

Calgary Access Design Standards

Draft V.02 – 2025

Technical & Advisory Services

Note to Reviewers:

Draft for Technical Feedback and Clarity Only

This document is a working draft of the updated Access Design Standards (ADS). It has been developed from extensive research of current accessibility codes and standards for the built environment, along with input from people with lived experience of disability, disability serving organizations, accessibility consultants, and general outreach.

Please note that this is **not** the final version. It is intended solely for the purpose of gathering technical feedback to inform future revisions. It should not be saved, applied or shared beyond this review process.

Cross-Referencing

References within this draft, indicated by “ADS XX”, and links to other standards or codes are placeholders. These will be updated, confirmed and finalized after feedback has been incorporated.

Graphics

Some graphics are still in development and will be included in the final version. Their purpose is to visually support the written content, not to introduce new information. Placeholder text (“Placeholder for new graphic”) marks where final graphics will appear. In some cases, temporary images have been included to aid understanding during the review phase.

Accessibility Features

This draft is formatted using a 12-point sans serif font and includes a navigation pane with clearly labelled headings and sections to enhance screen reader capability. All graphics feature alt text accessible by hovering over the image when using a screen reader. Any missing alt text will be added in the final version. Additionally, the “Draft” watermark has been removed in accordance with the *Canadian National Institute for the Blind (CNIB) Clear Print Guidelines*.

A.	About the Access Design Standards	7
	Introduction	7
	Application and Scope	7
	Compliance and Regulatory Requirements	8
	Acceptable Levels and Limitations of this Standard	9
	Renovations, Alterations, Technical Infeasibility and Alternate Solutions	10
	Advisory Committee on Accessibility and the Access Design Sub-Committee	11
	Using this Standard.....	11
	Abbreviations	13
	Referenced Documents	13
	Questions and Feedback	14
	Accessible Spatial Planning.....	15
B.	Vehicular Access	19
	Parking Facilities.....	19
	Designated Accessible Parking Stalls.....	20
	Parking Payment Machines	22
	Passenger Drop-off and Pick-up Zones	22
	Parking Signage.....	25
C.	Pedestrian Crossings and Signals.....	26
	Accessible Pedestrian Signals	26
	Raised Pedestrian Crossings.....	28
	All Raised Pedestrian Crossings.....	29
	Curb Ramps.....	29
D.	Exterior Paths of Travel	31
	Exterior Accessible Path of Travel	31
	Obstructions and Clearance.....	33
	Parks, Pathways, Trails, and Boardwalks	36
	Parks.....	37
	Pathways	38
	Multi-Use Pathways	39
	Trails	39

Boardwalks	40
E. Exterior Areas & Features	41
Accessible Play Spaces	41
Service Dog Relief Areas	43
Outdoor Tables	44
Outdoor Seating Areas	45
Outdoor Patios and Balconies.....	46
F. Entrances, Exits, Doors and Doorways	49
Accessible Entrances.....	49
Entry Seating	50
Signage.....	51
Exits	51
Doors and Doorways	51
Glazed Doors	54
Clear Width and Maneuvering Space	55
Power Operated Doors	56
Controls.....	57
Door Security and Entry Systems	59
G. Ramps, Stairs, Elevators, and Lifts.....	60
All Ramps.....	60
Interior Ramps	63
Exterior Ramps	63
All Stairs.....	63
Interior Stairs.....	65
Exterior Stairs	66
All Handrails.....	66
Elevators	68
Platforms Lifts	71
Inclined Lifts	71
Tactile Attention Indicators.....	71
H. Interior Circulation	73

Paths of Travel.....	73
Corridors and Hallways.....	76
Plus 15 Network.....	76
Emergency Systems	78
Areas of Refuge	78
Exits	79
Emergency Signal Devices	80
I. Interior Rooms and Services	81
Entry Seating Areas	81
Information, Reception and Service Counters.....	81
Waiting and Queuing Areas	83
Mobility Device Storage Areas	84
Work Areas	85
Meeting Rooms.....	86
Kitchen Areas.....	87
Dining Areas	87
Acoustic Considerations	87
Exhibit and Display Spaces.....	87
Assembly Areas	88
J. Interior Features	90
Controls and Operating Mechanisms.....	90
Drinking Fountains	91
Water Bottle Filling Stations	92
Self-Service Interactive Devices	93
Public Address Systems	93
Two-Way Communication Systems	94
Visual Displays.....	95
Assisted Listening Systems	95
FM Radio Frequency Systems.....	96
Infrared Systems.....	96
Induction Loop Systems.....	97

K.	Sanitary Facilities	98
	General	98
	Washroom Entrances	99
	Accessible Sink and Fixtures	99
	Toilet Fixtures	103
	Grab Bars.....	104
	Accessible Toilet Transfer Space.....	106
	Limited Mobility Stalls	108
	Universal Washroom.....	109
	Universal Washroom Emergency Call Buttons	110
	Adult Change Table	111
	Universal Dressing and Shower Rooms	114
	Accessible Showers.....	115
	Accessible Private Change Rooms.....	116
	Locker Rooms.....	116
L.	Signage and Wayfinding.....	118
	All Signage.....	118
	Symbols of Access.....	120
	Directional Maps	122
	Tactile Guide Maps	122
M.	Recreation Facilities	125
	Exercise and Fitness Areas	125
	Aquatic Pools	126
	Ice Rinks and Dry Slabs.....	128
	Sledge Hockey.....	130
	Golf Courses and Driving Ranges.....	130
	Athletic Parks	131
N.	Calgary Transit Facilities	133
	All Transit Facilities	133
	Platforms.....	134
	Transit Shelters.....	135

Bus Stops.....	136
O. Accessible Dwelling Units.....	137
Glossary	138
Appendix A – Universal Design Principles	145
Appendix B – CoLATE Principles.....	146
Appendix C – Illumination.....	148
Illumination Levels	148
Appendix D – Sensory-Friendly Design.....	149
Sensory-Friendly Areas	149
Sensory-Friendly Design Approach	150
Appendix E – Wayfinding Design for Accessible Navigation	151
Overview	151
Key Elements of Accessible Wayfinding Design	151
Types of Wayfinding Information.....	152
Sensory Navigation in Wayfinding	152
Appendix F – Construction Detours.....	153
Exterior Temporary Pedestrian Route.....	153
Safety and Hazard Prevention	153
Barricades and Barriers	154
Visibility, Access, and Sightlines	154
Signage.....	154
Interior Temporary Routes	154
Appendix G – Crime Prevention Through Environmental Design (CPTED)	156
Key Design Elements.....	156
Design Strategies for Safer Spaces	156

A. About the Access Design Standards

Introduction

The Access Design Standards (ADS) are The City's standards for accessible and universal design of City infrastructure. First introduced in 1988, these standards are regularly updated to reflect changes in provincial building codes, go beyond minimum legal requirements, and incorporate current best practices. By applying universal design principles, the ADS aims to remove barriers and support people with physical, sensory, and cognitive disabilities.

