials back and forth).

All accessible sales and service counters shall be on an accessible route complying with 4.3.

7.3 Check-out Aisles

In new construction, accessible check-out aisles shall be provided in conformance with the table below:

Total Check-out Aisles of Each Design	Minimum Number of Accessible Check-out Aisles (of each design)
1 - 4	1
5 - 8	2
8 - 15	3
over 15	3, plus 20% of additional aisles

EXCEPTION: In new construction, where the selling space is under 5000 square feet, only one check-out aisle is required to be accessible.

EXCEPTION: In alterations, at least one check-out aisle shall be accessible in facilities under 5000 square feet of selling space. In facilities of 5000 or more square feet of selling space, at least one of each design of check-out aisle shall be made accessible when altered until the number of accessible check-out aisles of each design equals the number required in new construction.

Examples of check-out aisles of different "design" include those which are specifically designed to serve different functions. Different "design" includes but is not limited to the following features - length of belt or no belt; or permanent signage designating the aisle as an express lane.

Clear aisle width for accessible check-out aisles shall comply with 4.2.1 and maximum adjoining counter height shall not exceed 38 inches (965 mm) above the finish floor. The top of the lip shall not exceed 40 inches (1015 mm) above the finish floor.

Signage identifying accessible check-out aisles shall comply with 4.30.7 and shall be mounted above the check-out aisle in the same location where the check-out number or type of check-out is displayed.

conformance with the table below. In addition, in hotels, of 50 or more sleeping rooms or suites, additional accessible sleeping rooms or suites that include a roll-in shower shall also be provided in conformance with the table below. Such accommodations shall comply with the requirements of 9.2, 4.21, and Figure 57(a) or (b).

Number of Rooms	Accessible Rooms	Rooms with Roll-in Showers
1 to 25	1	
26 to 50	2	
51 to 75	3	1
76 to 100	4	1
101 to 150	5	2
151 to 200	6	2
201 to 300	7	3
301 to 400	8	4
401 to 500	9	4, plus one for each additional 100 over 400
501 to 1000	2% of total	
1001 and over	20 plus 1 for each 100 over 1000	

9.1.3 Sleeping Accommodations for Persons with Hearing Impairments
In addition to those accessible sleeping rooms and suites required by 9.1.2, sleeping rooms and suites that comply with 9.3 (Visual Alarms, Notification Devices, and Telephones) shall be provided in conformance with the following table:

Number of Elements	Accessible Elements
1 to 25	1
26 to 50	2
51 to 75	3
76 to 100	4
101 to 150	5
151 to 200	6
201 to 300	7
301 to 400	8
401 to 500	9
501 to 1000	2% of total

7.4 Security Bollards

Any device used to prevent the removal of shopping carts from store premises shall not prevent access or egress to people in wheelchairs. An alternate entry that is equally convenient to that provided for the ambulatory population is acceptable.

8.0 LIBRARIES

8.1 General

In addition to the requirements of 4.1 to 4.35, the design of all public areas of a library shall comply with 8, including reading and study areas, stacks, reference rooms, reserve areas, and special facilities or collections.

8.2 Reading and Study Areas

At least 5 percent or a minimum of one of each element of fixed seating, tables, or study carrels shall comply with 4.2 and 4.32. Clearances between fixed accessible tables and between study carrels shall comply with 4.3.

8.3 Check-Out Areas

At least one lane at each check-out area shall comply with 7.2(1). Any traffic control or book security gates or turnstiles shall comply with 4.13.

8.4 Card Catalogs and Magazine Displays

Minimum clear aisle space at card catalogs and magazine displays shall comply with Fig. 55. Maximum reach height shall comply with 4.2, with a height of 48 inches (1220 mm) preferred irrespective of approach allowed.

8.5 Stacks

Minimum clear aisle width between stacks shall comply with 4.3, with a minimum clear aisle width of 42 inches (1065 mm) preferred where possible. Shelf height in stack areas is unrestricted (see Fig. 56).

9. ACCESSIBLE TRANSIENT LODGING, HOTELS, MOTELS, BOARDING HOUSES

9.1.1 General

All public use and common use areas are required to be designed and constructed to comply with section 4 (Accessible Elements and Spaces: Scope and Technical Requirements).

EXCEPTION: Sections 9.1 through 9.4 do not apply to an establishment located within a building that contains not more than five rooms for rent or hire and that is actually occupied by the proprietor of such establishment as the residence of such proprietor.

9.1.2 Accessible Units, Sleeping Rooms, and Suites

Accessible sleeping rooms or suites that comply with the requirements of 9.2 (Requirements for Accessible Units, Sleeping Rooms, and Suites) shall be provided in

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9.1.4 Classes of Sleeping Accommodations

- In order to provide persons with disabilities a range of options equivalent t those available to other persons served by the facility, sleeping rooms and suites required to be accessible by 9.1.2 shall be dispersed among the various classes of sleeping accommodations available to patrons of the place of transient lodging. Factors to be considered include room size, cost, amenities provided, and the number of beds provided.
-
- Equivalent Facilitation. For purposes of this section, it shall be deemed equivalent facilitation if the operator of a facility elects to limit construction of accessible rooms to those intended for multiple occupancy, provided that such rooms are made available at the cost of a single occupancy room to an individual with disabilities who requests a single-occupancy room.

9.1.5 Alterations to Accessible Units, Sleeping Rooms, and Suites

When sleeping rooms are being altered in an existing facility, or portion thereof, subject to the requirements of this section, at least one sleeping room or suite that complies with the requirements of 9.2 (Requirements for Accessible Units, Sleeping Rooms, and Suites) shall be provided for each 25 sleeping rooms, or fraction thereof, of rooms being altered until the number of such rooms provided equals the number required to be accessible with 9.1.2.

In addition, at least one sleeping room or suite that complies with the requirements of 9.3 (Visual Alarms, Notification Devices, and Telephones) shall be provided for each 25 sleeping rooms, or fraction thereof, of rooms being altered until the number of such rooms equals the number required to be accessible by 9.1.3.

9.2 Requirements for Accessible Units, Sleeping Rooms and Suites

9.2.1 General

Units, sleeping rooms, and suites required to be accessible by 9.1 shall comply with 9.2.

9.2.2 Minimum Requirements

An accessible unit, sleeping room or suite shall be on an accessible route complying with 4.3 and have the following accessible elements and spaces:

- Accessible sleeping rooms shall have a 36 inches (915 mm) clear width maneuvering space located along both sides of a bed, except that where two beds are provided, this requirement can be met by providing a 36 inches (915 mm) wide maneuvering space located between the two beds.
- An accessible route complying with 4.3 shall connect all accessible spaces and elements, including telephones, within the unit, sleeping room, or suite. This is not intended to require an elevator in multi-story units as long as the spaces identified in 9.2.2(6) and (7) is on accessible levels and the accessible sleeping area is suitable for dual occupancy.

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- Doors and doorways designed to allow passage into and within all sleeping rooms, suites or other covered units shall comply with 4.13.
- If fixed or built-in storage facilities such as cabinets, shelves, closets, and drawers are provided in accessible spaces, at least one of each type provided shall contain storage space complying with 4.25. Additional storage may be provided outside of the dimensions required by 4.25.
- All controls in accessible units, sleeping rooms, and suites shall comply with 4.27.
- Where provided as part of an accessible unit, sleeping room, or suite, the following spaces shall be accessible and shall be on an accessible route:
  - **the living area**
  - **the dining area**
  - **at least one sleeping area**
  - **patios, terraces, or balconies**
  - **at least one full bathroom (i.e., one with a water closet, a lavatory, and a bathtub or shower)**
  - **if only half baths are provided, at least one half bath**

  carports, garages or parking spaces
- Kitchens, Kitchenettes, or Wet Bars. When provided as accessory to a sleeping room or suite, kitchens, kitchenettes, wet bars, or similar amenities shall be accessible. Clear floor space for a front or parallel approach to cabinets, counters, sinks, and appliances shall be provided to comply with 4.2.4.
- Countertops and sinks shall be mounted at a maximum height of 34 inches (865 mm) above the floor.
- At least fifty percent of shelf space in cabinets or refrigerator/freezers shall be within the reach ranges of 4.2.5 or 4.2.6 and space shall be designed to allow for the operation of cabinet and/or appliance doors so that all cabinets and appliances are accessible and usable. Controls and operating mechanisms shall comply with 4.27.
- Sleeping room accommodations for persons with hearing impairments required by 9.1 and complying with 9.3 shall be provided in the accessible sleeping room or suite.

EXCEPTION: The requirements of 4.13.8 and 4.3.8 do not apply where it is necessary to utilize a higher door threshold or a change in level to protect the integrity of the unit from wind/water damage. Where this exception results in patios, terraces or balconies that are not at an accessible level, equivalent facilitation shall be provided. (E.g., Equivalent facilitation at a hotel patio or balcony might consist of providing raised decking or a ramp to provide accessibility).

10. TRANSPORTATION FACILITIES

10.1 General

Every station, bus stop, bus stop pad, terminal, building or other transportation facility, shall comply with the applicable provisions of 4.1 through 4.35, sections 5 through 9,

and the applicable provisions of this section. The exceptions for elevators in 4.1.3(5) exception 1 and 4.1.6(1)(k) do not apply to a terminal, depot, or other station used for specified public transportation, or an airport passenger terminal, or facilities subject to Title II.

10.2 Bus Stops and Terminals

10.2.1 New Construction

- Where new bus stop pads are constructed at bus stops, bays or other areas where a lift or ramp is to be deployed, they shall have a firm, stable surface; a minimum clear length of 96 inches (2400 mm) (measured from the curb or vehicle roadway edge) and a minimum clear width of 60 inches (1500 mm) (measured parallel to the vehicle roadway) to the maximum extent allowed by legal or site constraints; and shall be connected to streets, sidewalks or pedestrian paths by an accessible route complying with 4.3 and 4.4. The slope of the pad parallel to the roadway shall, to the extent practicable, be the same as the roadway. For water drainage, a maximum slope of 1:50 (2%) perpendicular to the roadway is allowed.
- Where provided, new or replaced bus shelters shall be installed or positioned so as to permit a wheelchair or mobility aid user to enter from the public way and to reach a location, having a minimum clear floor area of 30 inches (750 mm) by 48 inches (1200 mm), entirely within the perimeter of the shelter. Such shelters shall be connected by an accessible route to the boarding area provided under paragraph (1) of this section.
- Where provided, all new bus route identification signs shall comply with 4.30.5. In addition, to the maximum extent practicable, all new bus route identification signs shall comply with 4.30.2 and 4.30.3. Signs that are sized to the maximum dimensions permitted under legitimate local, state or federal regulations or ordinances shall be considered in compliance with 4.30.2 and 4.30.3 for purposes of this section.

EXCEPTION: Bus schedules, timetables, or maps that are posted at the bus stop or bus bay are not required to comply with this provision.

10.2.2 Bus Stop Siting and Alterations

Bus stop sites shall be chosen such that, to the maximum extent practicable, the areas where lifts or ramps are to be deployed comply with section 10.2.1(1) and (2). When new bus route identification signs are installed or old signs are replaced, they shall comply with the requirements of 10.2.1(3).

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10.3 Fixed Facilities and Stations

10.3.1 New Construction

New stations in rapid rail, light rail, commuter rail, intercity bus, intercity rail, high speed rail, and other fixed guideway systems (e.g., automated guideway transit, monorails, etc.) shall comply with the following provisions, as applicable:

- Elements such as ramps, elevators or other circulation devices, fare vending or other ticketing areas, and fare collection areas shall be placed to minimize the distance which wheelchair users and other persons who cannot negotiate steps may have to travel compared to the general public. The circulation path, including an accessible entrance and an accessible route, for persons with disabilities shall, to the maximum extent practicable, coincide with the circulation path for the general public. Where the circulation path is different, signage complying with 4.30.1, 4.30.2, 4.30.3, 4.30.5, and 4.30.7(1) shall be provided to indicate direction to and identify the accessible entrance and accessible route.

- In lieu of compliance with 4.1.3(8), at least one entrance to each station shall comply with 4.14, Entrances. If different entrances to a station serve different transportation fixed routes or groups of fixed routes, at least one entrance serving each group or route shall comply with 4.14, Entrances. All accessible entrance shall, to the maximum extent practicable, coincide with those used by the majority of the general public.

- Direct connections to commercial, retail, or residential facilities shall have an accessible route complying with 4.3 from the point of connection to boarding platforms and all transportation system elements used by the public. Any elements provided to facilitate future direct connections shall be on an accessible route connecting boarding platforms and all transportation system elements used by the public.

- Where signs are provided at entrances to stations identifying the station or the entrance, or both, at least one sign at each entrance shall comply with 4.30.4 and 4.30.6. Such signs shall be placed in uniform locations at entrances within the transit system to the maximum extent practicable.

EXCEPTION: Where the station has no defined entrance, but signage is provided, then the accessible signage shall be placed in a central location.

- Stations covered by this section shall have identification signs complying with 4.30.1, 4.30.2, 4.30.3, and 4.30.5. Signs shall be placed at frequent intervals and shall be clearly visible from within the vehicle on both sides when not obstructed by another train. When station identification signs are placed close to vehicle windows (i.e., on the side opposite from boarding) each shall have the top of the highest letter or symbol below the top of the vehicle window

and the bottom of the lowest letter or symbol above the horizontal mid-line of the vehicle window.

» Lists of stations, routes, or destinations served by the station and located on boarding areas, platforms, or mezzanines shall comply with 4.30.1, 4.30.2, 4.30.3, and 4.30.5. A minimum of one sign identifying the specific station and complying with 4.30.4 and 4.30.6 shall be provided on each platform or boarding area. All signs referenced in this paragraph shall, to the maximum extent practicable, be placed in uniform locations within the transit system.

» Automatic fare vending, collection and adjustment (e.g., add-fare) systems shall comply with 4.34.2, 4.34.3, 4.34.4, and 4.34.5. At each accessible entrance such devices shall be located on an accessible route. If self-service fare collection devices are provided for the use of the general public, at least one accessible device for entering, and at least one for exiting, unless one device serves both functions, shall be provided at each accessible point of entry or exit. Accessible fare collection devices shall have a minimum clear opening width of 32 in; shall permit passage of a wheelchair; and, where provided, coin or card slots and controls necessary for operation shall comply with 4.27. Gates which must be pushed open by wheelchair or mobility aid users shall have a smooth continuous surface extending from 2 inches above the floor to 27 inches above the floor and shall comply with 4.13. Where the circulation path does not coincide with that used by the general public, accessible fare collection systems shall be located at or adjacent to the accessible point of entry or exit.

» Platform edges bordering a drop-off and not protected by platform screens or guard rails shall have a detectable warning. Such detectable warnings shall comply with 4.29.2 and shall be 24 inches wide running the full length of the platform drop-off.

» In stations covered by this section, rail-to-platform height in new stations shall be coordinated with the floor height of new vehicles so that the vertical difference, measured when the vehicle is at rest, is within plus or minus 5/8 inches under normal passenger load conditions. For rapid rail, light rail, commuter rail, high speed rail, and intercity rail systems in new stations, the horizontal gap, measured when the new vehicle is at rest, shall be no greater than 3 inches. For slow moving automated guideway "people mover" transit systems, the horizontal gap in new stations shall be no greater than 1 in.

- EXCEPTION 1: Existing vehicles operating in new stations may have a vertical difference with respect to the new platform within plus or minus 1-1/2 inches.

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- EXCEPTION 2: In light rail, commuter rail and intercity rail systems where it is not operationally or structurally feasible to meet the horizontal gap or vertical difference requirements, mini-high platforms, car-borne or platform-mounted lifts, ramps or bridge plates, or similar manually deployed devices, meeting the applicable requirements of 36 C.F.R. part 1192, or 49 C.F.R. part 38 shall suffice.

» Stations shall not be designed or constructed so as to require persons with disabilities to board or alight from a vehicle at a location other than one used by the general public.

» Illumination levels in the areas where signage is located shall be uniform and shall minimize glare on signs. Lighting along circulation routes shall be of a type and configuration to provide uniform illumination.

» Text Telephones: The following shall be provided in accordance with 4.31.9:

» If an interior public pay telephone is provided in a transit facility (as defined by the Department of Transportation) at least one interior public text telephone shall be provided in the station.

» Where four or more public pay telephones serve a particular entrance to a rail station and at least one is in an interior location, at least one interior public text telephone shall be provided to serve that entrance. Compliance with this section constitutes compliance with section 4.1.3(17)(c).

» Where it is necessary to cross tracks to reach boarding platforms, the route surface shall be level and flush with the rail top at the outer edge and between rails, except for a maximum 2-1/2 inches gap on the inner edge of each rail to permit passage of wheel flanges. Such crossings shall comply with 4.29.5. Where gap reduction is not practicable, an above-grade or below-grade accessible route shall be provided.

» Where public address systems are provided to convey information to the public in terminals, stations, or other fixed facilities, a means of conveying the same or equivalent information to persons with hearing loss or who are deaf shall be provided.

» Where clocks are provided for use by the general public, the clock face shall be uncluttered so that its elements are clearly visible. Hands, numerals, and/or digits shall contrast with the background either light-on-dark or dark-on-light. Where clocks are mounted overhead, numerals and/or digits shall comply with 4.30.3. Clocks shall be placed in uniform locations throughout the facility and system to the maximum extent practicable.

» Where provided in below grade stations, escalators shall have a minimum clear width of 32 inches. At the top and bottom of each escalator run, at least two contiguous treads shall be level beyond the comb plate before the risers begin to form. All escalator treads shall be marked by a strip of clearly contrasting color, 2 inches in width, placed parallel to and on the nose of each step. The strip shall be of a material that is at least as slip resistant as the remainder of the tread. The edge of the tread shall be apparent from both ascending and descending directions.

» Where provided, elevators shall be glazed or have transparent panels to allow an unobstructed view both in to and out of the car. Elevators shall comply with 4.10.
- EXCEPTION: Elevator cars with a clear floor area in which a 60 inches diameter circle can be inscribed may be substituted for the minimum car dimensions of 4.10, Fig. 22.

» Where provided, ticketing areas shall permit persons with disabilities to obtain a ticket and check baggage and shall comply with 7.2.

» Where provided, baggage check-in and retrieval systems shall be on an accessible route complying with 4.3, and shall have space immediately adjacent complying with 4.2. If unattended security barriers are provided, at least one gate shall comply with 4.13. Gates which must be pushed open by wheelchair or mobility aid users shall have a smooth continuous surface extending from 2 inches above the floor to 27 inches above the floor.

10.3.2 Existing Facilities: Key Stations

» Rapid, light and commuter rail key stations, as defined under criteria established by the Department of Transportation in subpart C of 49 CFR part 37 and existing intercity rail stations shall provide at least one accessible route from an accessible entrance to those areas necessary for use of the transportation system.

» The accessible route required by 10.3.2(1) shall include the features specified in 10.3.1(1), (4)-(9), (11)-(15), and (17)-(19).

» Where technical infeasibility in existing stations requires the accessible route to lead from the public way to a paid area of the transit system, an accessible fare collection system, complying with 10.3.1(7), shall be provided along such accessible route.

» In light rail, rapid rail and commuter rail key stations, the platform or a portion thereof and the vehicle floor shall be coordinated so that the vertical difference, measured when the vehicle is at rest, is within plus or minus 1-1/2 inches under all normal passenger load conditions, and the horizontal gap,

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measured when the vehicle is at rest, is no greater than 3 inches for at least one door of each vehicle or car required to be accessible by 49 CFR part 37.

EXCEPTION 1: Existing vehicles retrofitted to meet the requirements of 49 CFR 37.93 (one-car-per-train rule) shall be coordinated with the platform such that, for at least one door, the vertical difference between the vehicle floor and the platform, measured when the vehicle is at rest with 50% normal passenger capacity, is within plus or minus 2 inches and the horizontal gap is no greater than 4 inches.

EXCEPTION 2: Where it is not structurally or operationally feasible to meet the horizontal gap or vertical difference requirements, mini-high platforms, car-borne or platform mounted lifts, ramps or bridge plates, or similar manually deployed devices, meeting the applicable requirements of 36 CFR part 1192, or 49 CFR part 38, shall suffice.

» New direct connections to commercial, retail, or residential facilities shall, to the maximum extent feasible, have an accessible route complying with 4.3 from the point of connection to boarding platforms and all transportation system elements used by the public. Any elements provided to facilitate future direct connections shall be on an accessible route connecting boarding platforms and all transportation system elements used by the public.

10.3.3 Existing Facilities: Alterations

» For the purpose of complying with 4.1.6

» Alterations to an Area Containing a Primary Function, an area of primary function shall be as defined by applicable provisions of 49 C.F.R. 37.43(c) (Department of Transportation's ADA Rule) or 28 C.F.R. 36.403 (Department of Justice's ADA Rule).