It is important to recognize that disabilities are diverse and personal. When developing standards, it is essential to consider all types of disabilities, not just those involving mobility devices. Disabilities can be permanent or temporary and vary widely in their impact. According to census data, 24% of Calgarians aged 15 and older report having at least one disability. As the population ages, this number is expected to grow.

Accessible design benefits everyone. Whether someone is using a walker, pushing a stroller, living with vision or hearing loss, or recovering from surgery, inclusive spaces make it easier for all people to move through and use public areas.

Application and Scope

The ADS applies to all new and renovated infrastructure on City-owned land, including:

- City owned and operated infrastructure, such as: Mobility infrastructure and public rights-of-way (sidewalks, pathways and crossings), transit infrastructure (bus stops and shelters, LRT platforms), parks and open spaces, buildings and facilities owned by The City of Calgary
- City-owned sites and buildings operated by external organizations (e.g. Civic Partners such as Calgary Zoo, Heritage Park, Recreation Partners and Community Associations)
- Spaces and facilities that are leased by The City of Calgary for use by employees or public.

By going beyond minimum requirements, the ADS supports The City's commitment to inclusive, accessible environments, aligned with the Corporate Accessibility Policy and Council's Social Resilience priority.

While the ADS is required for City infrastructure, it is strongly encouraged for private developments as well. Applying these standards helps create spaces that are usable, functional, and accessible for everyone.

Exceptions: The ADS does not apply to service areas not meant for regular occupancy, such as service rooms, electrical or mechanical rooms, janitor rooms, elevator machine rooms, crawl spaces or utility tunnels, storage sheds, pump stations, power stations, waste transfer stations or spaces of Group F Div 1 (high-hazard) occupancy. Unless specifically excluded, all areas used by employees, visitors, and the public must follow the ADS to ensure inclusive design.

The City of Calgary values all members of its diverse communities and is committed to removing barriers that prevent people with disabilities from fully participating in employment and all City programs and services.

This document has been reviewed for alignment with other City standards and guidelines (e.g. Design Guidelines for Subdivision Servicing (DGSS), Roads Construction Standard Specifications). Where possible, accessibility improvements have been integrated into those documents. Items that apply across multiple areas may also be included in this standard.

Compliance and Regulatory Requirements

In addition to these standards, designers must also refer to the appropriate regulatory requirements, including the current National Building Code – Alberta Edition (NBC(AE)) and others.

This document has been developed with an intent to avoid any conflicts with regulatory requirements but are intended to exceed the minimum requirements for the benefit of accessibility. Where discrepancies exist between the requirements of these standards and legislations enacted by the federal or provincial government, the highest level of accessibility requirements should apply. If there is a conflict, and the minimum regulatory cannot be met while applying these standards the regulatory requirement will apply. Consult with the ADS stewards where these standards are inappropriate for specific situations, see technical infeasibility and alternative solutions below.

When working with the National Building Code – Alberta Edition, it is possible to obtain a relaxation from the Government of Alberta for barrier-free regulatory requirements of the code. A relaxation from the Authority Having Jurisdiction on the regulatory code requirements, does not automatically assume deferral of the Accessibility Policy requirements and application of these standards. Project teams shall consult with the ADS stewards (which may include referral to The City's Advisory Committee on

Accessibility's Access Design Sub-Committee) prior to seeking a relaxation from the province.

The City of Calgary Access Design Standards (ADS) does not release the design team from any professional liability nor the need for a comprehensive design and construction process in compliance with all legal and regulatory requirements.

These standards are not meant to limit the development or application of creative or innovative design solutions to improve accessibility in the built environment. This document is not intended to limit the accessibility level that may be achievable, project teams are encouraged to improve accessibility beyond these standards when feasible.

Acceptable Levels and Limitations of this Standard

The Corporate Accessibility Policy requires this standard be met for all City infrastructure as outlined above. For new construction projects, it is expected that this standard will be achievable in almost all cases.

It is understood that from time-to-time projects may include areas or components that this standard has not yet considered (such as a special program item or space, or a different technical scenario than can be predicted). There may also be times, when following this standard directly may pose additional barriers to accessibility (such as a ramp that would be too long to be considered accessible). In these rare cases, the project team should work with the ADS stewards to document an alternate solution (see below in Renovations) which carefully considers equality in access for those with physical, sensory and cognitive disabilities, and is an overall improvement to accessibility.

The Access Design Standards are limited to physical infrastructure as listed above, not operational items. While we recognize that operational items can impact accessibility, these concerns fall outside the scope of the ADS at this time.

This document does not include all possible spaces, programs, situations and different elements. It is understood there may be gaps in some areas, this may be due to different reasons such as it is an emerging area and there is no formal industry agreement on the appropriate technical solution, or because there is much more work to be done to align with other larger City standards. In the next update to ADS, it is anticipated that more areas will be covered. Some of the items identified not addressed in this current version of ADS includes technical details on sensory areas, tactile maps and tactile direction indicators, and overall wayfinding information.

Renovations, Alterations, Technical Infeasibility and Alternate Solutions

The Access Design Standards shall be applied to all renovations, alterations, upgrades, retrofits, improvements and replacements of applicable infrastructure for the scope of the work being completed, regardless of the size of the alteration.

These standards recognize the variable scope of retrofits and upgrades in scale and complexity. In all cases, these standards apply for the extent of the scope being undertaken. Building additions are considered new construction, and the standards shall apply in full to the new areas and any areas of the existing building where work is being completed.