10.4 Airports

10.4.1 New Construction

» Elements such as ramps, elevators or other vertical circulation devices, ticketing areas, security checkpoints, or passenger waiting areas shall be placed to minimize the distance which wheelchair users and other persons who cannot negotiate steps may have to travel compared to the general public.

» The circulation path, including an accessible entrance and an accessible route, for persons with disabilities shall, to the maximum extent practicable, coincide with the circulation path for the general public. Where the circulation

path is different, directional signage complying with 4.30.1, 4.30.2, 4.30.3 and 4.30.5 shall be provided which indicates the location of the nearest accessible entrance and its accessible route.

» Ticketing areas shall permit persons with disabilities to obtain a ticket and check baggage and shall comply with 7.2.

» Where public pay telephones are provided, and at least one is at an interior location, a public text telephone shall be provided in compliance with 4.31.9. Additionally, if four or more public pay telephones are located in any of the following locations, at least one public text telephone shall also be provided in that location:

- a main terminal outside the security areas
- a concourse within the security areas or
- a baggage claim area in a terminal
- Compliance with this section constitutes compliance with section 4.1.3(17)(c).

» Baggage check-in and retrieval systems shall be on an accessible route complying with 4.3, and shall have space immediately adjacent complying with 4.2.4. If unattended security barriers are provided, at least one gate shall comply with 4.13. Gates which must be pushed open by wheelchair or mobility aid users shall have a smooth continuous surface extending from 2 inches above the floor to 27 inches above the floor.

» Terminal information systems which broadcast information to the general public through a public address system shall provide a means to provide the same or equivalent information to persons with a hearing loss or who are deaf. Such methods may include, but are not limited to, visual paging systems using video monitors and computer technology. For persons with certain types of hearing loss such methods may include, but are not limited to, an assistive listening system complying with 4.33.7

» Where clocks are provided for use by the general public the clock face shall be uncluttered so that its elements are clearly visible. Hands, numerals, and/or digits shall contrast with their background either light-on-dark or dark-on-light. Where clocks are mounted overhead, numerals and/or digits shall comply with 4.30.3. Clocks shall be placed in uniform locations throughout the facility to the maximum extent practicable.

4.1.3 Accessible Buildings: New Construction

Accessible buildings and facilities shall meet the following minimum requirements:

» At least one accessible route complying with 4.3 shall connect accessible building or facility entrances with all accessible spaces and elements within the building or facility.

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- All objects that overhang or protrude into circulation paths shall comply with 4.4.
- Ground and floor surfaces along accessible routes and in accessible rooms and spaces shall comply with 4.5.
- Interior and exterior stairs connecting levels that are not connected by an elevator, ramp, or other accessible means of vertical access shall comply with 4.9.
- One passenger elevator complying with 4.10 shall serve each level, including mezzanines, in all multi-story buildings and facilities unless exempted below. If more than one elevator is provided, each full passenger elevator shall comply with 4.10.

EXCEPTION 1: Elevators are not required in facilities that are less than three stories or that have less than 3000 square feet per story unless the building is a shopping center, a shopping mall, or the professional office of a health care provider, or another type of facility as determined by the Attorney General.
The elevator exemption set forth in this paragraph does not obviate or limit in any way the obligation to comply with the other accessibility requirements established in section 4.1.3. For example, floors above or below the accessible ground floor must meet the requirements of this section except for elevator service.
If toilet or bathing facilities are provided on a level not served by an elevator, then toilet or bathing facilities must be provided on the accessible ground floor.
In new construction if a building or facility is eligible for this exemption but a full passenger elevator is nonetheless planned, that elevator shall meet the requirements of 4.10 and shall serve each level in the building.
A full passenger elevator that provides service from a garage to only one level of a building or facility is not required to serve other levels.

EXCEPTION 2: Elevator pits, elevator penthouses, mechanical rooms, piping or equipment catwalks are exempted from this requirement

EXCEPTION 3: Accessible ramps complying with 4.8 may be used *in lieu* of an elevator.

EXCEPTION 4: Platform lifts (wheelchair lifts) complying with 4.11 of this guideline and applicable state or local codes may be used in lieu of an elevator only under the following conditions:

To provide an accessible route to a performing area in an assembly occupancy.
To comply with the wheelchair viewing position line-of-sight and dispersion requirements of 4.33.3.

- To provide access to incidental occupiable spaces and rooms which are not open to the general public and which house no more than five persons, including but not limited to equipment control rooms and projection booths.
- To provide access where existing site constraints or other constraints make use of a ramp or an elevator infeasible.

1. Windows: (Reserved)

2. Doors:

- At each accessible entrance to a building or facility, at least one door shall comply with 4.13.
- Within a building or facility, at least one door at each accessible space shall comply with 4.13.
- Each door that is an element of an accessible route shall comply with 4.13.
- Each door required by 4.3.10, Egress, shall comply with 4.13.

3. In new construction, at a minimum, the requirements in (a) and (b) below shall be satisfied independently:

- (i) At least 50% of all public entrances (excluding those in (b) below) must be accessible. At least one must be a ground floor entrance. Public entrances are any entrances that are not loading or service entrances. (ii) Accessible entrances must be provided in a number at least equivalent to the number of exits required by the applicable building/fire codes. (This paragraph does not require an increase in the total number of entrances planned for a facility.) (iii) An accessible entrance must be provided to each tenancy in a facility (for example, individual stores in a strip shopping center).

  One entrance may be considered as meeting more than one of the requirements in (a). Where feasible, accessible entrances shall be the entrances used by the majority of people visiting or working in the building.

- (i) In addition, if direct access is provided for pedestrians from an enclosed parking garage to the building, at least one direct entrance from the garage to the building must be accessible. (ii) If access is provided for pedestrians from a pedestrian tunnel or elevated walkway, one entrance to the building from each tunnel or walkway must be accessible.

  One entrance may be considered as meeting more than one of the requirements in (b). Because entrances also serve as emergency exits whose proximity to all parts of buildings and facilities is essential, it is preferable that all entrances be accessible.

- If the only entrance to a building, or tenancy in a facility, is a service entrance, that entrance shall be accessible.

- Entrances which are not accessible shall have directional signage complying with 4.30.1, 4.30.2, 4.30.3, and 4.30.5, which indicates the location of the nearest accessible entrance.

4. In buildings or facilities, or portions of buildings or facilities, required to be accessible, accessible means of egress shall be provided in the same number as required for exits by local building/life safety regulations. Where a required exit from an occupiable

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level above or below a level of accessible exit discharge is not accessible, an area of rescue assistance shall be provided on each such level (in a number equal to that of inaccessible required exits). Areas of rescue assistance shall comply with 4.3.11. A horizontal exit, meeting the requirements of local building/life safety regulations, shall satisfy the requirement for an area of rescue assistance.

EXCEPTION: Areas of rescue assistance are not required in buildings or facilities having a supervised automatic sprinkler system.

5. Drinking Fountains:

- Where only one drinking fountain is provided on a floor there shall be a drinking fountain which is accessible to individuals who use wheelchairs in accordance with 4.15 and one accessible to those who have difficulty bending or stooping. (This can be accommodated by the use of a "hi-lo" fountain; by providing one fountain accessible to those who use wheelchairs and one fountain at a standard height convenient for those who have difficulty bending; by providing a fountain accessible under 4.15 and a water cooler; or by such other means as would achieve the required accessibility for each group on each floor.)
- Where more than one drinking fountain or water cooler is provided on a floor, 50% of those provided shall comply with 4.15 and shall be on an accessible route.

6. Toilet Facilities: If toilet rooms are provided, then each public and common use toilet room shall comply with 4.22. Other toilet rooms provided for the use of occupants of specific spaces (i.e., a private toilet room for the occupant of a private office) shall be adaptable. If bathing rooms are provided, then each public and common use bathroom shall comply with 4.23. Accessible toilet rooms and bathing facilities shall be on an accessible route.

7. Storage, Shelving and Display Units:

- If fixed or built-in storage facilities such as cabinets, shelves, closets, and drawers are provided in accessible spaces, at least one of each type provided shall contain storage space complying with 4.25. Additional storage may be provided outside of the dimensions required by 4.25.
- Shelves or display units allowing self-service by customers in mercantile occupancies shall be located on an accessible route complying with 4.3. Requirements for accessible reach range do not apply.

8. Controls and operating mechanisms in accessible spaces, along accessible routes, or as parts of accessible elements (for example, light switches and dispenser controls) shall comply with 4.27.

9. If emergency warning systems are provided, then they shall include both audible alarms and visual alarms complying with 4.28. Sleeping accommodations required to comply with 9.3 shall have an alarm system complying with 4.28. Emergency warning

systems in medical care facilities may be modified to suit standard health care alarm design practice.

10. Detectable warnings shall be provided at locations as specified in 4.29.

11. Building Signage:
- Signs which designate permanent rooms and spaces shall comply with 4.30.1, 4.30.4, 4.30.5 and 4.30.6.
- Other signs which provide direction to or information about functional spaces of the building shall comply with 4.30.1, 4.30.2, 4.30.3, and 4.30.5.

EXCEPTION: Building directories, menus, and all other signs which are temporary are not required to comply.

12. Public Telephones:
- If public pay telephones, public closed circuit telephones, or other public telephones are provided, then they shall comply with 4.31.2 through 4.31.8 to the extent required by the following table:

Number of each type of telephone provided on each floor	Number of telephones required to comply with 4.31.2 through 4.31.81
1 or more single units	1 per floor
1 bank with 2 units	1 per floor
2 or more banks with 2 units	1 per bank. Accessible unit may be installed as a single unit in proximity (either visible or with signage) to the bank. At least one public telephone per floor shall meet the requirements for a forward reach telephone

- All telephones required to be accessible and complying with 4.31.2 through 4.31.8 shall be equipped with a volume control. In addition, 25 percent, but never less than one, of all other public telephones provided shall be equipped with a volume control and shall be dispersed among all types of public telephones, including closed circuit telephones, throughout the building or facility. Signage complying with applicable provisions of 4.30.7 shall be provided.

- The following shall be provided in accordance with 4.31.9:
- (i) If a total number of four or more public pay telephones (including both interior and exterior phones) are provided at a site, and at least one is in an interior location, then at least one interior public text telephone shall be provided.
- (ii) if an interior public pay telephone is provided in a stadium or arena, in a convention center, in a hotel with a convention center, or in a covered mall, at

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least one interior public text telephone shall be provided in the facility.

» (iii) if a public pay telephone is located in or adjacent to a hospital emergency room, hospital recovery room, or hospital waiting room, one public text telephone shall be provided at each such location.

»

» Where a bank of telephones in the interior of a building consists of three or more public pay telephones, at least one public pay telephone in each such bank shall be equipped with a shelf and outlet in compliance with 4.31.9(2).

13. If fixed or built-in seating or tables (including, but not limited to, study carrels and student laboratory stations), are provided in accessible public or common use areas, at least five percent (5%), but not less than one, of the fixed or built-in seating areas or tables shall comply with 4.32. An accessible route shall lead to and through such fixed or built-in seating areas, or tables.

14. Assembly Areas:

» In places of assembly with fixed seating accessible wheelchair locations shall comply with 4.33.2, 4.33.3, and 4.33.4 and shall be provided consistent with the following table:

Capacity of Seating in Assembly Areas	Number of Required Wheelchair Locations
4 to 25	1
26 to 50	2
51 to 300	4
301 to 500	6
over 500	6, plus 1 additional for each total seating capacity increase of 100

In addition, one percent, but not less than one, of all fixed seats be aisle seats with no armrests on the aisle side, or removable or folding armrests on the aisle side.

Each such seat shall be identified by a sign or marker. Signage notifying patrons of the availability of such seats shall be posted at the ticket office. Aisle seats are not required to comply with 4.33.4.

» This paragraph applies to assembly areas where audible communications are integral to the use of the space (e.g., concert and lecture halls, playhouses and movie theaters, meeting rooms, etc.).

Such assembly areas, if (1) they accommodate at least 50 persons, or if they have audio-amplification systems, and (2) they have fixed seating, shall have a permanently installed assistive listening system complying with 4.33.

For other assembly areas, a permanently installed assistive listening system, or an adequate number of electrical outlets or other supplementary wiring necessary to support a portable assistive listening system shall be provided.

The minimum number of receivers to be provided shall be equal to 4 percent of the total number of seats, but in no case less than two. Signage complying with applicable provisions of 4.30 shall be installed to notify patrons of the availability of a listening system.

15. Where automated teller machines (ATMs) are provided, each ATM shall comply with the requirements of 4.34 except where two or more are provided at a location, then only one must comply.

EXCEPTION: Drive-up-only automated teller machines are not required to comply with 4.27.2, 4.27.3 and 4.34.3.

16. Where dressing and fitting rooms are provided for use by the general public, patients, customers or employees, 5 percent, but never less than one, of dressing rooms for each type of use in each cluster of dressing rooms shall be accessible and shall comply with 4.35. Examples of types of dressing rooms are those serving different genders or distinct and different functions as in different treatment or examination facilities.

4.1.7 Accessible Buildings: Historic Preservation

1. Applicability:

- General Rule. Alterations to a qualified historic building or facility shall comply with 4.1.6 Accessible Buildings: Alterations, the applicable technical specifications of 4.2 through 4.35 and the applicable special application sections 5 through 10 unless it is determined in accordance with the procedures in 4.1.7(2) that compliance with the requirements for accessible routes (exterior and interior), ramps, entrances, or toilets would threaten or destroy the historic significance of the building or facility in which case the alternative requirements in 4.1.7(3) may be used for the feature.
- Definition. A qualified historic building or facility is a building or facility that is:
  (i) Listed in or eligible for listing in the National Register of Historic Places; or
  (ii) Designated as historic under an appropriate State or local law.

2. Procedures:

a) Alterations to Qualified Historic Buildings and Facilities Subject to Section 106 of the National Historic Preservation Act:

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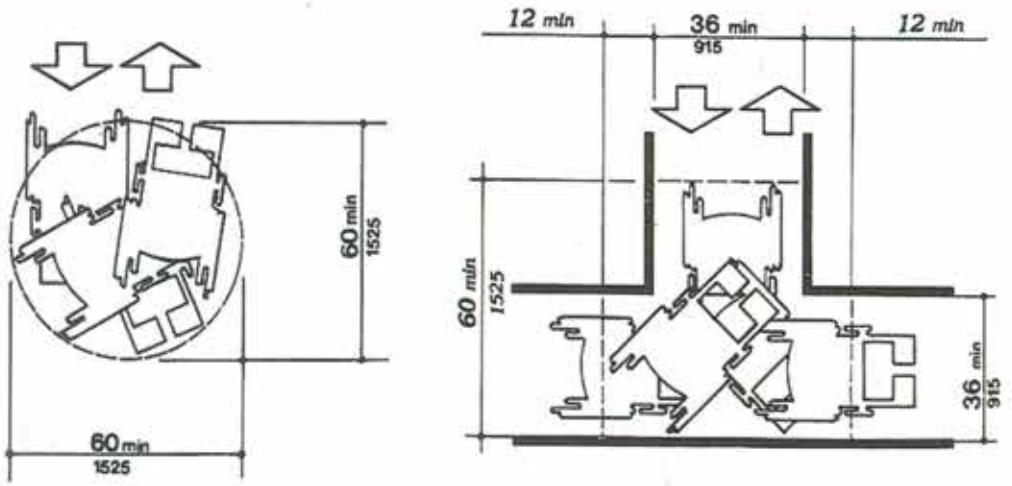
TECHNICAL DIAGRAMS FOR ACCESSIBLE DESIGN

The following diagrams are to illustrate the Technical Guidelines of the previous section.



(a)
60-In (1525-mm)-Diameter Space

(b)
T-Shaped Space for 180° Turns

Fig. 3
Wheelchair Turning Space

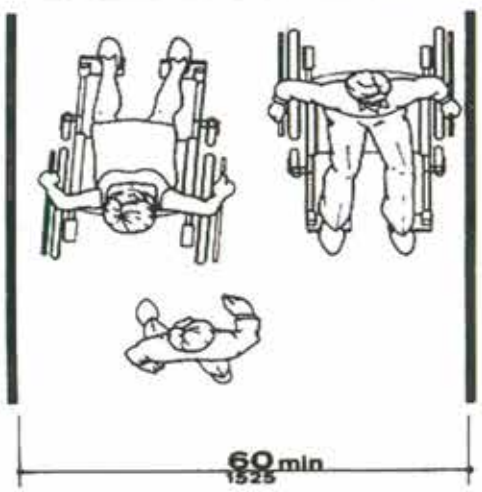
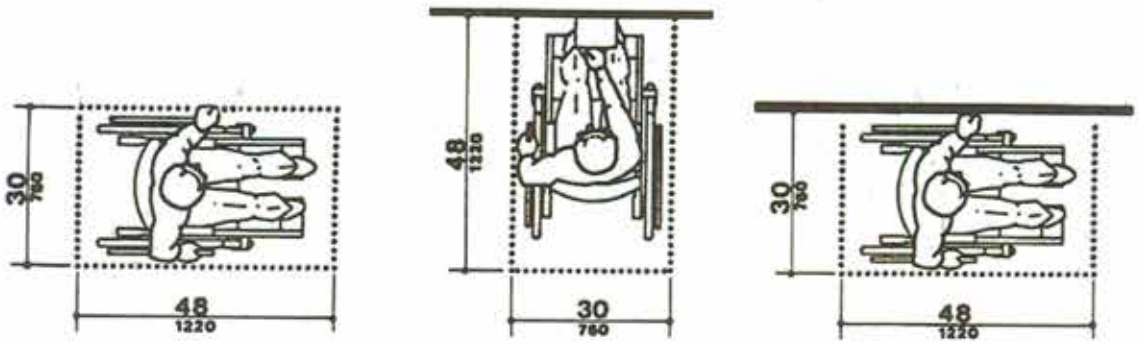
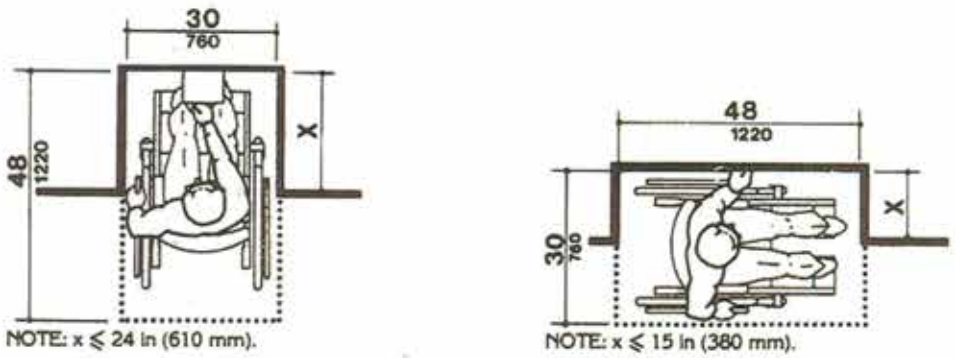
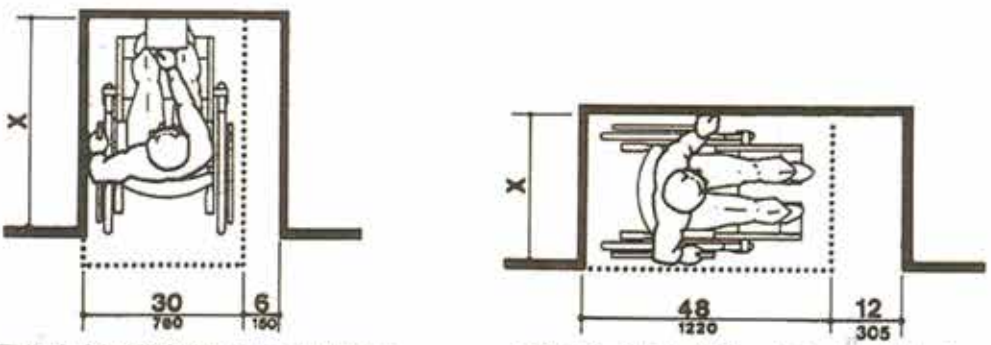