Where the alteration of existing conditions becomes difficult to meet the requirements of the Access Design Standards due to technical infeasibility, it is expected that an alternate solution be proposed that aligns to the greatest extent possible with the intent of the ADS items that are applicable to the scope of work. If a renovation or alteration, the solution shall to the best extent possible, improve accessibility over the existing condition and shall at minimum be in compliance with the current building code or other regulatory requirements.

The technical infeasibility shall be based on:

- a) existing structural conditions that would require altering parts of the structural frame, such as a load bearing member, and/or
- b) other existing major physical or site constraints that prohibit the modification or addition of elements, spaces, or features that are in full and strict compliance with the minimum requirements.

The technical infeasibility and proposed alternate solutions shall be reviewed with the ADS stewards to assist in achieving the highest level of accessibility possible within the constraints, and to aid in justification and documentation of the rationale. The stewards may additionally recommend feedback from the Advisory Committee on Accessibility through their Access Design Subcommittee where there are options for the most appropriate solution or for assistance on the most accessible outcome within the technical constraints.

If a building or site is listed as heritage, it is understood that items of heritage value may be considered a technical infeasibility. Alternate solutions should be proposed that align with the best accessible outcomes possible within the heritage constraints.

Any technical infeasibility and alternate solutions shall be clearly documented and justified with support from the ADS stewards and feedback from ACA when applicable, within in the project records for future use.

Advisory Committee on Accessibility and the Access Design Sub-Committee

The ADS stewards extend their sincere appreciation to The Advisory Committee on Accessibility (ACA) and its Access Design Sub-Committee. Their guidance and feedback in completing these standards, and their ongoing advisory role in City projects helps ensure that accessible design is meaningfully integrated into The City of Calgary's built environment. Their contributions are instrumental to creating a city that is accessible, useable, and functional useable to everyone.

The ACA provides strategic advice to City Council on broad policy issues, while the Access Design Sub-Committee provides direct input on City infrastructure projects to improve accessibility.

The ADS stewards work collaboratively with project teams behind the scenes to raise awareness and support the implementation of the standards. In some cases, the ADS stewards recommend that projects in the design phase be reviewed by the Access Design Sub-Committee. Given the high volume of projects and the limited time available of the committee, it is important to prioritize reviews that will deliver the greatest impact. Projects are typically referral to the Sub-Committee when:

- The project includes unique features, elements, or emerging issues that are not yet addressed in the ADS.
- For large-scale, high-profile, public facing-projects.
- An existing constraint or technical infeasibility where lived experience could help identify the most accessible alternative.
- The program is directly for, or the site is adjacent to, a specific disability community.
- When requested by the committee or the project team.

To ensure the Sub-Committee's time is used effectively, reviews should focus on areas not addressed within the ADS or those that extend beyond its current scope.

Using this Standard

The Access Design Standards have been developed in an accessible format, aligned with The City of Calgary's communication standard. The document includes a user-friendly layout with clear graphics, readable fonts, plain language, informative diagrams, and multiple referencing methods. It is available in large print and is compatible with screen readers.

These standards are designed to be used alongside other regulatory, including City of Calgary required codes, standards, and guidelines.

The ADS aims to be straightforward and practical when applying accessibility requirements to applicable projects. To support clarity and understanding, the following elements are used throughout the document to explain intent and offer guidance on meeting specific requirements:

Explanations: Clarify the standard by including the rationale and the intended outcomes. They are intended to help users understand the why of the standard and what it aims to achieve.

Notes: Offer supplementary information or guidance that supports the standard. These notes provide context, clarify expectations, or highlight important considerations for implementation.

Scenario/Example: Include real-world examples or hypothetical situations to illustrate how the standard can be applied in practice. These help users better understand and implement the standard effectively.

Exceptions: Identify and explain any known, acceptable deviations from the standard. This ensures transparency and helps users recognize when and why exceptions may be appropriate.

References: List related documents, standards, or guidelines, either within this document or external sources, that provide additional context or information.

Best Practices: Shares recommended approaches that go beyond the minimum requirements of this standard. These suggestions aim to further enhance accessibility outcomes.

This standard should be read with the understanding of the differences intended with the use of shall, should and may terminology within the clauses. In this standard:

- a) “Shall” indicates a mandatory requirement that must be met to comply with the ADS.
- b) “Should” signifies a recommended practice that is advised but not strictly required.
- c) “May” denotes an optional action that is recommended or permitted within the scope of the ADS.

Dimensions used in this standard are in metric units (millimeters) and shown as “mm”. When dimensions are not indicated within a range of maximum or minimum (“Max.” or “Min.”), the dimensions are absolute and should be met.

Abbreviations

Unless noted otherwise, the following abbreviations are used throughout these Standards:

- ADS – Access Design Standards
- ADS XX – refers to referenced standard or section to be confirmed in final draft.
- AHJ – Authority Having Jurisdiction
- CAN/CSA B651:23 –Canadian Standards Association B651:23 “Accessible Design for the Built Environment”.
- CNIB – Canadian National Institute for the Blind
- LX – Lux, unit of illuminance
- NBC(AE) – National Building Code – 2023 Alberta Edition
- TWSI – Tactile Walking Surface Indicator
- TAI – Tactile Attention Indicator
- TDI – Tactile Directional Indicator

Referenced Documents

The following codes, standards and guidelines, and other documents, were consulted as part of the update to these current standards.

- National Building Code – 2023 Alberta Edition
- Government of Alberta Ministry of Municipal Affairs - Accessibility Design Guide 2024
- CAN/CSA B651-23 “Accessible design for the built environment”
- CAN/CSA B652-23 “Accessible dwellings”
- CAN/CSA-Z614:20 “Children’s playground equipment and surfacing”
- 2024 Rick Hansen Survey and Rating Guide
- Canadian National Institute for the Blind (CNIB) “Clearing Our Path Version 2.0”
- Edmonton Housing Accessibility Guide
- International Standards Organization (ISO) 21542:2021 “Building construction – Accessibility and useability of the built environment”
- ISO 19028:2016 “Accessible design – Information contents, figuration and display methods of tactile guide maps”
- Americans with Disabilities Act
- Various other Provincial and Municipal Accessibility guides, standards and requirements documents.
- Ontario Building Code

Questions and Feedback

The City of Calgary through the ADS stewards, welcome questions and feedback regarding future updates to the Access Design Standards. Please send an email to accessreview@calgary.ca.

The current ADS stewards are an accessibility team within the Technical and Advisory Services section of the Buildings and Architecture division of Public Spaces Delivery in the Infrastructure Services department.

To ensure clarity and effective assessment, please include the following with any direct feedback on the standard:

- Reference to the relevant section(s) of the standards
- Proposed revised wording
- Rationale for the suggested change
- Contact information for follow up if required

Accessible Spatial Planning

A1. Turning Circle: A clear turning circle with a minimum 2100 mm diameter is used throughout the Access Design Standards for wheeled mobility device users. As recommended through the CAN/CSA B651:23 “Accessible design for the built environment”, a 2100 mm diameter turning circle accommodates 95% of wheeled mobility device users. A 2100 mm turning circle allows for larger mobility devices to make several smaller turns to navigate a space. Powered wheelchairs typically require a turning circle of 2250 mm and mobility scooters require a turning circle of 3150 mm. The overall size and turning diameter of wheeled mobility devices can vary significantly, by nature of its design, or the addition of equipment or personal items. Refer to Figure **A1.1**, **A1.2**, and **A1.3**.

Figure A1.1 – Manual Wheelchair Turning Circle

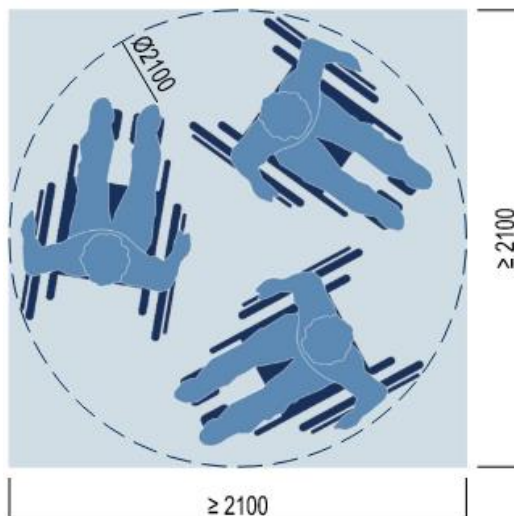


Figure A1.2 – Power Wheelchair Turning Circle

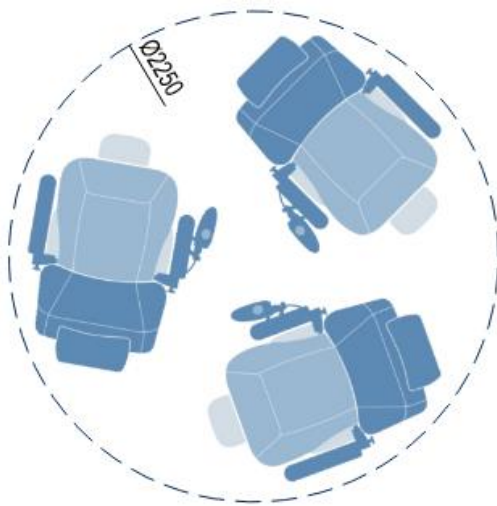
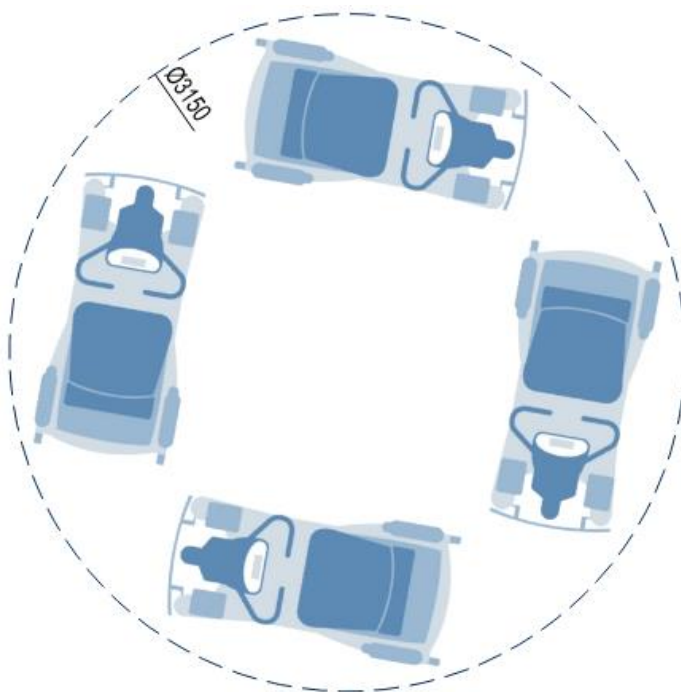


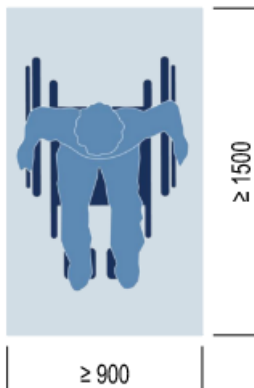
Figure A1.3 – Mobility Scooter Turning Circle



A2. Clear Floor Space: A clear floor space that is 900 mm wide by 1500 mm long minimum for a front approach, or 900 mm wide by 2,200 mm long minimum for a side approach is recognized as the universal mobility device size that would accommodate 95% of mobility devices utilized in North America. Unless

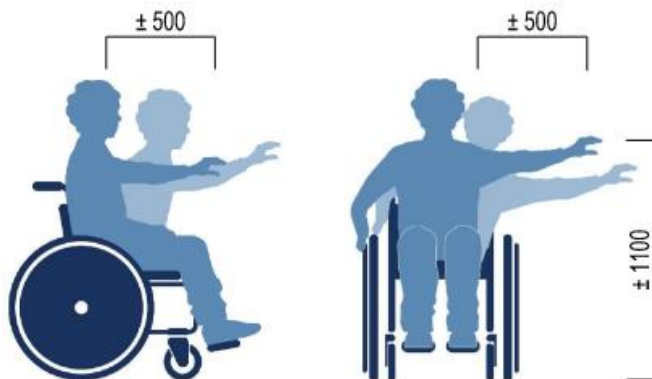
otherwise specified, a clear floor space must be provided in areas that require access to wall-mounted controls, power door operators, tactile signage, service counters, workstations, or under any tabletops, and under lavatories, sinks or drinking fountains. For clear floor space requirements specific to the various building elements, refer to the appropriate part in the 'Design Guidelines' section, Figure 2 - Clear Floor Space.