Fig. 2
Minimum Clear Width
for Two Wheelchairs





(d)
Clear Floor Space in Alcoves



(e)
Additional Maneuvering Clearances for Alcoves

Fig. 4
Minimum Clear Floor Space for Wheelchairs

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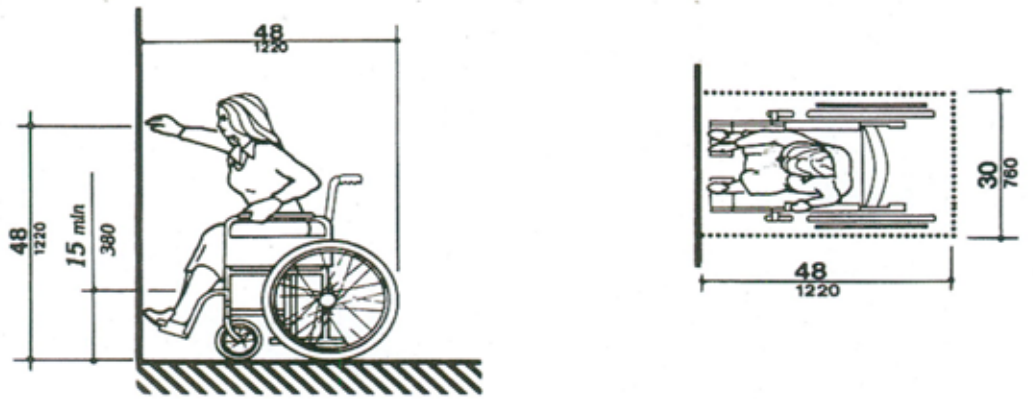
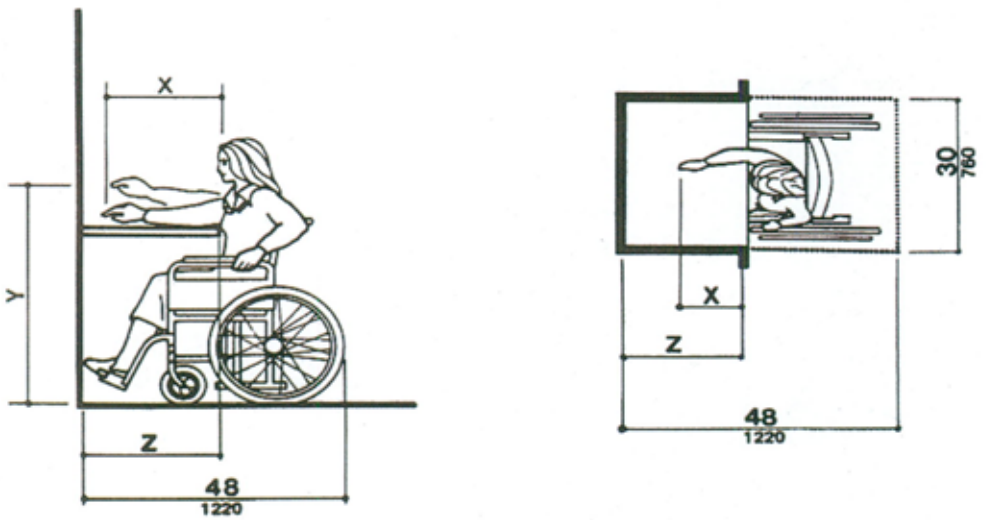


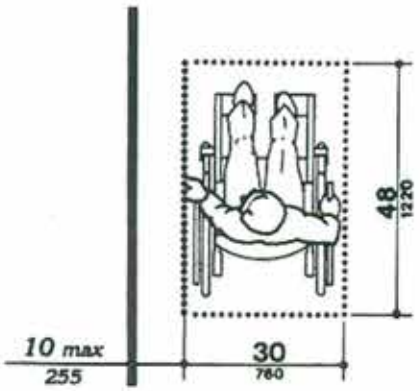
(a)
High Forward Reach Limit



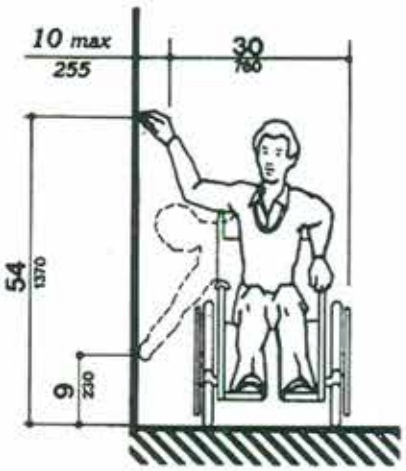
NOTE: x shall be ≤ 25 in (635 mm); z shall be ≥ x. When x < 20 in (510 mm), then y shall be 48 in (1220 mm) maximum. When x is 20 to 25 in (510 to 635 mm), then y shall be 44 in (1120 mm) maximum.

(b)
Maximum Forward Reach over an Obstruction

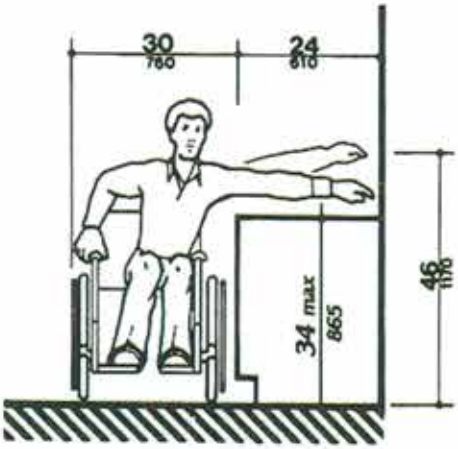
Fig. 5
Forward Reach



(a)
Clear Floor Space Parallel Approach



(b)
High and Low Side Reach Limits



(c)
Maximum Side Reach over Obstruction

Fig. 6
Side Reach

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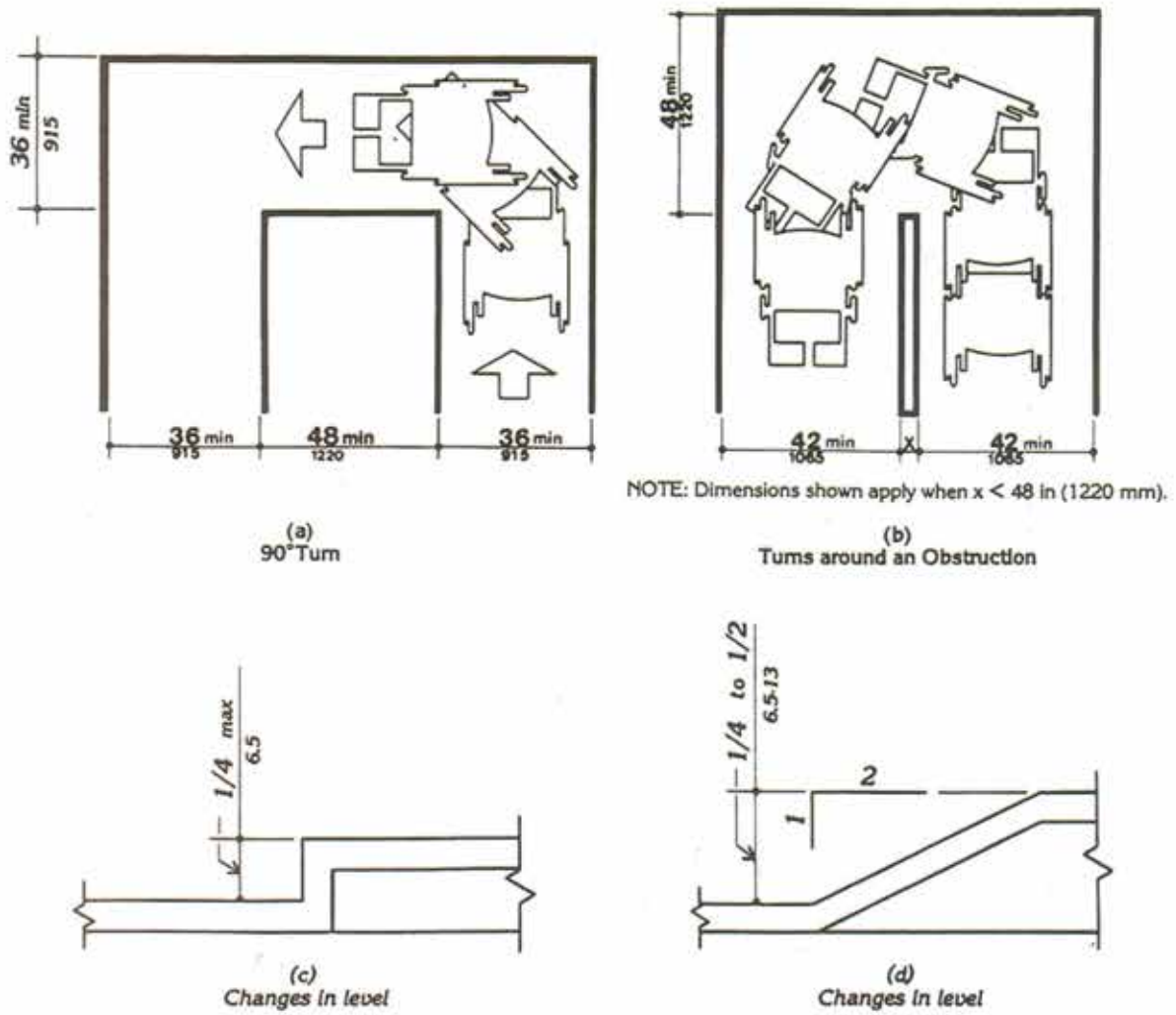

NOTE: Dimensions shown apply when x < 48 in (1220 mm).

(a)
90° Turn

(b)
Turns around an Obstruction

(c)
Changes in level

(d)
Changes in level

Fig. 7
Accessible Route

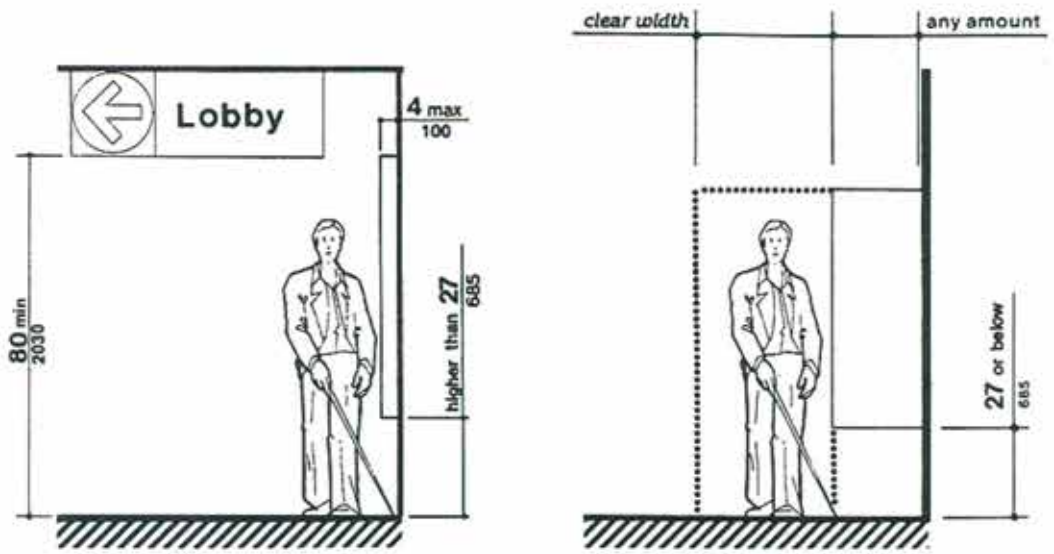

Fig. 8 (a)
Walking Parallel to a Wall

Fig. 8 (b)
Walking Perpendicular to a Wall

Fig. 8
Protruding Objects

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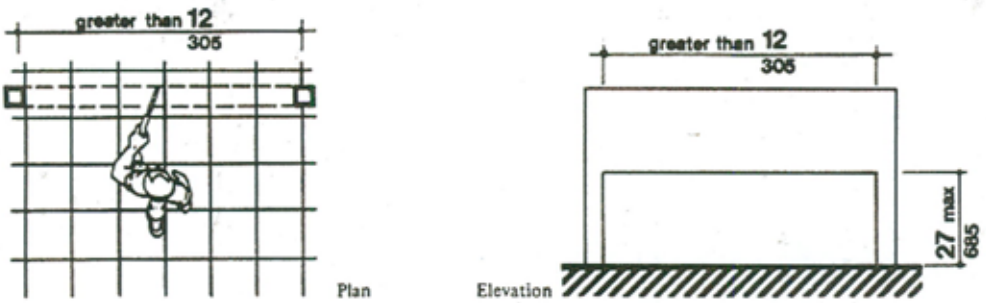

Fig. 8 (c) Free-Standing Overhanging Objects

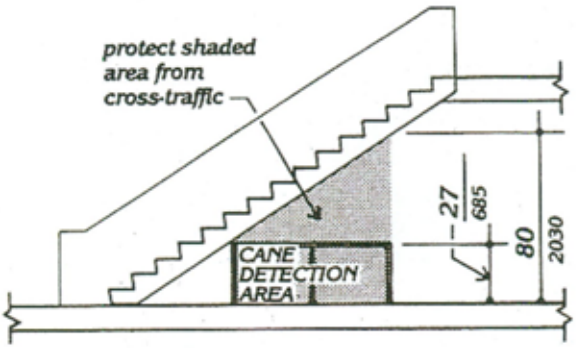

Fig. 8 (c-1) Overhead Hazards

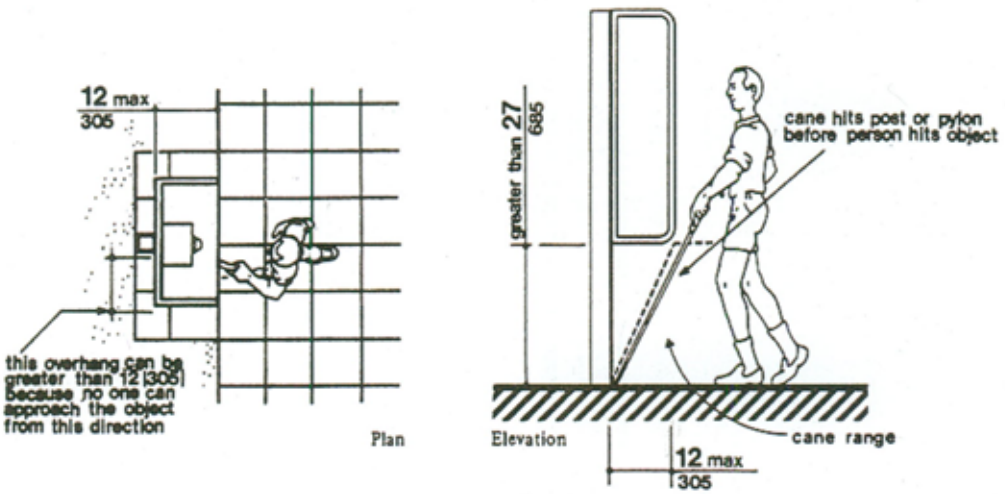

Fig. 8 (d)
Objects Mounted on Posts or Pylons

Fig. 8
Protruding Objects *(Continued)*

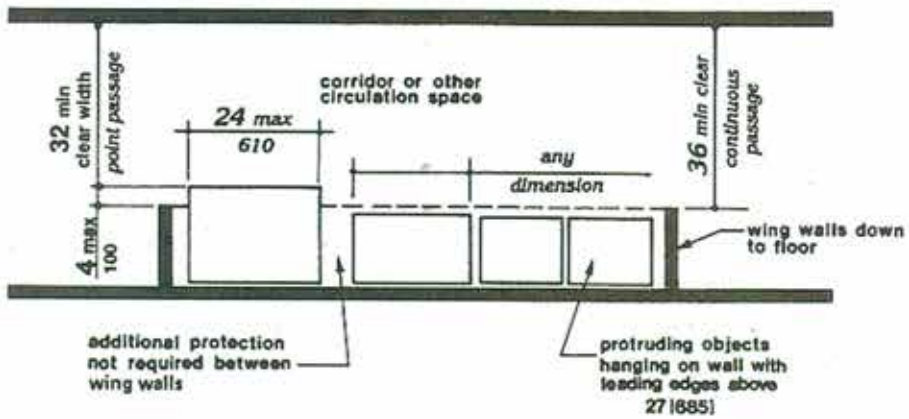

Fig. 8 (e)
Example of Protection around Wall-Mounted Objects and Measurements of Clear Widths

Fig. 8
Protruding Objects *(Continued)*

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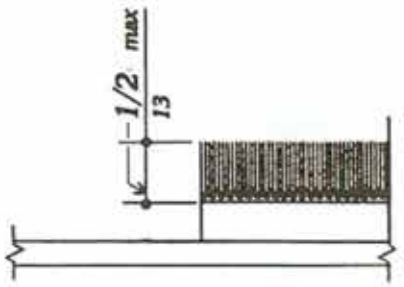

Fig. 8 (f)
Carpet Pile Thickness

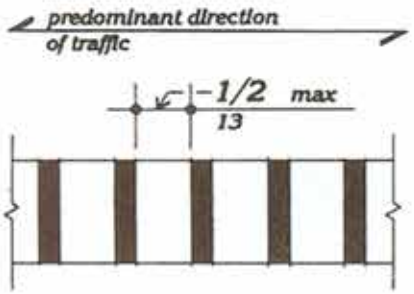

Fig. 8 (g)
Gratings

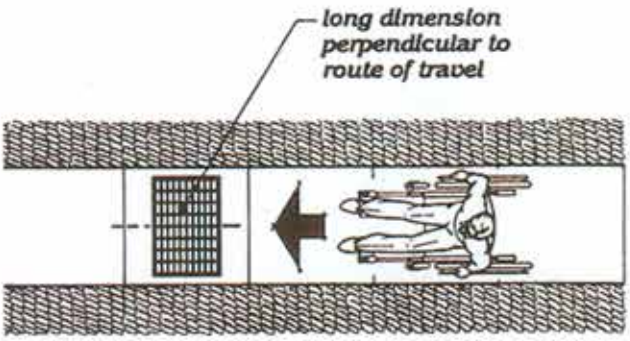

Fig. 8 (h)
Grating Orientation

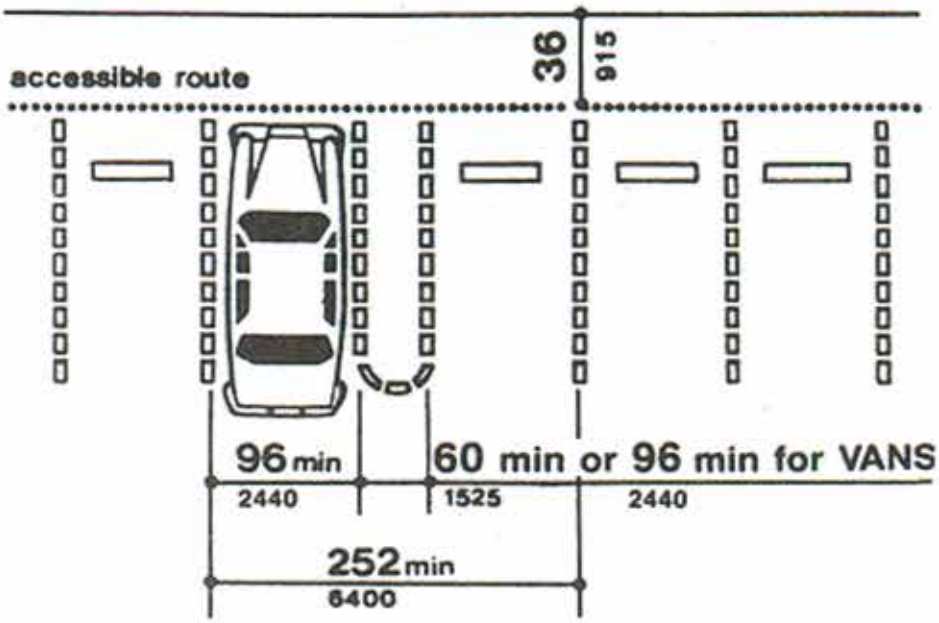

Fig. 9
Dimensions of Parking Spaces

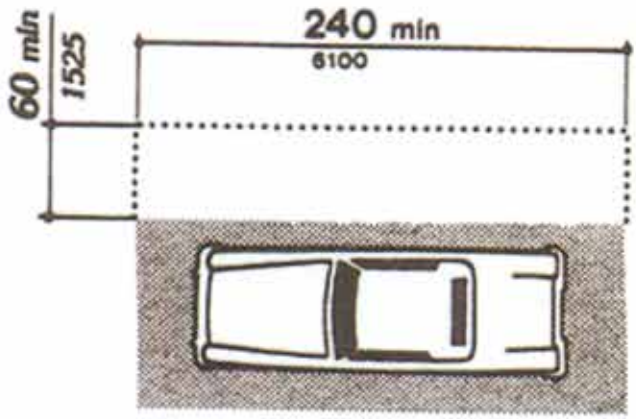

Fig. 10
Access Aisle at Passenger Loading Zones

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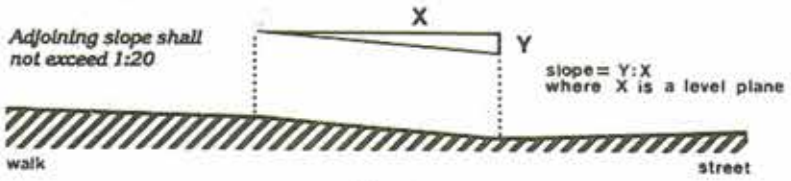
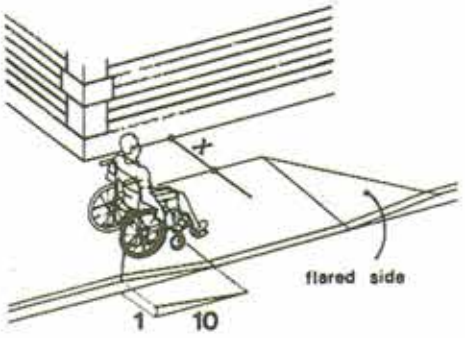
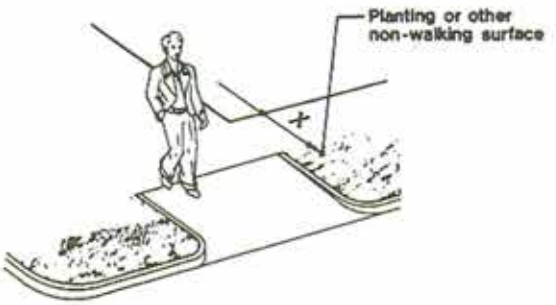


Fig. 11
Measurement of Curb Ramp Slopes



(a)
Flared Sides

If X is less than 48 in, then the slope of the flared side shall not exceed 1:12.



(b)
Returned Curb

Fig. 12
Sides of Curb Ramps

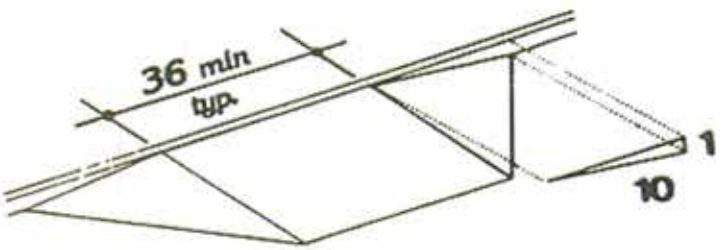


Fig. 13
Built-Up Curb Ramp

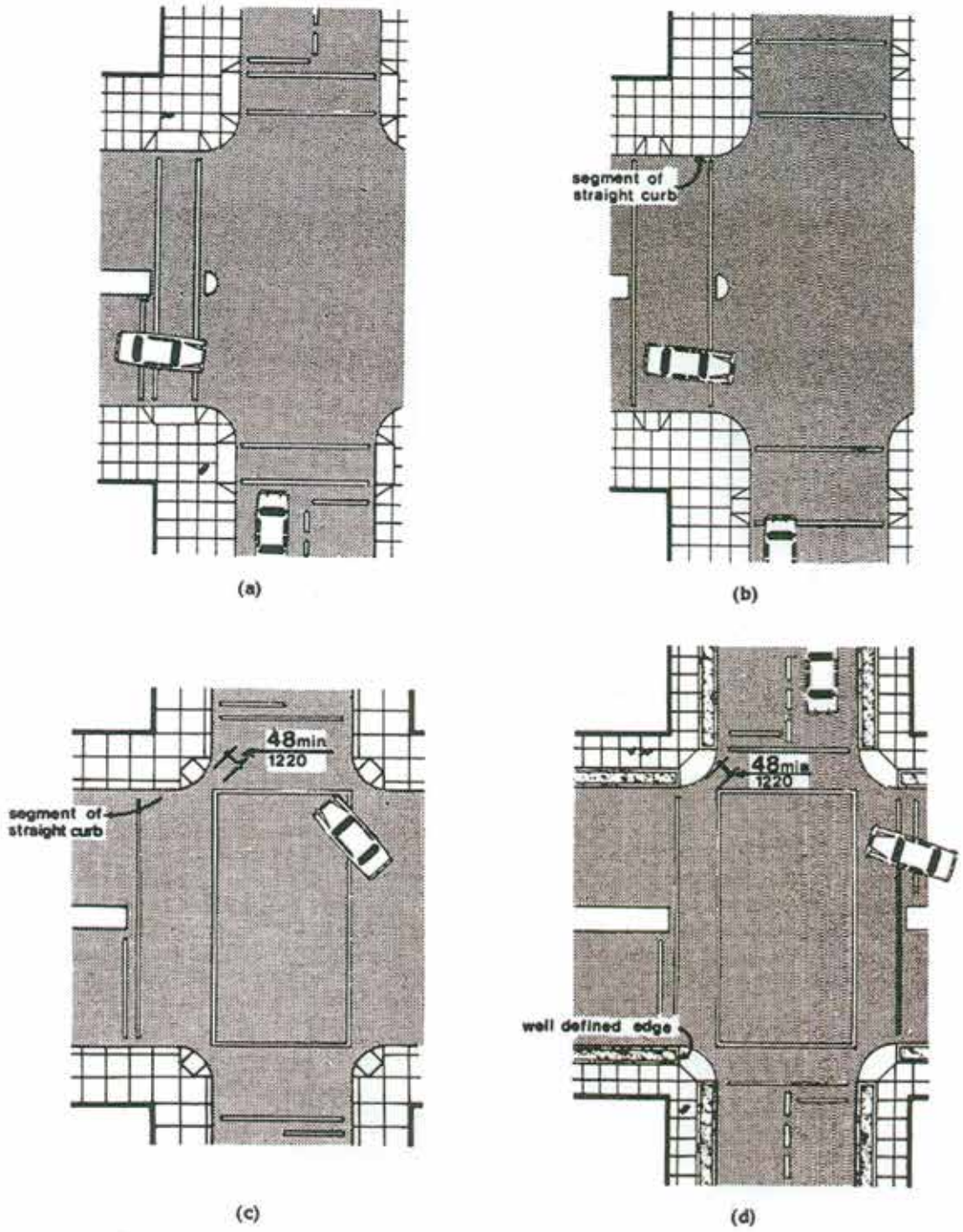


Fig. 15
Curb Ramps at Marked Crossings

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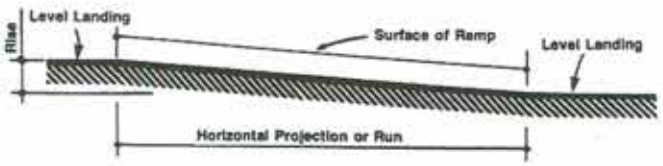


Slope	Maximum Rise in	Maximum Rise mm	Maximum Horizontal Projection ft	Maximum Horizontal Projection m
1:12 to < 1:16	30	760	30	9
1:16 to < 1:20	30	760	40	12

Fig. 16
Components of a Single Ramp Run and Sample Ramp Dimensions

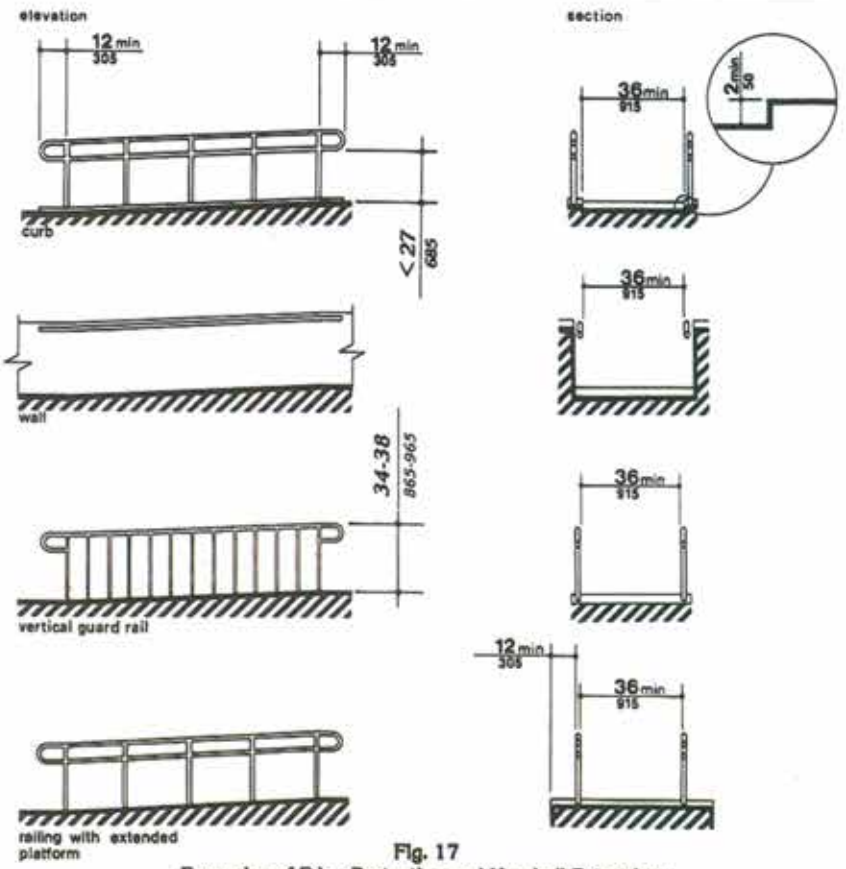


Fig. 17
Examples of Edge Protection and Handrail Extensions

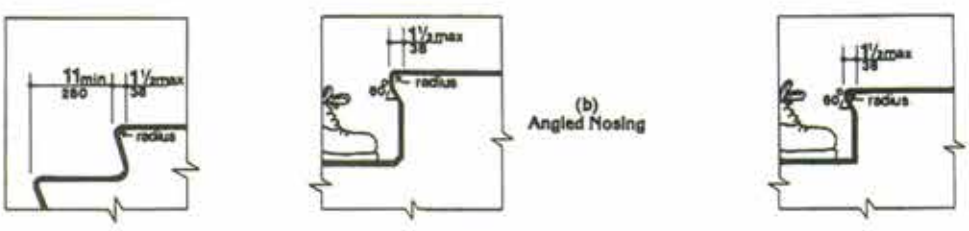
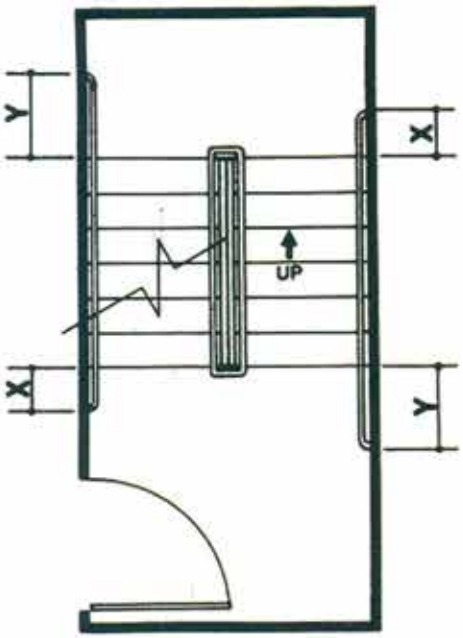
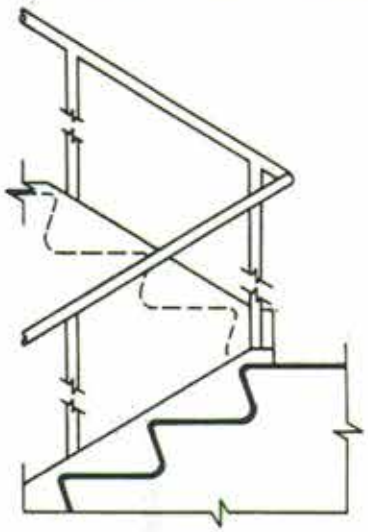


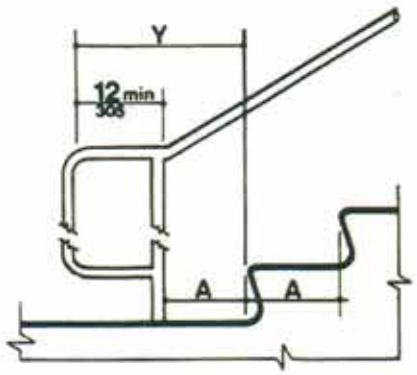
Fig. 18
Usable Tread Width and Examples of Acceptable Nosings



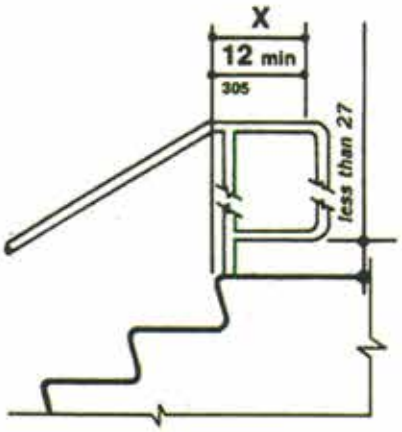
(a)
Plan



(b)
Elevation of Center Handrail



(c)
Extension at Bottom of Run



(d)
Extension at Top of Run

NOTE:

X is the 12 in minimum handrail extension required at each top riser.

Y is the minimum handrail extension of 12 in plus the width of one tread that is required at each bottom riser.

Fig. 19
Stair Handrails

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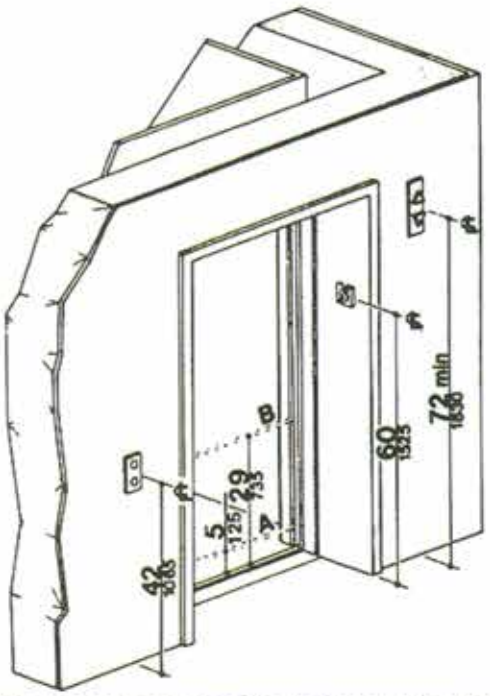


NOTE: The automatic door reopening device is activated if an object passes through either line A or line B. Line A and line B represent the vertical locations of the door reopening device not requiring contact.

Fig. 20
Hoistway and Elevator Entrances

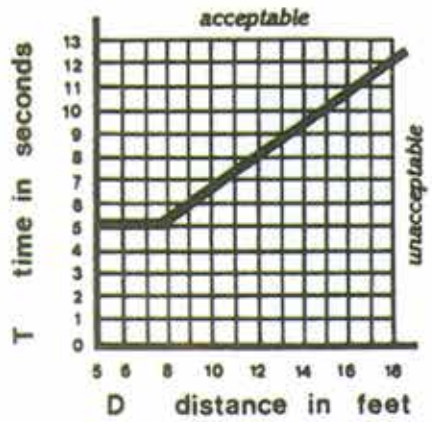
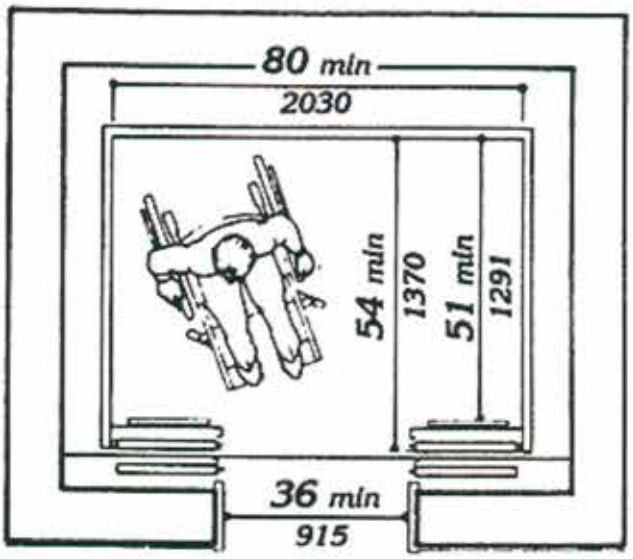
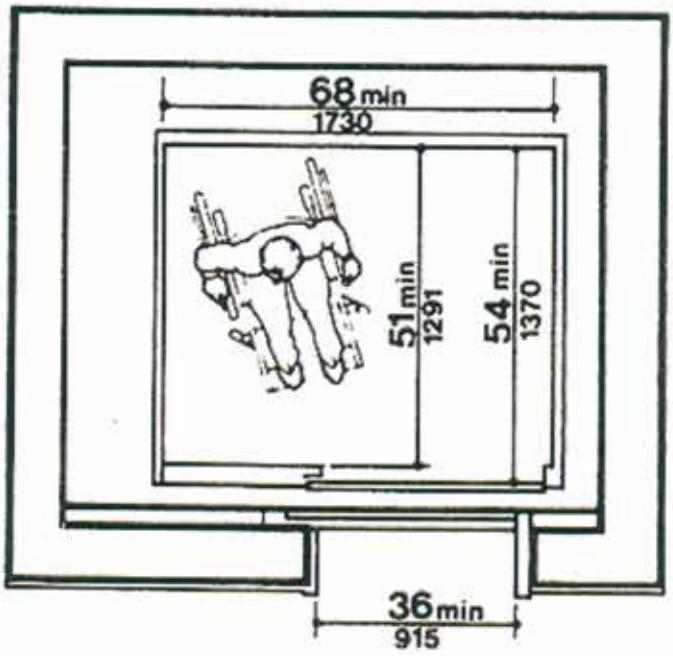


Fig. 21
Graph of Timing Equation



(a)



(b)

Fig. 22
Minimum Dimensions of Elevator Cars

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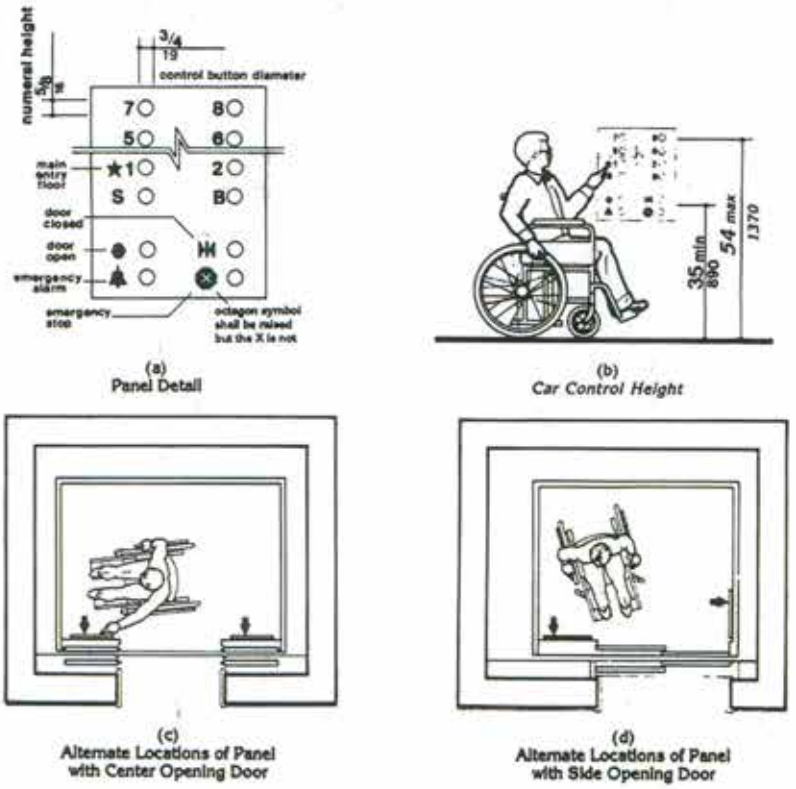


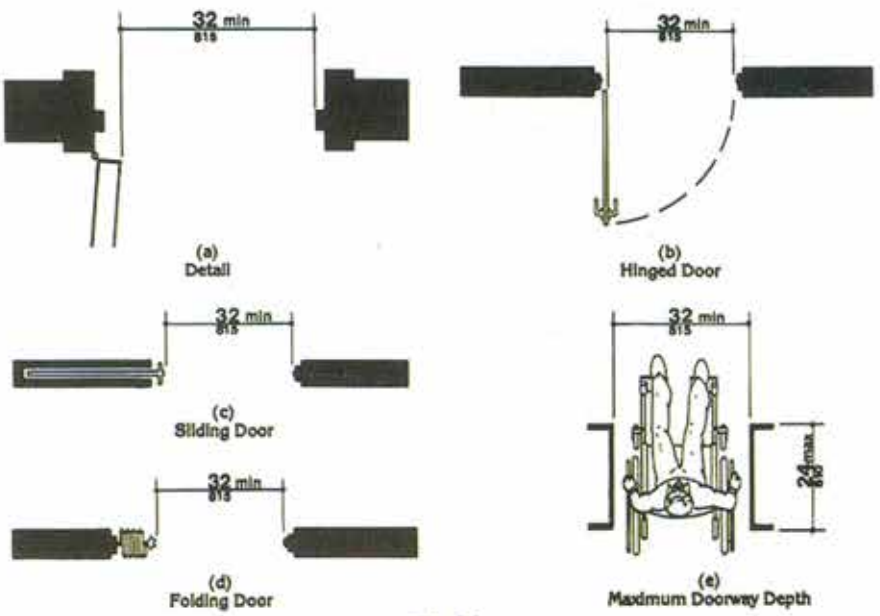
(a)
Panel Detail

(b)
Car Control Height

(c)
Alternate Locations of Panel with Center Opening Door

(d)
Alternate Locations of Panel with Side Opening Door

Fig. 23
Car Controls



(a)
Detail

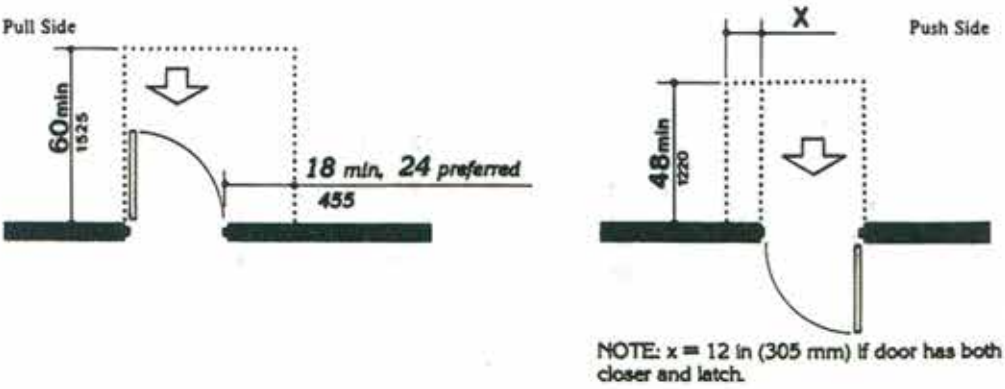
(b)
Hinged Door

(c)
Sliding Door

(d)
Folding Door

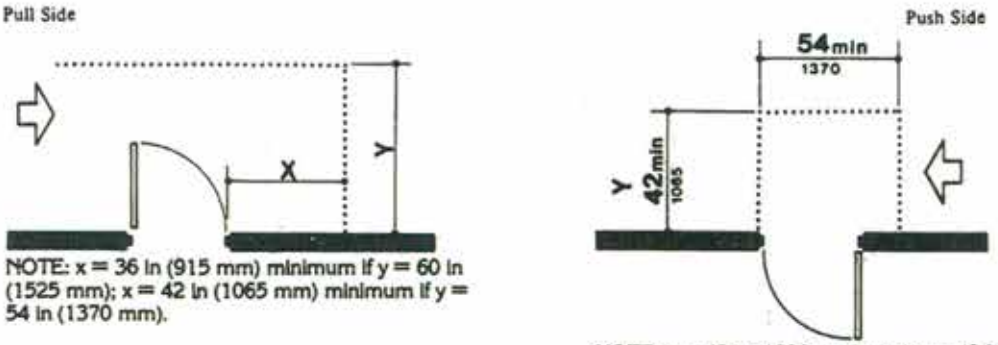
(e)
Maximum Doorway Depth

Fig. 24
Clear Doorway Width and Depth



NOTE: x = 12 in (305 mm) if door has both a closer and latch.