Figure A2 – Clear Floor Space

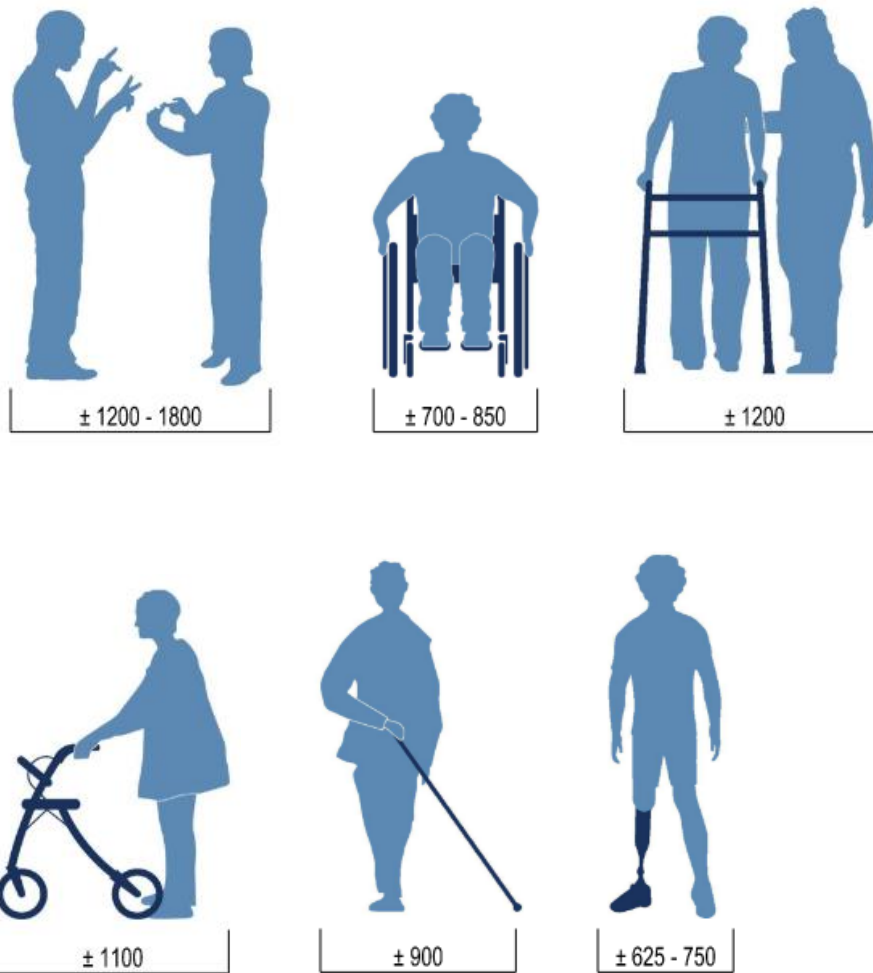


- A3. Reach Range:** The reach range of each individual person will vary depending on a person's disability and the type of mobility device. The reach ranges provided in the Figure A3 below are for reference purposes and frequently appear throughout these standards in relation to controls, fixtures, and mounting heights. The typical forward reach range is approximately 500 mm and the approximate side reach range is 500 mm.

Figure A3 - Front and Side Reach Range



A4. Typical Spatial Clearances: Various spatial clearances for people have been provided in the graphics below. This is provided for additional support in designing the clear width of accessible paths of travel for different spaces and programs.



B. Vehicular Access

Accessible vehicular access, parking facilities, parking stalls, parking payment machines, passenger drop-off and pick-up zones and clear signage are essential elements for ensuring that people with disabilities can travel to and use City of Calgary amenities and infrastructure.

This section outlines The City of Calgary's standards for vehicular access on City-owned properties, including buildings, facilities and outdoor public amenities such as parks and transit stations. These standards apply specifically to land under municipal ownership and control. These standards are intended to align with the Street Manual and Roads Standards in areas of public rights-of-way.

For requirements for raised crossings, refer to Section C. Pedestrian Crossings and Intersections

Parking Facilities

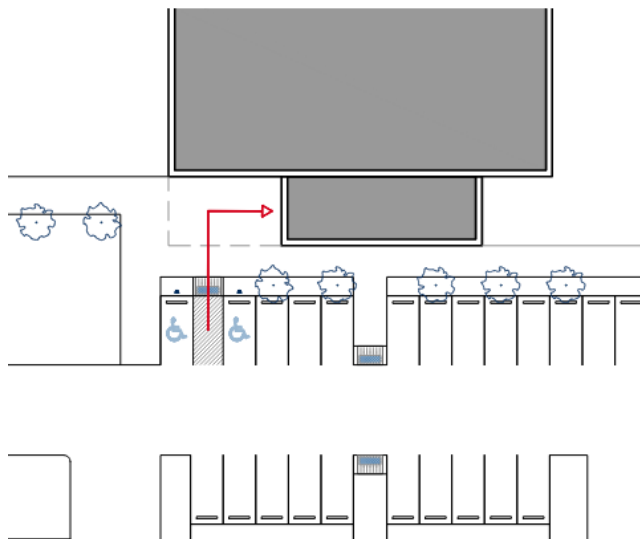
- B1.** Designated accessible parking facilities shall be designed so that people with disabilities do not have to pass behind other parked vehicles.

Explanation: *This design increases the safety of all parking facility users including people who use wheeled or other mobility devices including canes, crutches, braces and artificial limbs. One way to achieve this is to have the accessible parking stalls located adjacent to the 'building side' of the parking lot with a walkway that leads directly to the accessible entrance to eliminate the need to cross any parking drive aisles.*

- B2.** Designated accessible parking shall be located within 50 m travel distance of barrier-free building entrances.