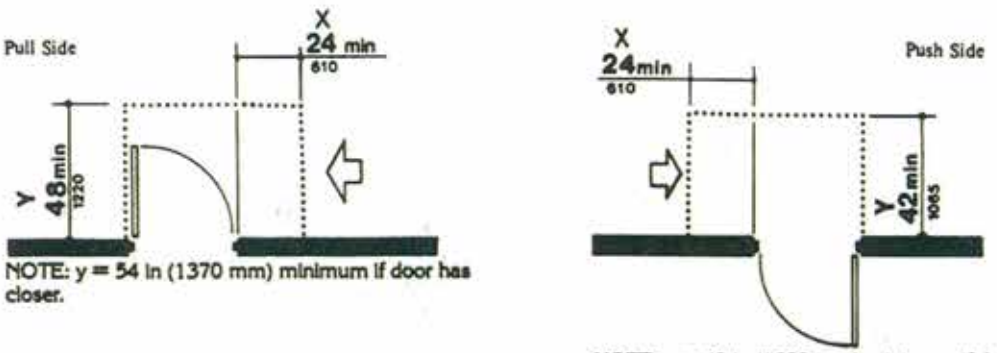
(a)
Front Approaches — Swinging Doors



NOTE: x = 36 in (915 mm) minimum if y = 60 in (1525 mm); x = 42 in (1065 mm) minimum if y = 54 in (1370 mm).

NOTE: y = 48 in (1220 mm) minimum if door has both a latch and closer.

(b)
Hinge Side Approaches — Swinging Doors



NOTE: y = 54 in (1370 mm) minimum if door has closer.

NOTE: y = 48 in (1220 mm) minimum if door has closer.

(c)
Latch Side Approaches — Swinging Doors

NOTE: All doors in alcoves shall comply with the clearances for front approaches.

Fig. 25
Maneuvering Clearances at Doors

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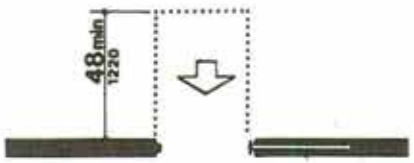
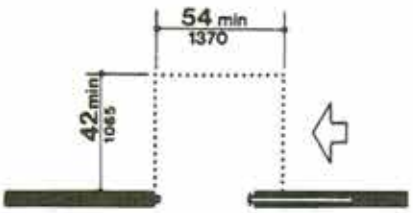
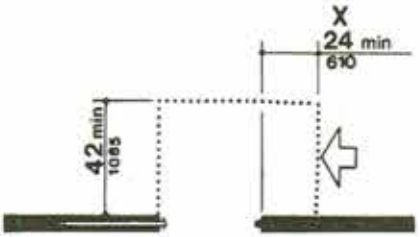


(d)
Front Approach — Sliding Doors *and Folding Doors*



(e)
Slide Side Approach — Sliding Doors *and Folding Doors*



(f)
Latch Side Approach — Sliding Doors *and Folding Doors*

NOTE: All doors in alcoves shall comply with the clearances for front approaches.

Fig. 25
Maneuvering Clearances at Doors *(Continued)*

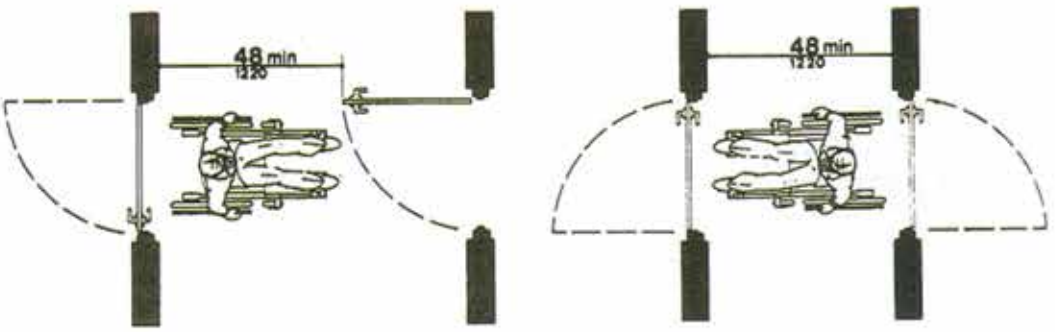


Fig. 26
Two Hinged Doors in Series

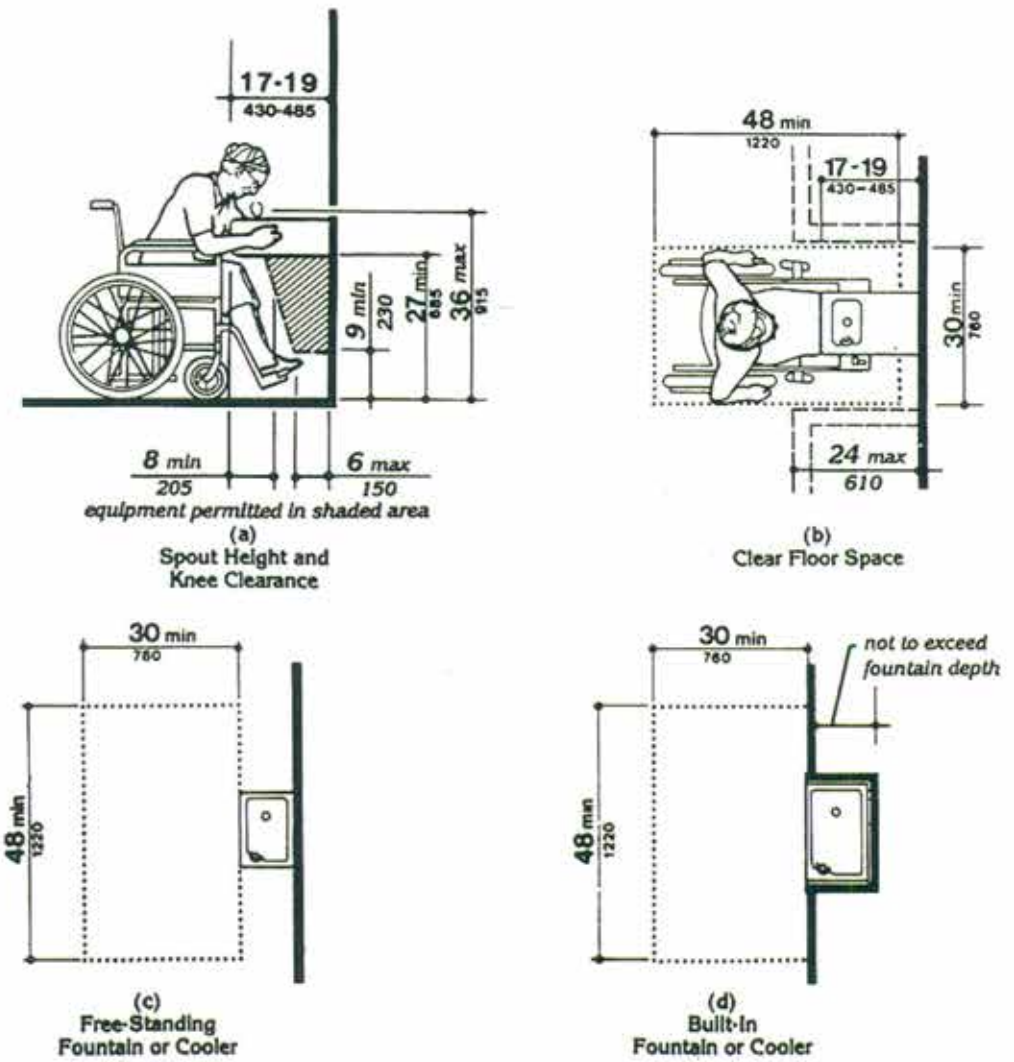


Fig. 27
Drinking Fountains and Water Coolers

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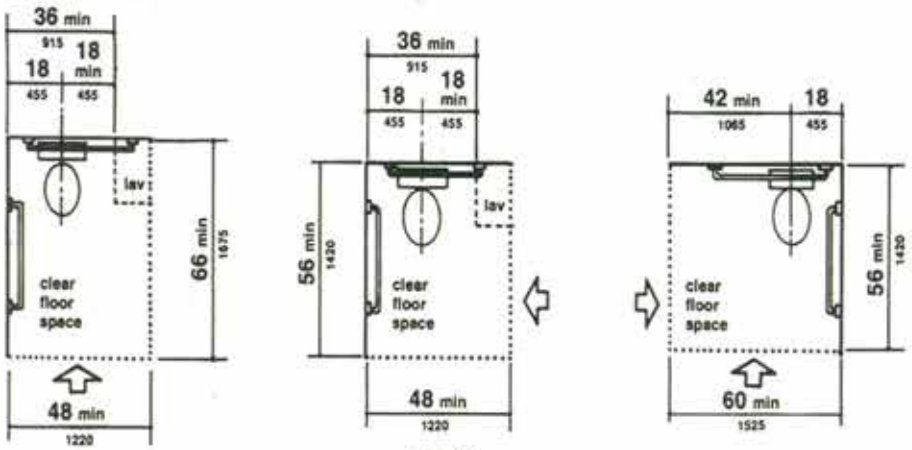

Fig. 28
Clear Floor Space at Water Closets

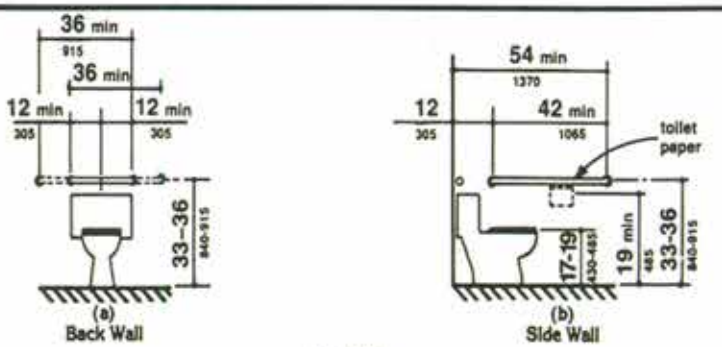

Fig. 29
Grab Bars at Water Closets

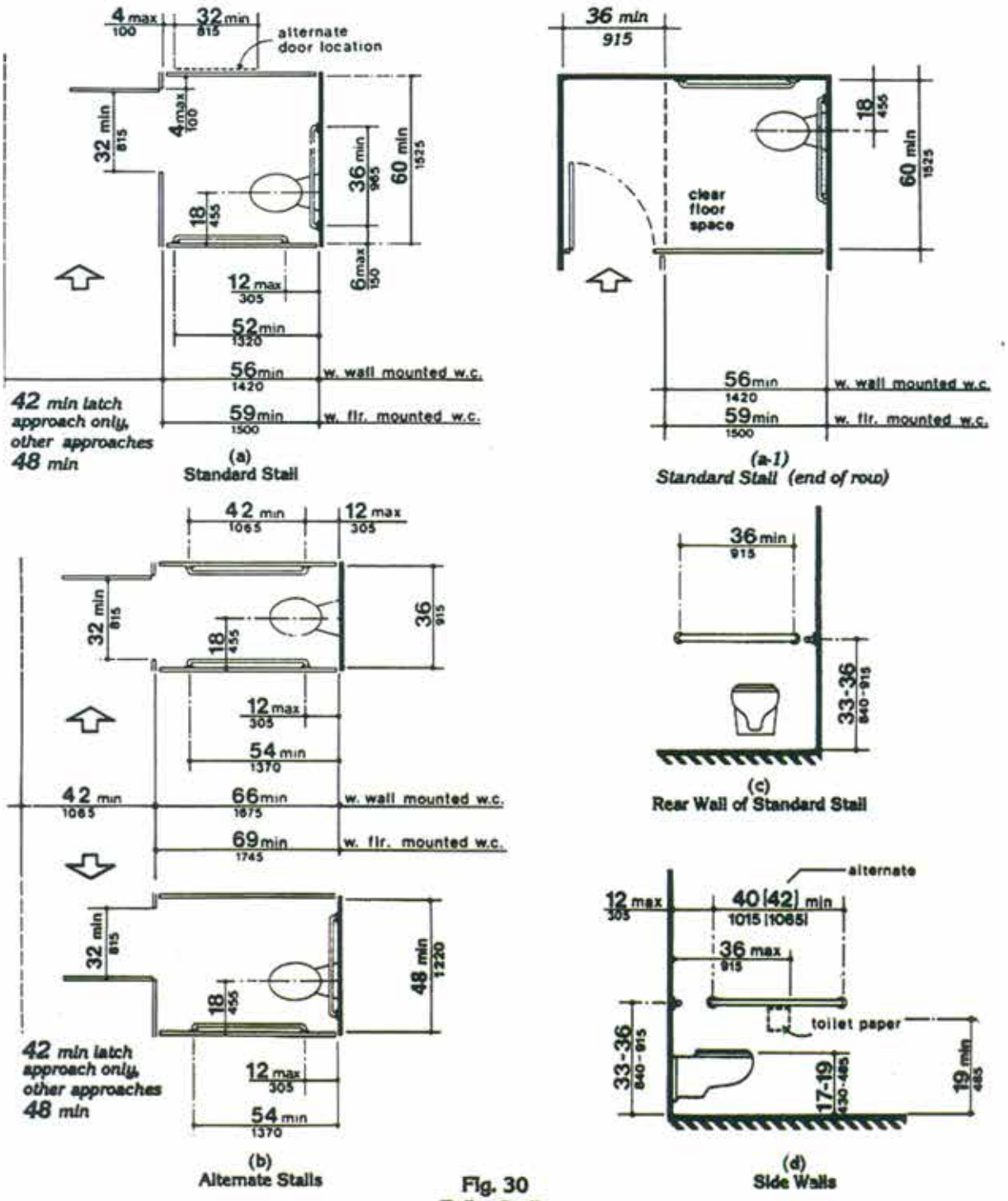

Fig. 30
Toilet Stalls

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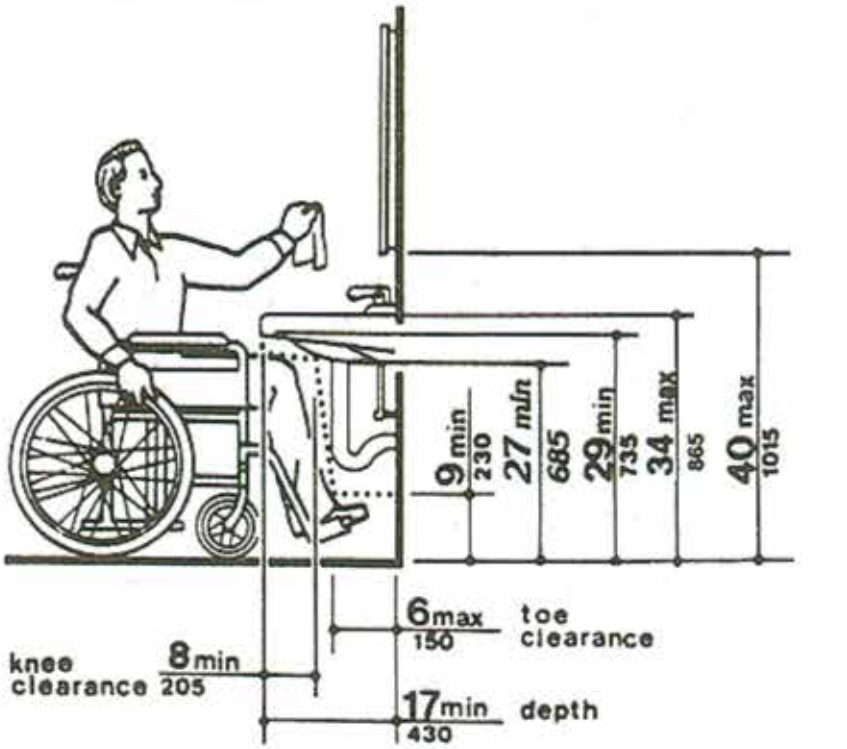