Explanation: *Close access to accessible building entrances provides safe and convenient access for people with limited mobility. To qualify for an accessible parking pass, an individual must be unable to walk more than 50 m unassisted.*

Figure B2 – Example Accessible Parking



Designated Accessible Parking Stalls

- B3.** Designated accessible parking stalls shall be designed so that vehicle bumpers or other obstructions do not encroach on the accessible path of travel, regardless of the width of the path of travel.

Explanation: The NBC(AE) 3.8.3.23.(1)(e) outlines this performance requirement intended to prevent vehicles from being parked in a manner where the front of the vehicle overhangs a barrier-free path of travel. One way to achieve this requirement is to provide wheel stops set back from the barrier-free path of travel so that vehicle bumpers cannot encroach onto the barrier-free path of travel.

- B4.** Designated accessible parking stalls and the adjacent access aisles shall be paved or concrete hard surface.

Explanation: A paved or concrete hard surface stall and access aisle make it easier for someone with a disability to disembark from a vehicle and travel safely to the building entrance and/or to the amenity. When using concrete, the surface should be smooth and continuous, with minimal gaps, joints or interruptions to prevent tripping hazards.

- B5.** Where designated accessible parking stalls are located adjacent to a sidewalk, a curb ramp shall be installed within the access aisle.

For curb ramp requirements, refer to Section C. Pedestrian Crossings and Intersections.

Explanation: A curb ramp allows for safe and easy travel to and from accessible paths. The purpose of the adjacent curb ramp is to connect designated accessible parking areas to the accessible path of travel leading to the building entrance. The curb ramp shall be designed in accordance with section [Applicable section will be updated in final draft] of these standards.

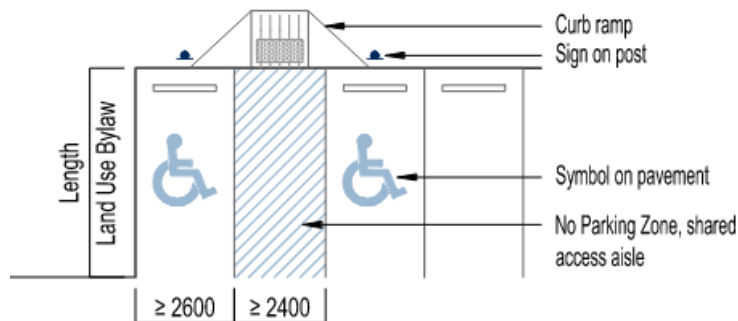
B6. [Revised] A designated accessible parking stall shall:

- a) be at least 2,600 mm wide and include an adjacent 2,400 mm wide access aisle, and
- b) have a maximum slope in any direction of 2%.

Explanation: Wider parking stalls and adjacent access aisles are needed because people who use wheeled mobility devices often enter vehicles through a side door that includes a platform lift or extendable ramp. These features require additional space for safe maneuvering. To ensure a stable and level surface, the slope should not exceed 2%.

Note: Applicable to 90-degree parking applications.

Figure B6 – Designated Accessible Parking Stall



B7. [New] Where a designated accessible parking stall is adjacent to a wall, the width of the parking stall shall be at least 2,850 mm wide.

Explanation: The increased width for a designated accessible parking stall located adjacent to a wall is to provide sufficient maneuvering space for people with disabilities.

B8. [New] Columns shall not be located between a designated accessible stall and the adjacent access aisle.

Explanation: Many wheelchair users enter their vehicles on the passenger side (right hand side) of a vehicle and many use a lift. It is possible to place two stalls

side by side and make use of a common access aisle. A column may interfere with a wheelchair user accessing or disembarking the vehicle.

- B9. [New]** Where assigned “Staff” and “Visitor” parking stalls are provided, designated accessible staff parking and visitor parking stalls shall be proportionately distributed in the development.

Note: *A rationale may need to be provided for the estimated number of designated accessible staff and visitor parking stalls based on expected usage.*

Explanation: *The equitable allocation of assigned designated accessible parking stalls for both staff and visitors acknowledge that both staff and visitors may require accessible parking. The Zoning Bylaw, with reference to the NBC(AE) 3.8.2.5. contains the requirements for the number of barrier-free parking stalls that shall be provided by The Development Authority.*

Parking Payment Machines

- B10.** Parking payment machines shall be colour-contrasted to the surrounding area.

Explanation: *Color contrasted parking payment machines help ensure that everyone can pay for parking easily and conveniently.*

- B11. [New]** Parking payment machines shall:

- a) be reachable from an accessible path of travel,
- b) include sufficient clear space of minimum 900 mm by 1500 mm in front of machines, and
- c) have the operable portion of machines be located 900 mm to 1100 mm above the ground.

Explanation: *Parking payment machines that are connected to accessible path of travel and include sufficient maneuvering space in front ensure that people using a mobility device will be able to pay for parking independently and without obstructing pedestrian traffic.*

Passenger Drop-off and Pick-up Zones

- B12. [New]** Accessible passenger drop-off and pick-up stalls should be provided at key public facilities such as recreation facilities, public libraries, and LRT and BRT stations.

Explanation: Accessible passenger drop-off / pick-up areas provide safe and easy access for people with disabilities.