Fig. 31
Lavatory Clearances

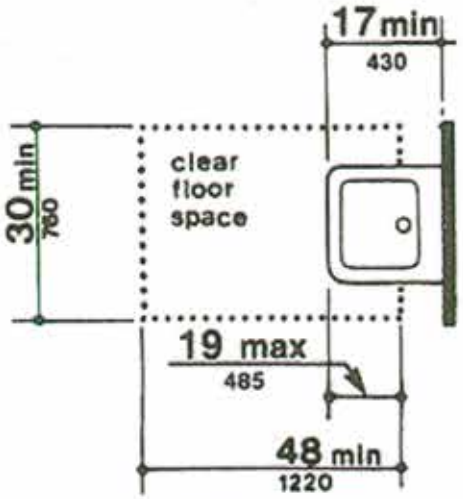

Fig. 32
Clear Floor Space at Lavatories

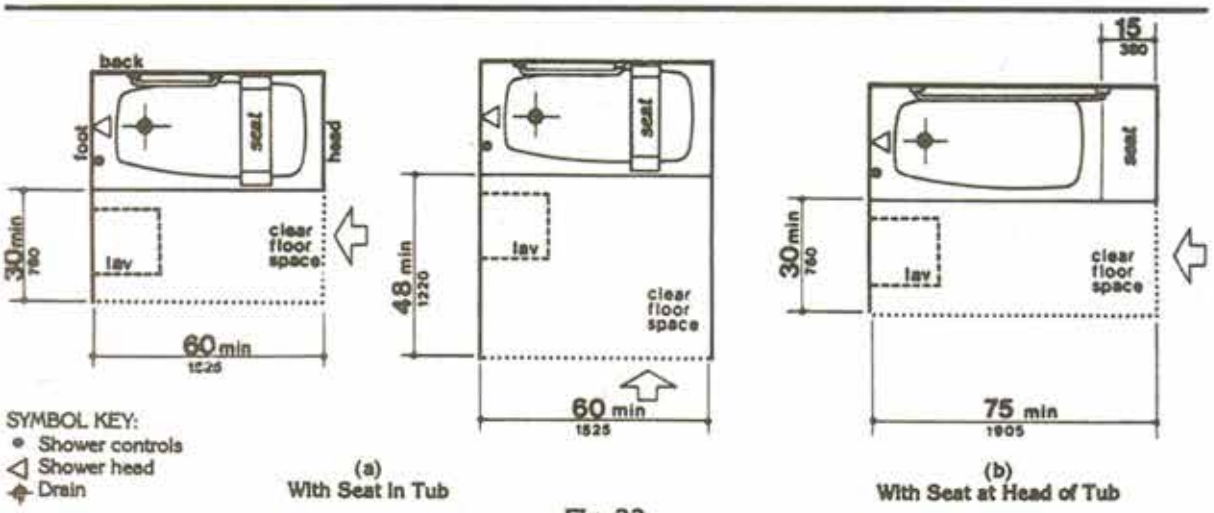

Fig. 33
Clear Floor Space at Bathtubs

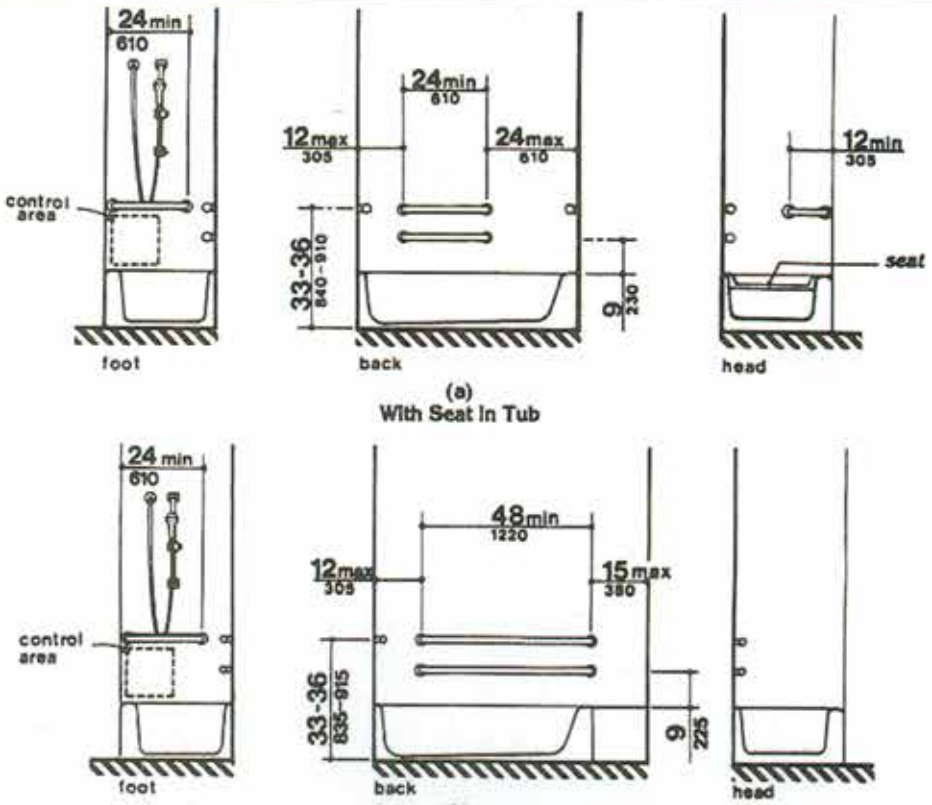

Fig. 34
Grab Bars at Bathtubs

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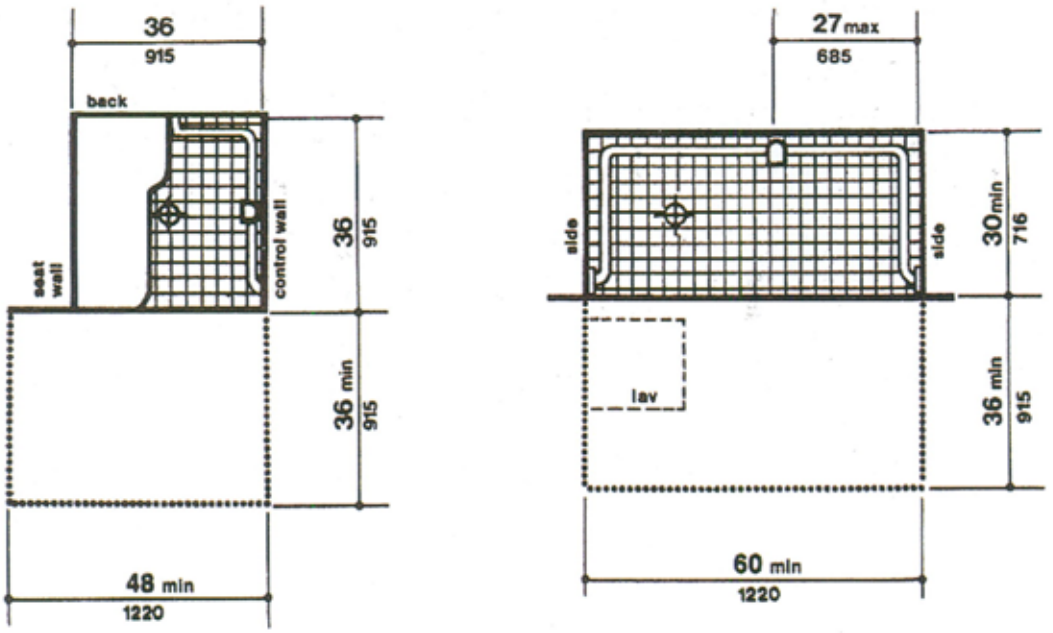


Fig. 35
Shower Size and Clearances

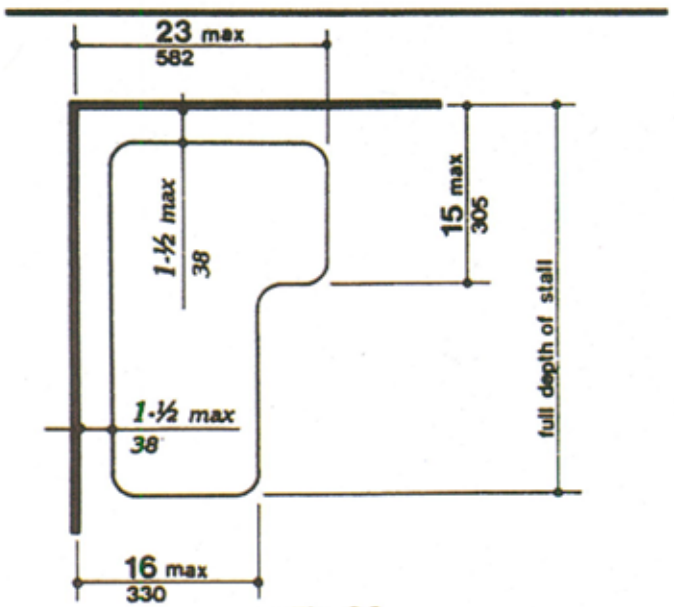
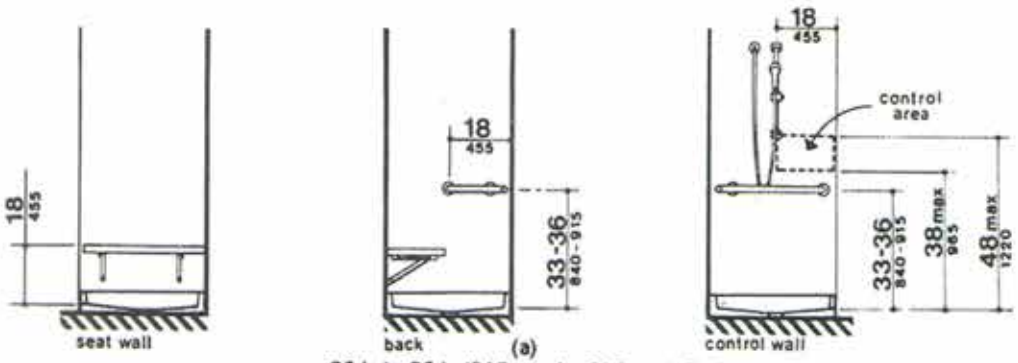
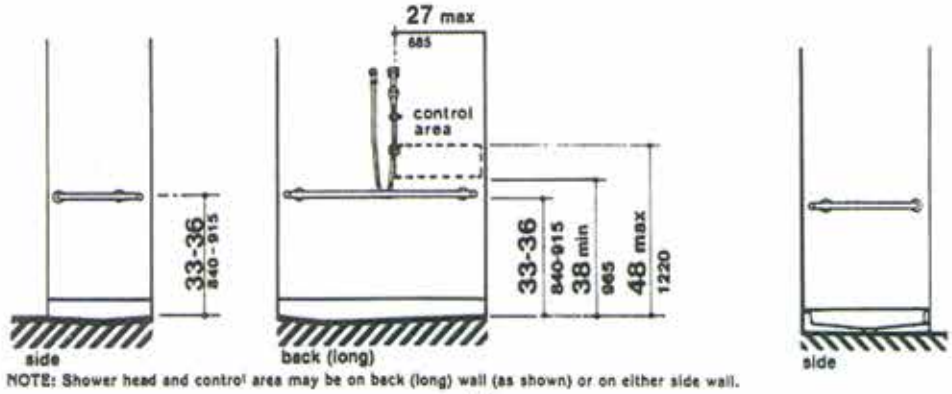


Fig. 36
Shower Seat Design



36-in by 36-in (915-mm by 915-mm) Stall



NOTE: Shower head and control area may be on back (long) wall (as shown) or on either side wall.

(b)

30-in by 60-in (760-mm by 1525-mm) Stall

Fig. 37
Grab Bars at Shower Stalls

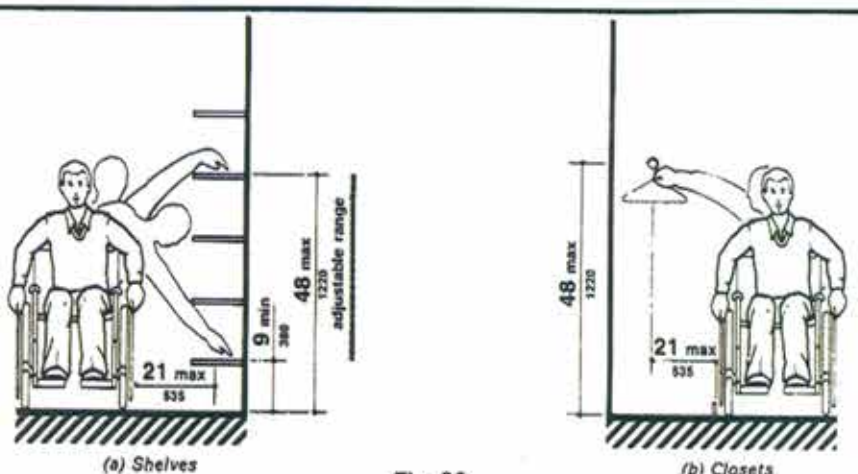


Fig. 38
Storage Shelves and Closets

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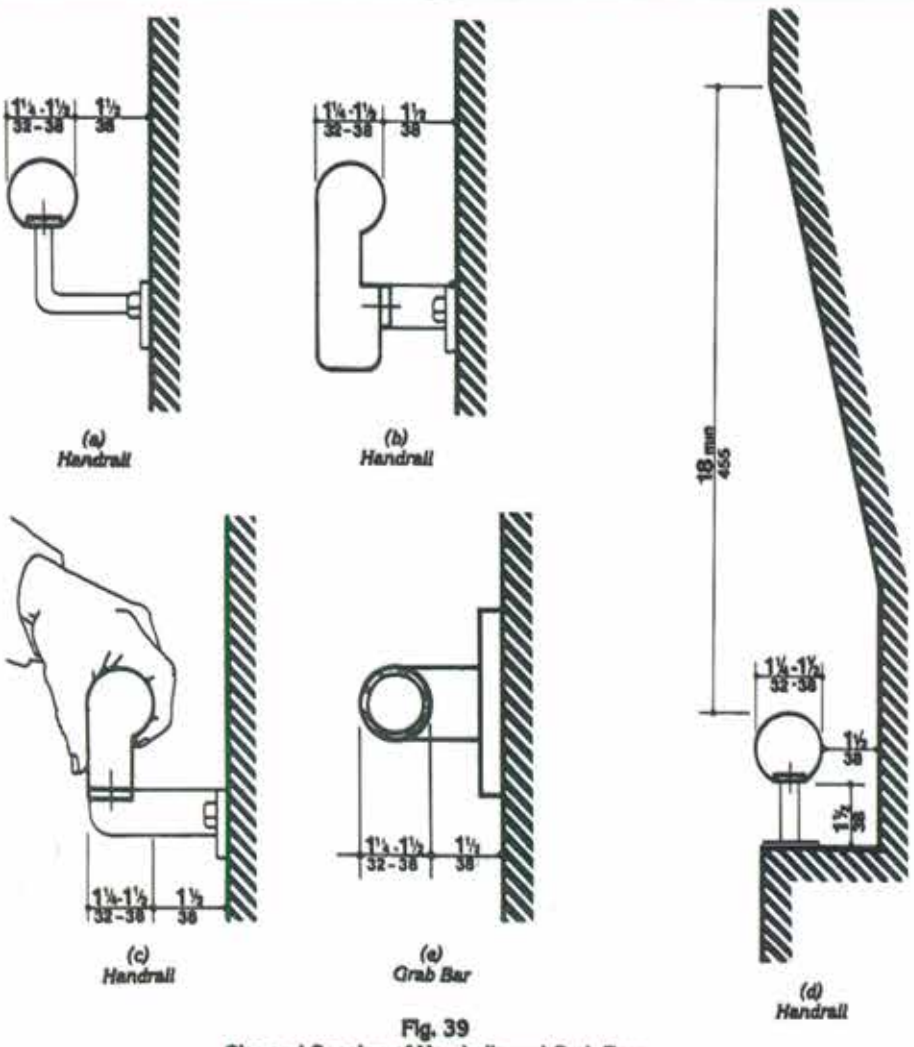

Fig. 39
Size and Spacing of Handrails and Grab Bars

(a)
Proportions
International Symbol of Accessibility

(b)
Display Conditions
International Symbol of Accessibility

(c)
International TDD Symbol

(d)
International Symbol of Access for Hearing Loss

Fig. 43
International Symbols

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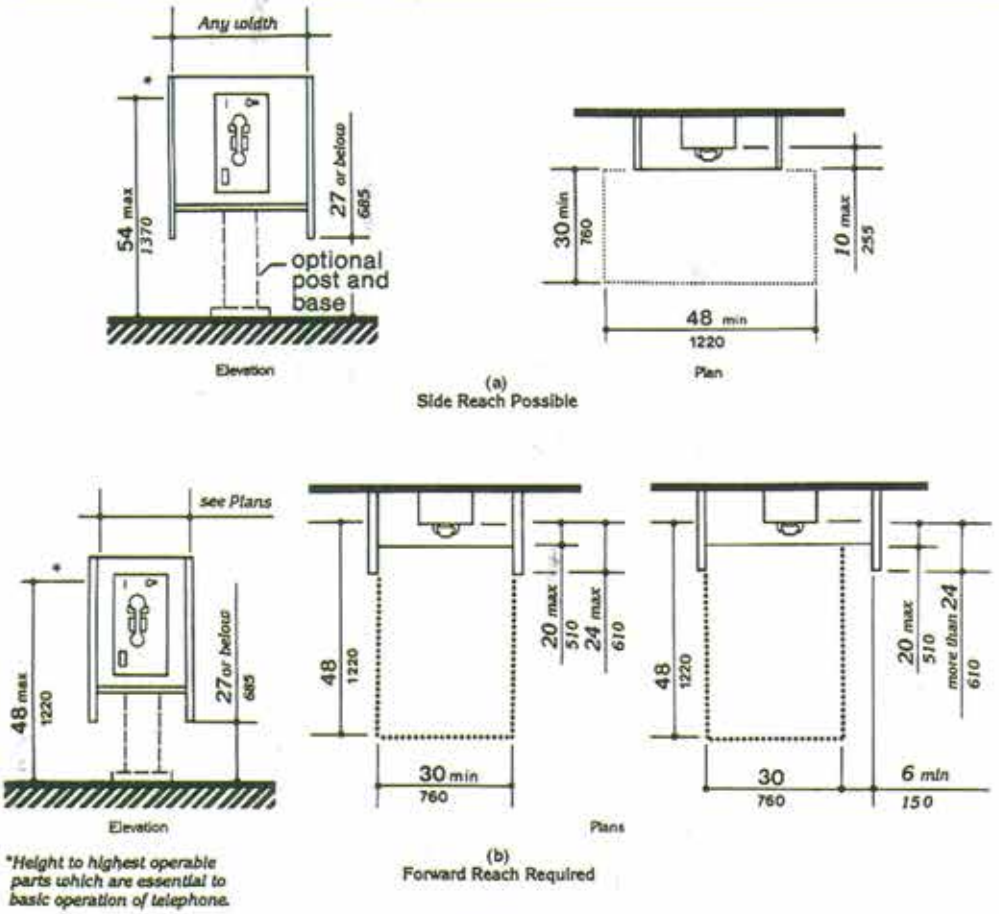