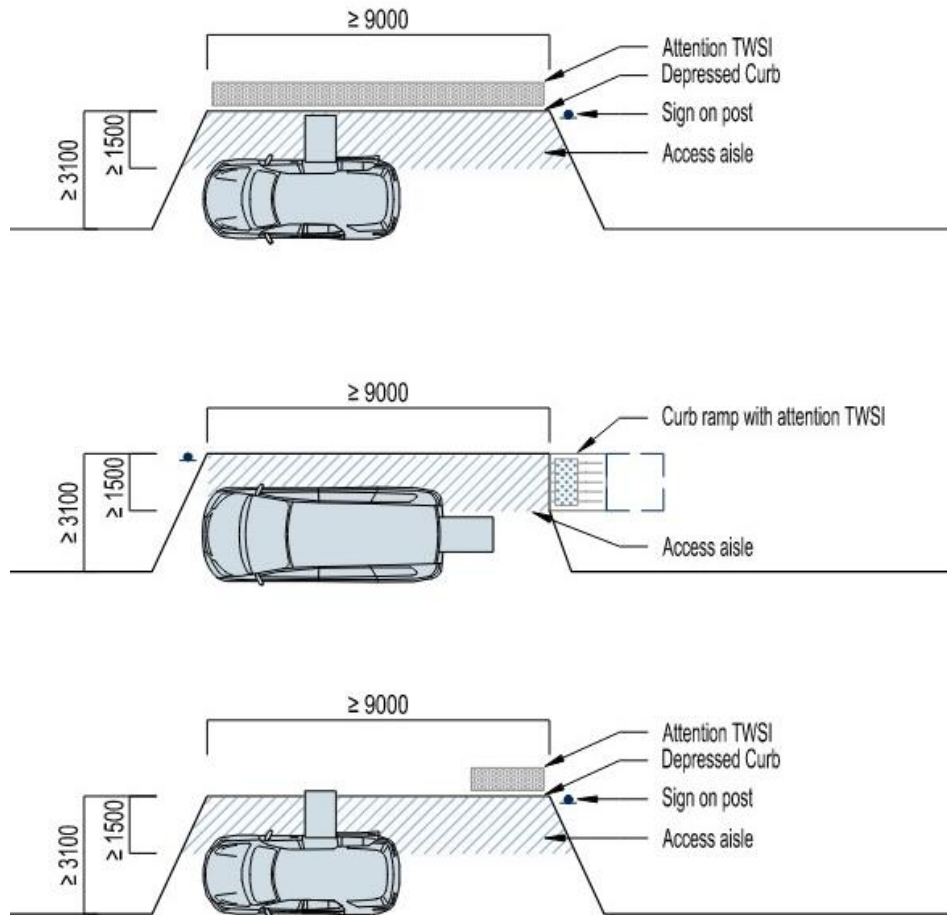
- B13. [Revised]** Where it is not feasible to position all designated accessible parking stalls within 50 m of entrances, an accessible passenger drop-off and pick-up stall shall be provided within 50 m of the building entrance.

Explanation: Accessible passenger drop-off / pick-up stalls (also called accessible loading zones) ensure that everyone can access a building or amenity entrance safely and conveniently. These are especially beneficial for people with mobility limitations, seniors, and people using strollers.

- B14. [Revised]** An accessible passenger drop-off and pick-up stall shall be provided with a side access aisle on the roadway that is:

- a) adjacent and parallel to the accessible path of travel,
- b) at least 3100 mm wide by 9000 mm long, and
- c) separated from the accessible path of travel by a curb ramp in accordance with *Section C. Pedestrian Crossings and Intersections*.

Note: Alternate configurations may be acceptable, depending on the specific site conditions.



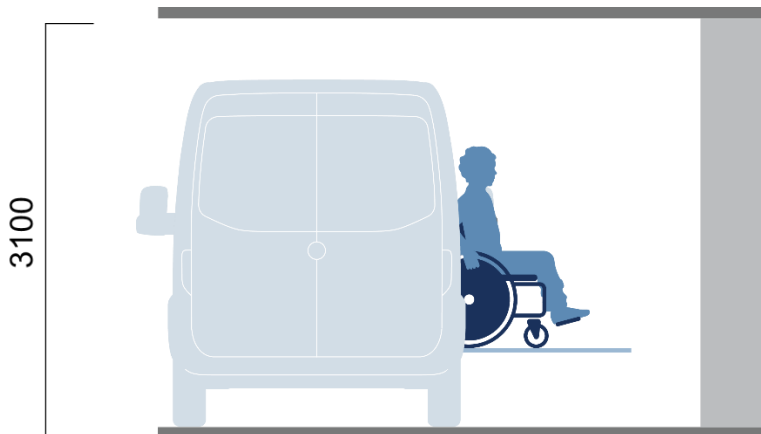
- B15.** Where an accessible passenger drop-off and pick-up stall is provided with a depressed curb, a tactile attention indicator shall be installed.

Explanation: Accessible passenger drop-off and pick-up areas allow passengers to get in and out of vehicles safely and conveniently. Correctly installed curb ramps or other transitions with tactile attention indicators ensures that people with low vision, no vision or who use mobility devices can safely access the adjacent accessible path of travel. Where possible, it is recommended that accessible passenger drop-off and pick-up areas are sheltered to provide protection from precipitation and to maintain a slip-free accessible path of travel.

- B16. [Revised]** In a parking garage where oversized vehicles are required to drop-off passengers, a minimum vertical clearance of 3100 mm shall be provided.

Explanation: The 3100 mm of vertical clearance ensures that Calgary Transit Access or other vehicles that people with disabilities frequently use have access to parking garages.

Figure B18: Parking Garage Passenger Pick-up & Drop-Off Clear height



Parking Signage

- B17. [New]** If the location of designated parking stalls is not clearly visible from a distance, directional signage conforming to CAN/CSA B651:23 9.4.4.1., Figure 69 b) shall be provided.

Explanation: Directional signage ensures safe and convenient navigation to accessible parking spots, especially for people with mobility limitations that are less able to meander to locate an entrance.

[Placeholder for new graphic]

- B18. [Revised]** The Dynamic Symbol of Access shall be painted on the pavement of all barrier-free parking stalls with non-slip paint and displayed with a vertically mounted sign conforming to the requirements of NBC(AE) 3.8.3.23.(1)(c).

Explanation: *Clear, accessible signage ensures that parking stalls are easily identifiable and accessible to people with disabilities. It is important that the international symbol of access painted on the stall does not occupy the entire area. The more painted surfaces there are, the more likely the parking stall may become slippery. RAL 5003 (Sapphire Blue) is the preferred paint colour.*

Refer to Figure B6.

C. Pedestrian Crossings and Signals

Well-designed crossings and signals safely direct pedestrians across the road. Elements such as accessible pedestrian signals, crosswalk markings, tactile attention indicators, and curb ramps are some ways that crossings provide safety and independence to people with disabilities. This section outlines The City of Calgary's standards for pedestrian crossings and signals.

Note: *The City of Calgary Street Manual should be consulted on all matters regarding public sidewalks and roads.*

Accessible Pedestrian Signals

Accessible pedestrian signals (APS) are devices that supplement traditional traffic signals, providing non-visual information to pedestrians. APS assists people with low vision and hearing loss to safely cross a signalized intersection. The APS acts as confirmation of the traffic walk indicator and as a directional indicator for people with low vision or blindness.