Fig. 44
Mounting Heights and Clearances for Telephones

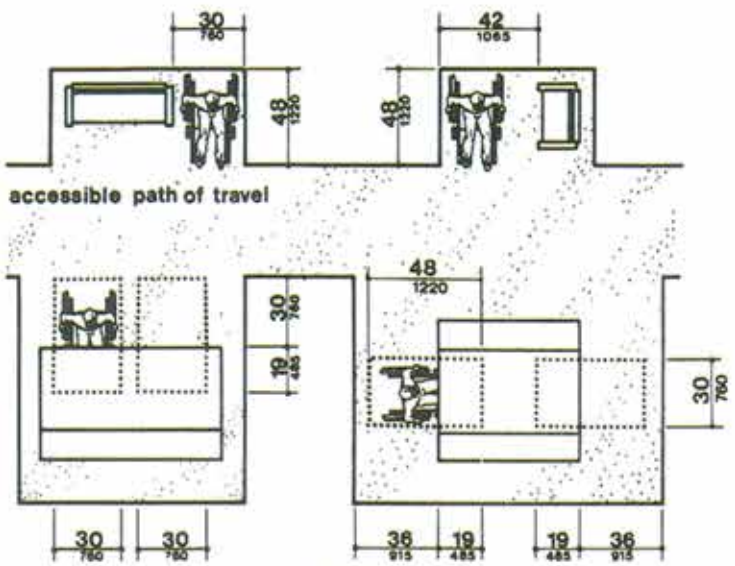

Fig. 45
Minimum Clearances for Seating and Tables

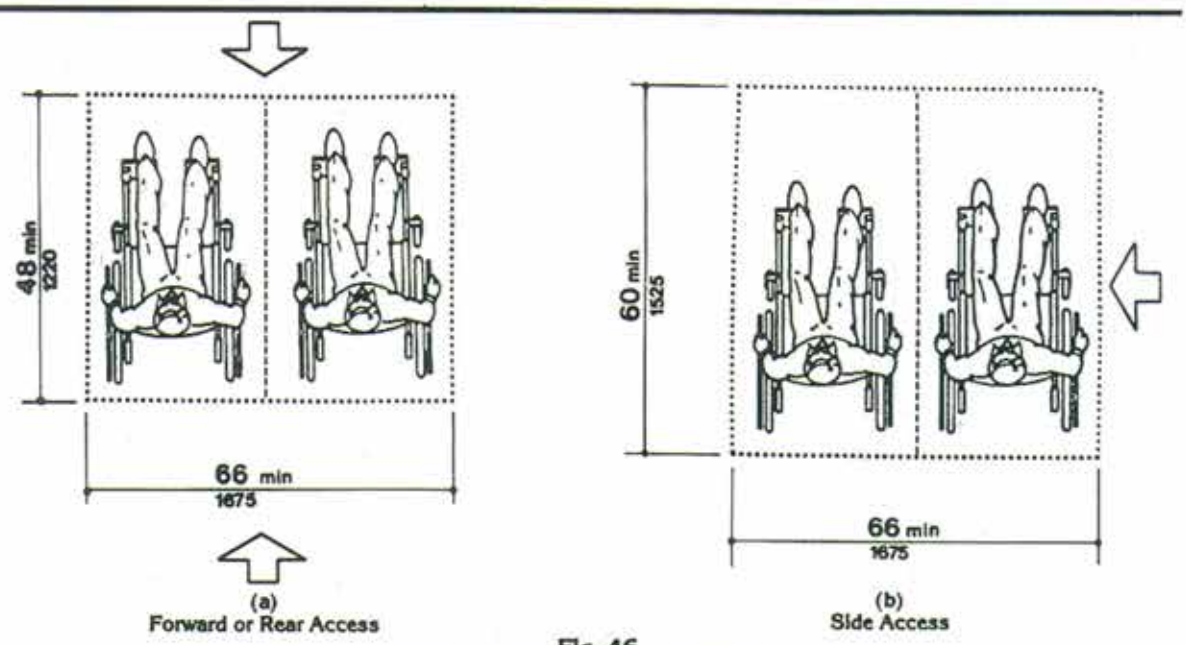

Fig. 46
Space Requirements for Wheelchair Seating Spaces in Series

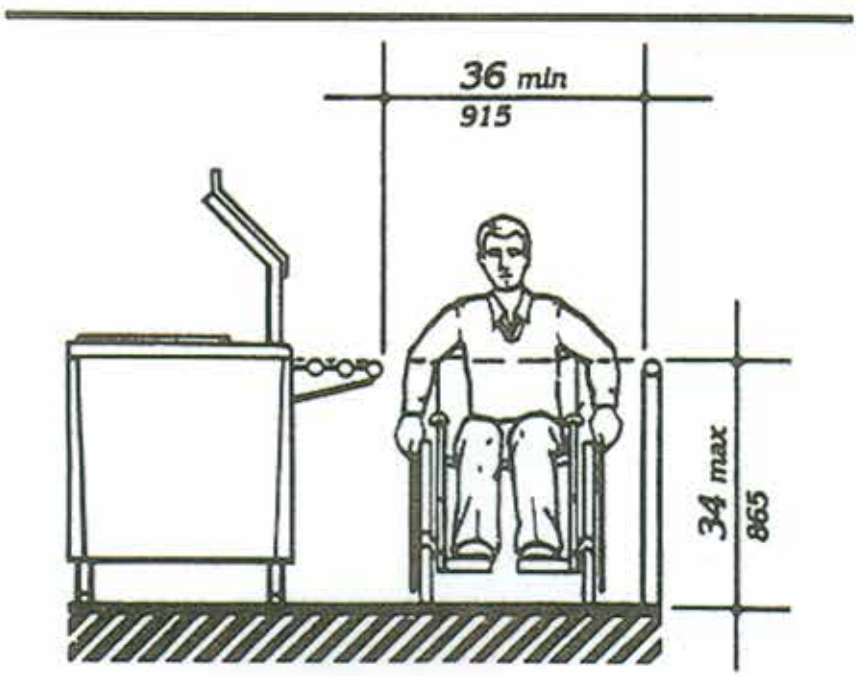

Fig. 53
Food Service Lines

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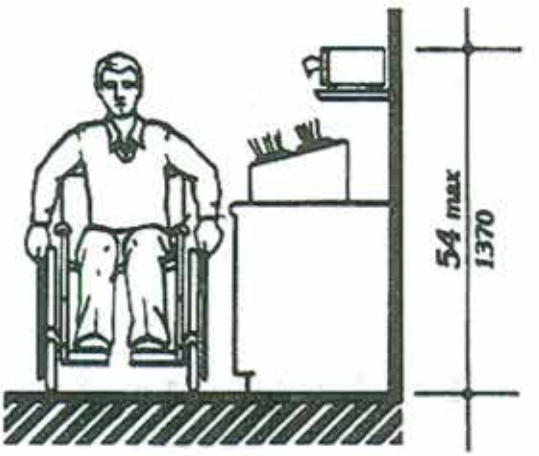

Fig. 54
Tableware Areas

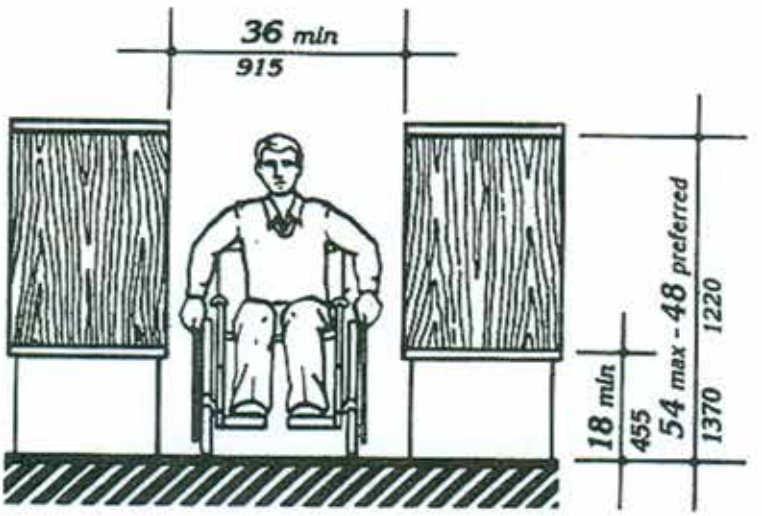

Fig. 55
Card Catalog

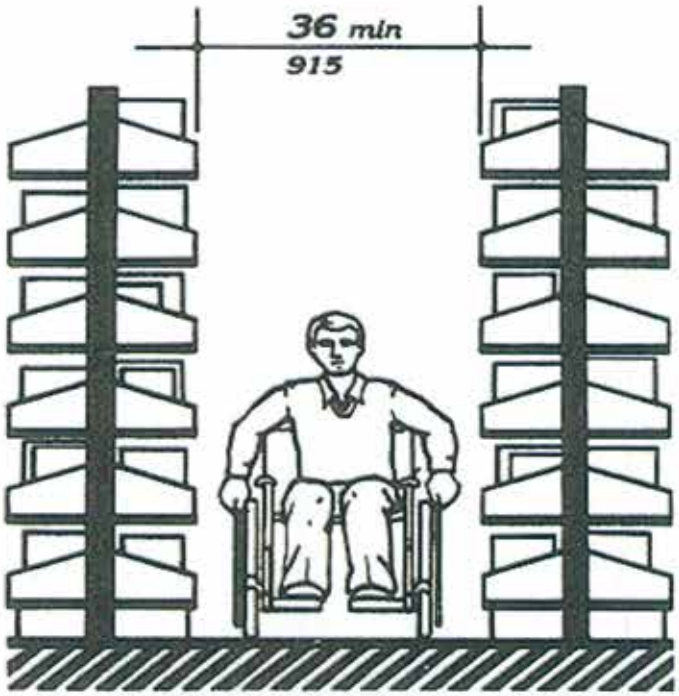

Fig. 56
Stacks

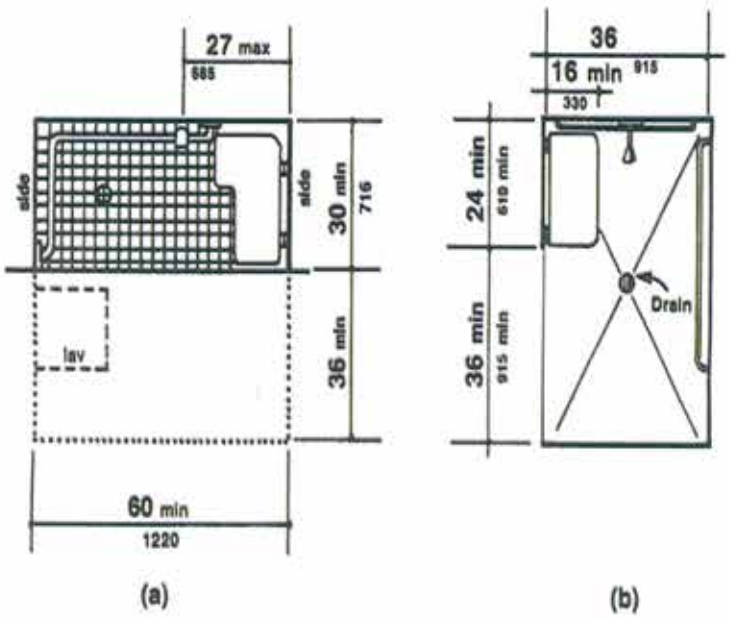

Fig. 57
Roll-in Shower with Folding Seat

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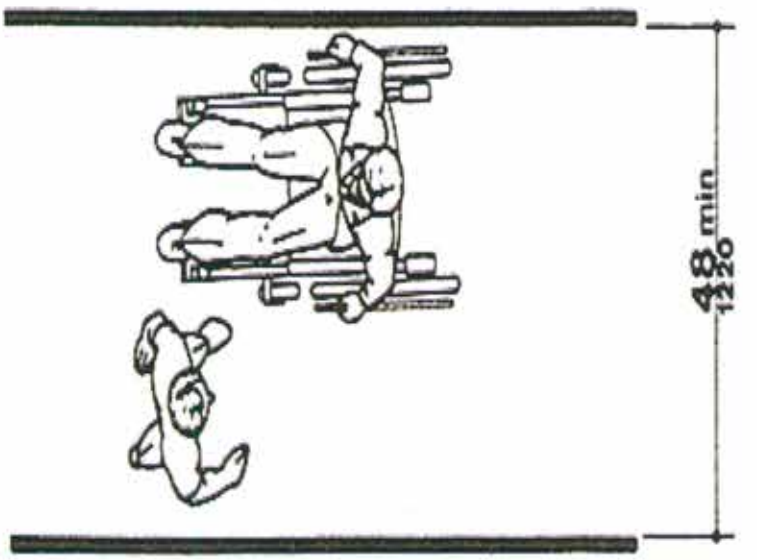


Fig. A1
Minimum Passage Width for One Wheelchair and One Ambulatory Person

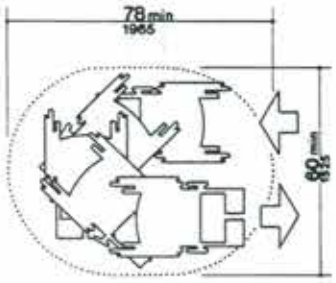
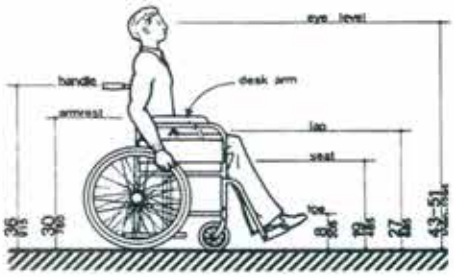
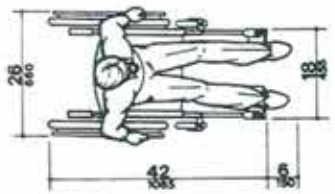


Fig. A2
Space Needed for Smooth U-Turn in a Wheelchair





NOTE: Footrests may extend further for tall people

Fig. A3
Dimensions of Adult-Sized Wheelchairs

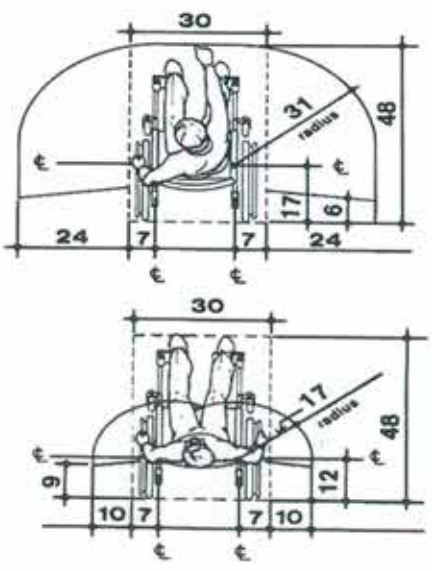


Fig. A3 (a)

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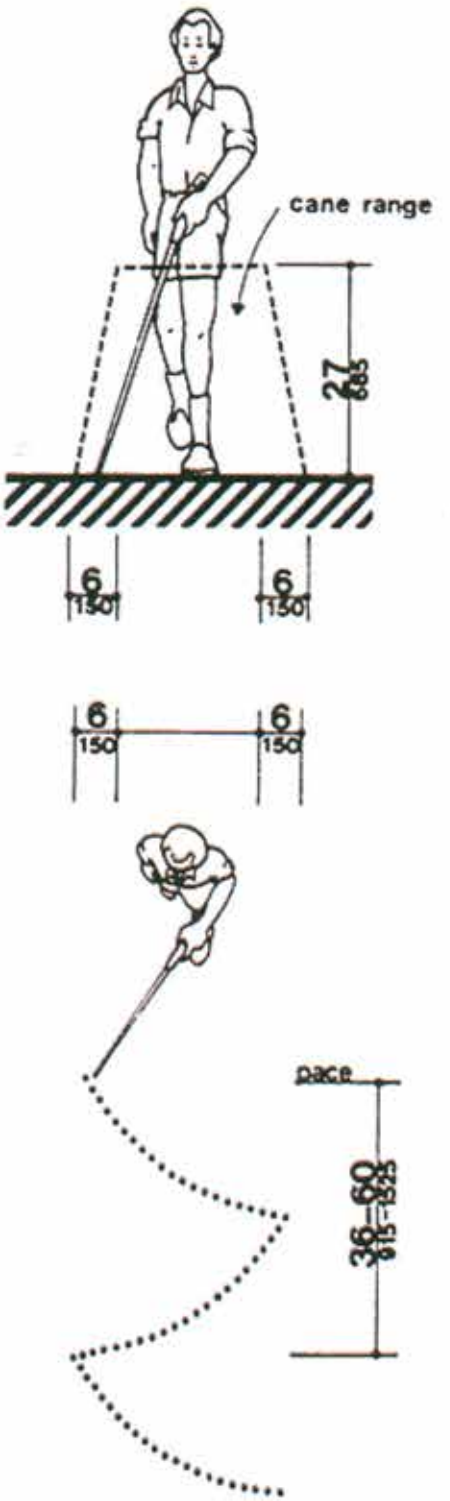
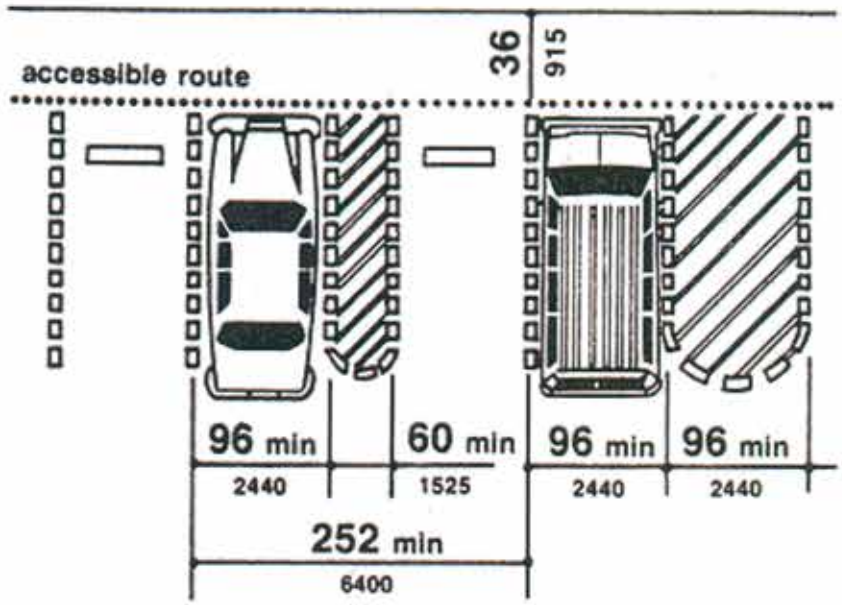
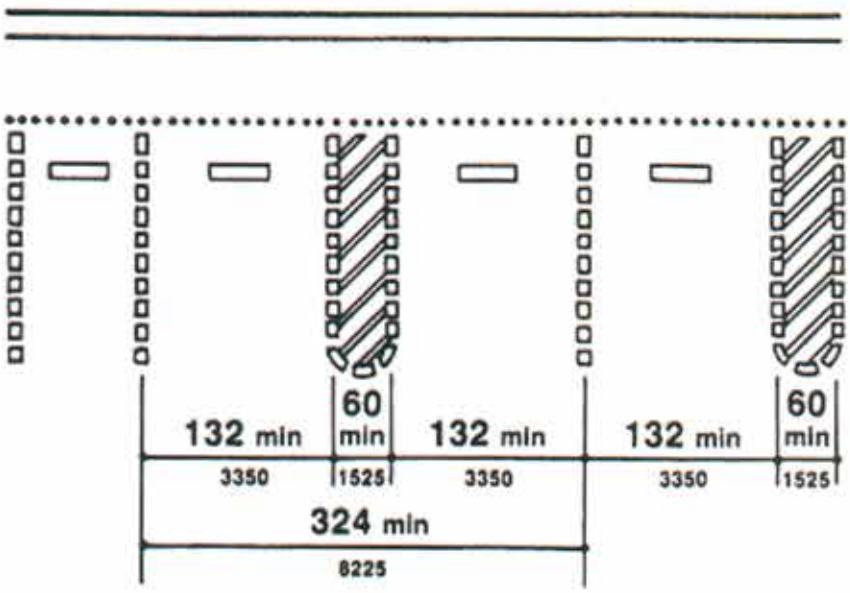


Fig. A4
Cane Technique



(a)
Van Accessible Space at End Row



(b)
Universal Parking Space Design

Fig. A5
Parking Space Alternatives

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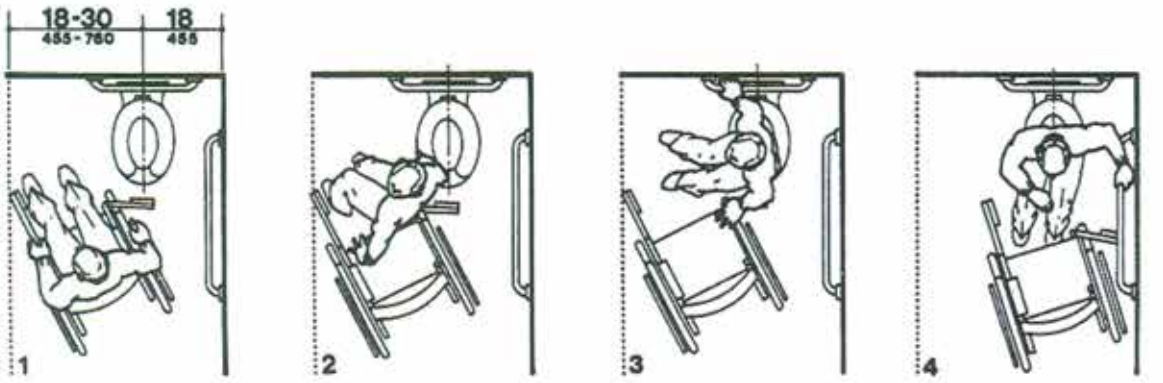


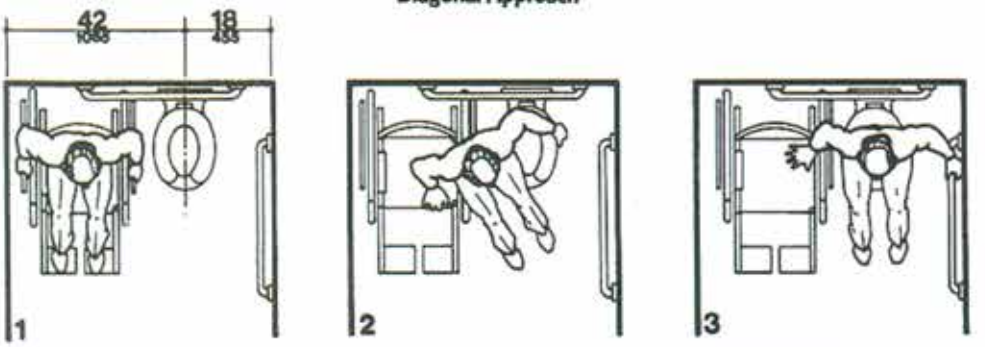
Takes transfer position, swings footrest out of the way, sets brakes.

Removes armrest, transfers.

Moves wheelchair out of the way, changes position (some people fold chair or pivot it 90° to the toilet).

Positions on toilet, releases brake.

(a)
Diagonal Approach



Takes transfer position, removes armrest, sets brakes.

Transfers.

Positions on toilet.

(b)
Side Approach

Fig. A6
Wheelchair Transfers

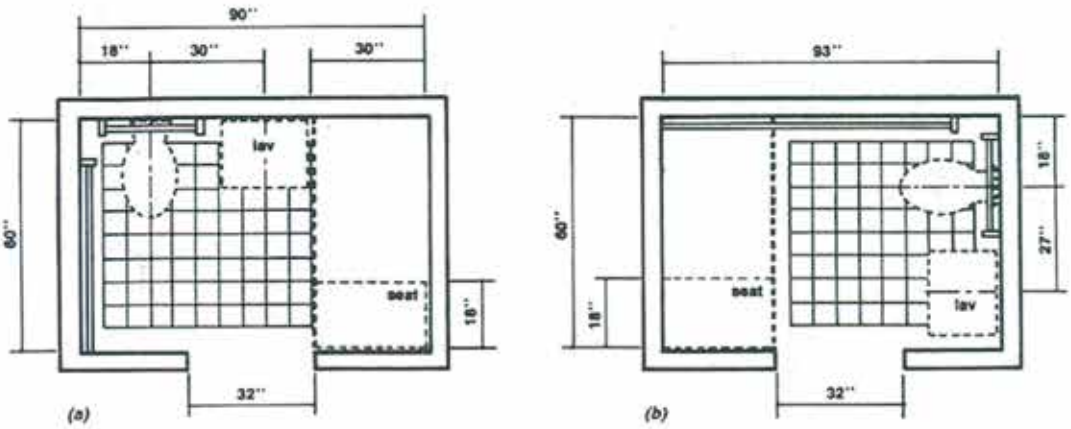


Fig. A7

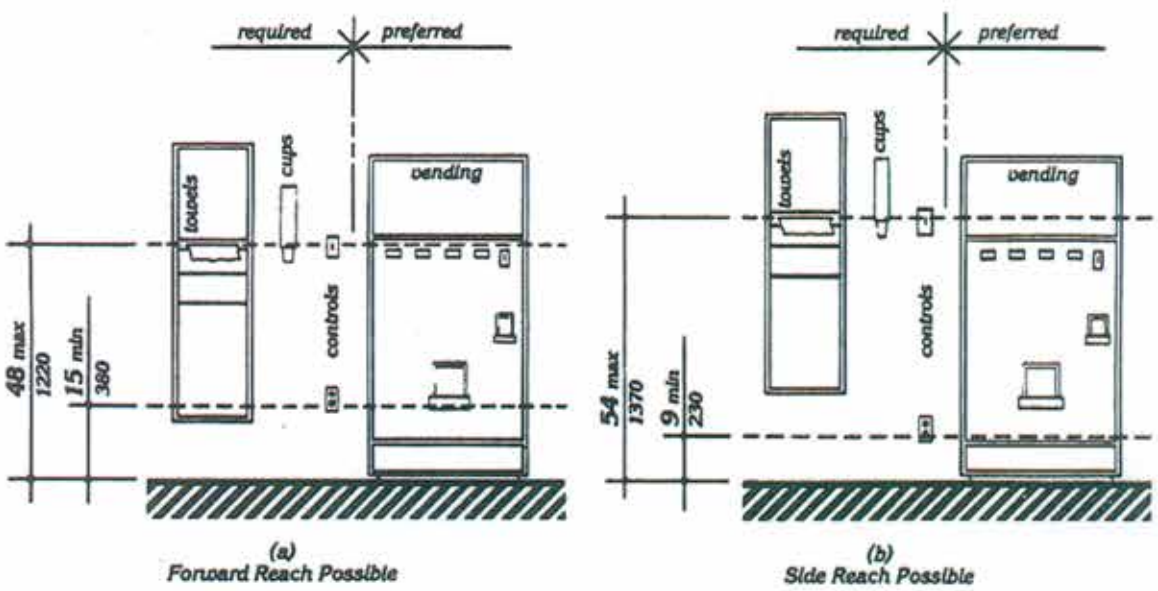


Fig. A8
Control Reach Limitations

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APPENDIX 2

The following documentation consisting of Reports 5 and 6 is a part of the Kuwait Access Strategy Project. Each Report contains details on the various Workshops conducted in Kuwait and recommendations.

REPORT 5

Workshop 1 & 2 Report & Recommendations

KAS Workshops 1 and 2 were held at the Arab Fund Headquarters in Kuwait City on Monday 8 October 2012 – with 40 to 50 delegates at each Workshop.

As agreed with KSH the structure and focus of the Workshops was as follows:

Workshop 1 – **Policy Makers, Government / Ministry Officials, Under Secretaries**

Workshop 2 – **Ministry of Public Works & Kuwait Municipality**

Each Workshop comprised 4 Sessions as follows

- Session 1 – Introduction – Michael Fox
- Session 2 – Global Status & Trends – Joseph Kwan
- Session 3 – RI Findings & Commentary – Michael Fox
- Session 4 – Access Strategy for Kuwait – Joseph Kwan & Michael Fox

Sessions 1 to 3 were similar for each Workshop and Session 4 provided more specific information to the 2 Workshop groups.

Workshop 1 & 2, Session 4 set out specific KAS recommendations, an implementation strategy and outline of the RI recommended way forward for Kuwait.

In addition Workshop 2, Session 4 provided details of several international and national accessibility standards, manuals, policies and guidelines to assist Kuwait in adopting and implementing the KAS.

Opening Ceremony

Minister Fadhil Safar, Ministry of Public Works opened the Workshop and importantly notes that civilization is judged by how we provide for everyone in our society, including minority groups and people with disabilities.

The Minister said these meetings and discussions can lay foundations for an accessible and equitable Kuwait – and formally opened the Workshops.

Workshop 1 & 2 – Session 1

Session 1 welcomed all participants and thanked the Minister, Arab Fund for Economic & Social Development and KSH for respectively opening, hosting and sponsoring the Workshops.

The RI team was introduced consisting of:

- Khaled El Mohtar — RI Arab Region Vice President – Beirut
- Joseph Kwan — RI ICTA Chair – Hong Kong
- Michael Fox — RI President 2008-2004 / RI Australia Chair – Sydney

The Workshop program was described and RI summarized the intent and scope of the KAS contract with KSH – including the following Workshop Purpose and Goals

- Outline global access situation – with reference to the CRPD (UN Convention on the Rights of Persons with Disabilities)
- Review & commentary on current access legislation & situation in Kuwait
- Develop a plan of action for implementation of best practice total accessibility in Kuwait

Workshop 1 & 2 – Session 2

Session 2 provided a detailed presentation and commentary on Global Access Status and Trends with examples from many countries around the world. Global perspectives provided a detailed outline of the CRPD, including Purpose, global CRPD signing and ratification status and description of key Articles.

This included Article 9 Accessibility and reference to Education, Employment, Housing, Health, Transportation, Services, ICT (Information & Communications Technology) and Well Being including leisure and recreation.

Global statistics on disability referred to the 2011 WHO World Report on Disability – with an estimated 15% or over 1 billion people with a disability worldwide. The presentation noted that ageing population demographics further compound the implications and need for more accessible and equitable environments and services.

The concept of Universal Design (UD) was discussed – and defined as the design of products, environments, programs & services to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design. The presentation identified access Barriers and Accessible solutions and examples from around the world – with a number of Kuwait examples – in relation to:

- Public domain
- Built environments

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- Public transport
- Tourism & economic benefits
- Shopping centers
- Stadiums
- Hotels
- Toilets
- ATMs and public telephones
- Airports, railways & trams / light rail
- Low floor buses & marine transport
- Taxis
- Parking
- ICT and Assistive Technology
- Braille and tactile bank notes & UD products

Workshop 1 & 2 – Session 3

Session 3 summarized and described RI KAS findings to date and a commentary on the access related situation in Kuwait.
To date 162 States / countries have ratified the CRPD with 88 ratifications of the Protocol. In the Arab Region – 21 countries have ratified the CRPD with 6 ratifications of the Protocol.

Kuwait has ratified the CRPD on August 22nd 2013.

KAS Report 1 – Global Status describes the status of access standards, codes and legislation in a number of countries including

- USA – ADA (1990 Americans with Disabilities Act) and ADA Standards for Accessible Design include public domain access
- Australia – DDA (Disability Discrimination Act 2010 ,(1992 Access to Premises Standard, 2011 Building Code of Australia & Australian Standards
- UK – DDA 1995 was significantly extended in 2005. UK Building Regulations include Part M – Access and Facilities for Disabled People 2009
- ECA (European Concept of Disability 1996)
- China, Hong Kong, Japan & New Zealand – current status reports

KAS Report 2 – Kuwait Access Review provides a summary and analysis of current access related documents and legislation in Kuwait including

- Kuwait Building Codes & Regulations – Schedule 15 – Special Needs Conditions & Specifications – 2008
- Saudi Building Code 2007 – 201 (SBC)
- Assessment of building accessibility – 2009
- Kuwait Law 8 of 2010 – concerning persons with disabilities
- Explanatory Memorandum on Law 8 of 2010

RI commentary noted:

- Schedule 15 & the SBC provide a range of quantifying and qualifying requirements with primary consideration for people with physical disabilities
- Aspects not considered include – public domains / outdoor public areas, provisions to assist people with limited speech, vision or hearing and implementation, compliance and review mechanisms
- International good practice – particularly US and Australia – generally separates access qualification (Standards, Codes etc) and quantification (applicable legislation)
- The Kuwait 2009 Assessment of building accessibility –provides the results of field survey of 100 buildings selected from different geographical locations and of different building purposes
- Kuwait Law 8 of 2010 requires that – The provisions of this law shall apply to Kuwaiti persons with disabilities and shall also apply to children of Kuwaiti women from non-Kuwaiti fathers

KAS Report 3 – Plan Reviews & Site Assessments includes an RI assessment of 30 projects in planning stage and on site in May 2012.

Meetings have been held with Ministry of Public Works & Kuwait Municipality to discuss current access legislation and approval process.

Site assessment process includes discussions, inspections, photographs and measurements – to provide summary reports with recommendations.

RI Summary of Findings

- Current Kuwait access legislation is not consistent or comprehensive
- No effective process to monitor and ensure good practice access implementation
- Many major projects are designed and documented using different access Codes and Standards.
- Lack of consistent bench marking for major projects
- Need for national or wide best practice access standards & legislation
- New 'special schools' planning non-compliant with integration & mainstream global best practice and CRPD criteria
- Minimal access provisions for public domains, transportation and IT

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Workshop 1 – Session 4

RI described several concrete examples of government programs in Hong Kong and Singapore where pro-active government action has resulted in more accessible and equitable public domains, transportation and housing.
Trigger events can promote best practice accessibility as demonstrated by Olympic & Paralympic Games and World Cup events.

Recommendations

RI provided the following recommendations, implementation strategy and way forward

- Kuwait access legislation and guidelines should clearly separate access qualification (Standards, Codes etc) and access quantification (applicable legislation, extent of provision)
- Kuwait access legislation should be based on the Process of Access – linking information, ICT, public domains, transportation and the built environment

Implementation strategy

- Incorporation of the CRPD framework, and process of access linking information, transportation and the built environment
- Effective decision making involvement of all stakeholders including persons with a disability
- Appropriate government framework to link & manage access codes, standards & legislation
- Conduct professional training and CPD courses – and include accessibility as core tertiary curriculum
- Involvement of all stakeholders – including people with a range of disabilities
- Awareness and capacity building programs by government and all stakeholders
- Implementation – with effective complaints and compliance procedures through establishment of an appropriate government agency
- Develop a National Action Plan with target dates for new projects and existing buildings & infrastructures
- Establish Access Committees at municipal level
- Establish access department/officers to review and approve new project submissions at municipal level
- Conduct Access Audits including remedial measures for all public buildings and major private facilities

- Access design requirements applicable to new and existing public domains, public transportation systems and infrastructures
- Access design requirements applicable to new and existing public and private building and environments, and ICT
- Appropriate mechanisms for evaluation, monitoring & updating the guidelines, codes, standards and legislation – with a 5 year review process

Way Forward

- Review & update existing access legislation, standards, regulations, guidelines, manuals
- Apply appropriate accessibility criteria to new works and retrofitting of existing built environment, transport and infrastructure with target implementation dates
- Include Universal Design in university curriculums & Continuing Professional Development (CPD)
- Engage independent and qualified access consultants on all building and infrastructure developments
- Provide ongoing capacity building trainings – involving people with disabilities, academics, trainers, professionals & practitioners
- Confer access accreditation with star ratings and awards for best practice compliance (LEED compliance) for all new & retrofitted buildings
- Effective evaluation, monitoring & updating – with 5 year review process

Eng Abdel Karim Al-Zayd, Secretary General of the National Committee for Preparation of National Building Codes for Kuwait, at that time, provided an outline of current building legislation implementation mechanisms. The intent is to align legislation with the traditions of Kuwait through awareness, training and implementation.

Technical teams prepare codes, Strategic teams develop methodologies and National Teams are responsible for implementation.

GCC codes are being developed to harmonize legislation across the Gulf States. Kuwait is responsible for green buildings, energy and fire codes.

The goal is to develop a consistent methodology – and varying procedures are adopted for different sectors. The procedure includes an integrated approach involving MPW and all government departments. The aim is to reduce the approval timeline.

Major projects include consideration of approved codes, local research, Kuwaiti codes and implementation procedures.

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Workshop 2 – Session 4

RI presented similar information to Workshop 1 Session 4 regarding concrete examples, recommendations and implementation strategy.

Session 4 also provided extensive information on international and national standards, guidelines and legislation including

- ISO 2011 Standard – Building Construction: Accessibility and Usability of the Built Environment
- European Commission 2006 – Build For All Manual
- UK Department of Transport – Inclusive Mobility: Access to Pedestrian & Transport Infrastructure
- European Commission – Teaching Universal Design at Schools of Architecture, Planning, Interior & Industrial Design
- UK Egress Standards – BS8:1999 – 5588
- Royal Institute of Architects of Ireland – Policy on Accessibility
- Australian Institute of Architects – Universal Access Policy

Session 4 concluded with the RI recommended Way Forward.

REPORT 6

Workshop 3 & 4 Report & Recommendations

Workshop 3 was held on 3 February 2013 at the Kuwait University Faculty of Architecture. The Workshop was attended by around 100 students, academic staff and KSH representatives – with RI presentations by Joseph Kwan and Michael Fox.

Workshop 4 was held on 5 February 2013 at the Kuwait Marina Hotel. The Workshop was attended by around 50 architects, developers, professionals and KSH representatives.

The local media were invited to the Workshops – and a Workshop 4 article was published in the Arab Times on 7 February, and is included in this Report.

KAS Workshop 3

KAS Workshop 4

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Workshop 3

Workshop 3 was held at a Faculty of Architecture lecture theatre and University participants included Deans, heads of Faculty, lecturers and students. The Workshop was opened by **Dr Omar Khattab, Acting Dean of the College of Architecture.**

The Workshops were facilitated by Michael Fox and Joseph Kwan – and the stated purpose and goals were summarized as follows:

- Outline global accessibility – and CRPD
- Review & commentary on current access legislation & situation in Kuwait – with recommendations
- Outlining a plan of action for implementing best practice total accessibility in Kuwait
- Development of best practice access education

Workshop 3 comprised 3 sessions as follows:

Session 1 Introduction – Michael Fox – Outline of KAS including:

- Description of RI visits 1 to 4 including KSH meetings, access inspections, reviews of current Kuwait access legislation and recommendations

Session 2 Global Overview – Joseph Kwan presentation including:

- Introduction to UN-CRPD – accessibility global trends
- Best practice accessibility examples including – information, public domains, transportation & built environments

Session 3 Access Education Strategy – Joseph Kwan & Michael Fox, including:

- The Way Forward and education in accessibility
- Teaching UD / accessibility – sample curriculums & CPD courses
- Access awareness programs & training
- Discussion and close

Workshop 4

Workshop 4 was held at the Marina Hotel and participants included professionals in private sector, including engineers, architects, interior designers, representatives of DPOs (disabled persons organizations) and persons with disabilities.

The Workshops were facilitated by Michael Fox and Joseph Kwan – and the stated purpose and goals were summarized as follows:

- Outline global accessibility – and CRPD
- Review & Commentary on current access legislation & situation in Kuwait – with recommendations
- Outlining a plan of action for implementing best practice total accessibility in Kuwait
- Development of best practice access education

Workshop 4 comprised 4 sessions as follows:

Session 1 Introduction – Michael Fox – Outline of KAS:

- Description of RI visits 1 to 4 including KSH meetings, access inspections, reviews of current Kuwait access legislation and recommendations

Session 2 Global Overview – Joseph Kwan presentation including:

- Introduction to UN-CRPD – accessibility global trends
- Best practice accessibility examples including – information, public domains, transportation & built environments

Session 3 RI Findings & Commentary – Michael Fox including:

- Overview of Current Situation in Kuwait
- Review of access legislation, regulations and policies
- Access provisions not consistent – many major projects designed and documented by using different codes and standards.
- Kuwait access limitations including – information, public domains, transportation & built environments
- Minimal CRPD inclusive / integrated education
- Minimal access awareness in government & private sector
- Minimal process to monitor / ensure good practice access implementation

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Session 4 Access Strategy & Way Forward – Joseph Kwan & Michael Fox including:

- Public education on disability awareness and capacity building
- Kuwait process for implementing CRPD & Article 9: Accessibility
- Adopt National Action Plan with accessibility target dates for new projects and existing buildings, infrastructures, schools, etc
- Adopt consistent access regulations, guidelines and standards
- Establish Access Committees / Access Officers to review projects
- Engage access advisors / consultants for new projects and developments – with access audits & strategies
- Implement professional training / CPD accessibility courses
- Discussion and close

A section of the attendees

KSH joins hands with RI in organising workshop

Accessibility to disabled people in focus

By Jenna Baba
Arab Times Staff

Fox

Tara

Arab Times Kuwait 7 February 2013

BUILDING ACCESSIBILITY (INTERIOR)

4.2 Space Allowance and Reach Ranges

4.2.1 Wheelchair Passage Width
The minimum clear width for a single wheelchair passage shall be 32 inches (815mm) at a point and 36 inches (915mm) continuously (see Fig. 1 and 24)e)).

4.2.2 Width for Wheelchair Passing
The minimum width for two wheelchairs to pass is 60 inches (1525mm) (see Fig. 2).

4.2.3 Wheelchair Turning Space
The space required for a wheelchair to make a 180-degree turn is a clear space of 60 inches (1525mm) diameter (see Fig. 3(a)) or a T-shaped space (see Fig 3(b)).

4.2.4 Clear Floor or Ground Space for Wheelchairs

4.2.4.1 Size and Approach
The minimum clear floor or ground space required to accommodate a single, stationary wheelchair and occupant is 30 inches by 48 inches (760mm by 1220mm) (see Fig 4(b) and (c)). Clear floor or ground space for wheelchairs may be part of the knee space required under some objects.

4.2.4.2 Relationship of Maneuvering Clearance to Wheelchair Spaces
One full unobstructed side of the clear floor or ground space for a wheelchair shall adjoin or overlap an accessible route or adjoin another wheelchair clear floor space. If a clear floor space is located in an alcove or otherwise confined on all or part of three sides, additional maneuvering clearance shall be provided as shown in Fig. 4(d) and (e).

4.2.4.3 Surfaces for Wheelchair Spaces.
Clear floor or ground spaces for wheelchairs shall comply with 4.5.

4.2.5 Forward Reach
If the clear floor space only allows forward approach to an object, the maximum high forward reach allowed shall be 48 inches (1220 mm) (see Fig. 5(a)). The minimum low forward reach is 15 inches (380 mm). If the high forward reach is over an obstruction, reach and clearances shall be as shown in Fig. 5(b).

4.2.6 Side Reach
If the clear floor space allows parallel approach by a person in a wheelchair, the maximum high side reach allowed shall be 54 inches (1370 mm) and the low side reach shall be no less than 9 inches (230 mm) above the floor (Fig. 6(a) and (b)). If the side reach is over an obstruction, the reach and clearances shall be as shown in Fig 6(c).

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4.3 ACCESSIBLE ROUTE

4.3.1 General
All walks, halls, corridors, aisles, skywalks, tunnels, and other spaces that are part of an accessible route shall comply with 4.3.

4.3.2 Location

- At least one accessible route within the boundary of the site shall be provided from public transportation stops, accessible parking, and accessible passenger loading zones, and public streets or sidewalks to the accessible building entrance they serve. The accessible route shall, to the maximum extent feasible, coincide with the route for the general public.

- At least one accessible route shall connect accessible buildings, facilities, elements, and spaces that are on the same site.

- At least one accessible route shall connect accessible building or facility entrances with all accessible spaces and elements and with all accessible dwelling units within the building or facility.

- An accessible route shall connect at least one accessible entrance of each accessible dwelling unit with those exterior and interior spaces and facilities that serve the accessible dwelling unit.

4.3.3 Width
The minimum clear width of an accessible route shall be 36 inches (915 mm) except at doors (see 4.13.5 and 4.13.6). If a person in a wheelchair must make a turn around an obstruction, the minimum clear width of the accessible route shall be as shown in Fig. 7(a) and (b).

4.3.4. Passing Space
If an accessible route has less than 60 inches (1525 mm) clear width, then passing spaces at least 60 inches by 60 inches (1525 mm by 1525 mm) shall be located at reasonable intervals not to exceed 200 ft (61m). A T-intersection of two corridors or walks is an acceptable passing place.

4.3.5 Head Room
Accessible routes shall comply with 4.4.2.

4.3.6 Surface Textures
The surface of an accessible route shall comply with 4.5.

4.3.7 Slope
An accessible route with a running slope greater than 1:20 is a ramp and shall comply with 4.8. Nowhere shall the cross slope of an accessible route exceed 1:50.