The City of Calgary Mobility determines the location and installs accessible pedestrian signs (APS) in compliance with the Transportation Association of Canada's "*Guidelines for Understanding, Use and Implementation of Accessible Pedestrian Signals*".

Calgarians can make requests APS installation by calling 3-1-1.

- C1.** Accessible pedestrian signals shall be located at all new signalized intersections that accommodate pedestrians.

Explanation: *In the general case, signals within the City of Calgary accommodate the crossing of pedestrians. However, some scenarios where no pedestrian facilities exist on the approach to the signal. These signals have no pedestrian heads, no activation push buttons and do not accommodate any pedestrians.*

- C2.** The sound cue shall be clearly audible above the ambient noise of the signalized intersection area.

Explanation: *Under normal conditions, the tones used shall be a chirp sound for crossing east/west and a cuckoo sound for crossing north/south. For safety and predictability, the two tones shall be consistent throughout the city.*

- C3.** One audible sound unit shall be installed at each end of a crosswalk.

- C4.** When the unit is operated, a tone shall sound for the full duration of the walk interval.
- C5.** Audible signal posts shall constantly emit a slow, intermittent temporal pattern of sound, which is distinguishable from the crossing signals. This sound will indicate the presence of the crosswalk and the location of the push button to a person with low vision and will serve as an audible beacon on the opposite side of the road.
- C6. [Revised]** Pedestrian push buttons shall be:
- a) adjacent to the accessible path of travel without obstructing it,
 - b) located on a pole 950 mm to 1250 mm above the ground and parallel to the sidewalk,
 - c) color contrasted to the surrounding materials,
 - d) able to be activated using any part of the arm or hand, and
 - e) have a clear area of minimum 900 mm by 1500 mm adjacent to or overlapping accessible path of travel.
- C7.** Tactile directional arrows shall be provided on or near push buttons and located in a standardized location at the crosswalks.

Explanation: *Providing a consistent location for tactile directional arrows ensures that people impacted by blindness and low vision can readily locate and rely on them to determine direction to cross the street.*

Note: *(1) The location of the pedestrian crossing push buttons should not be obstructed by street furniture or snowbanks. (2) The pole including the pedestrian push button should not be located on a curb ramp.*

Figure C7 – Pedestrian Signal Push Button



C8. [Revised] Pedestrian push buttons that activate visual pedestrian signals shall also operate the audible pedestrian indicators.

C9. [Revised] All traffic signals shall:

- a) be set to a pedestrian walk speed of maximum 1.1 m/s, and
- b) to include the entire length of the pedestrian crossing.

Explanation: *These standards align with the Transportation Association of Canada requirements.*

Raised Pedestrian Crossings

C10. Where raised pedestrian crossings are provided (e.g. parking lots, for traffic calming between buildings etc), they shall be designed so that the raised pedestrian crossing is at an elevation that is partially or fully raised between that of the sidewalk and the road. Some examples of when raised crossings are used include:

- a) fully raised intersection at all corners,
- b) single pedestrian crossings, such as a mid-block crossing,
- c) extended raised crossings within parking lots that provide direct access to building entrances, and
- d) other site-specific scenarios where raised crossings are deemed appropriate.

Explanation: The first design option introduces a slight elevation change, similar to a curb ramp, which can be detected by a person with low vision using a cane. While this requires wheelchair users to navigate a small grade change, it is less steep than a typical curb ramp. The second option preserves the smooth transition for wheelchair users and include a tactile warning surface, which alerts people with low vision identify the road crossing in advance.

Note: (1) Raised pedestrian crossings are commonly installed in front of entrances to recreation facilities. They are beneficial as they allow wheelchair users or those with hockey bags or strollers to cross a road without having to negotiate a change in elevation. However, they can be hazardous to people with low vision because the boundary between the sidewalk and the road can be difficult to detect with a cane. The first option above provides some semblance of a curb ramp that can be detected by people with low vision. (2) The City of Calgary Street Manual should be consulted on raised pedestrian crossings on roadways, including raised intersections.

All Raised Pedestrian Crossings

C11. [Revised] The following design elements should be consistently applied to all raised crossings:

- a) colour contrast crosswalk markings and edges,
- b) tactile attention indicators spanning the full length of the safe crossing point,
- c) connect to an accessible path of travel, and
- d) maximum cross slope of 2%.

Note: Other considerations may include the use of bollards or other vehicular barriers, pedestrian signals, and appropriate drainage solutions.

Curb Ramps

C12. [Revised] Curb ramps, including tactile attention surface indicators shall be constructed and installed in accordance with *The City of Calgary Standard Specifications Road Construction* or design bulletin.

Explanation: Tactile attention indicators are designed to alert people who are blind or have low vision that they are approaching the boundary between pedestrian walkways and vehicular areas.

[Placeholder for updated graphic]

- C13.** Curb ramps are required to be installed wherever an accessible exterior path of travel encounters a curb, such as at roadways, in accordance with *The City of Calgary Standard Specifications Road Construction*.

Explanation: *This applies whether the path encounters a rolled curb or a standard curb. A rolled curb is difficult for mobility device users and is not considered accessible. A depressed curb is accessible and considered compliant without a curb ramp.*

- C14. [Revised]** Curb ramps shall be installed to align with the direction of travel and with the corresponding curb ramp on the opposite side of the crossing.

Explanation: *Sometimes due to the shape of the curb or traffic safety requirements, it is not possible to align the curb ramp directly perpendicular to the street. In such cases, the ramp should still lead into the marked crosswalk and be positioned as close as possible to a right angle with the direction of traffic.*

- C15.** A level surface of 1500 mm by 1500 mm shall be maintained on the sidewalk behind a curb ramp.

Explanation: *A level surface measuring 1500 mm by 1500 mm provides sufficient space for a wheelchair or other mobility device user to wait for pedestrian traffic to clear before proceeding down the curb ramp. Where curb ramps are path of a continuous pathway across the street, they should be aligned to maintain visual and directional continuity.*

Note: *Where the entrance is on a street without an existing concrete sidewalk, refer to The City of Calgary Parks and Open Spaces Development Guidelines and Standard Specifications (DGSS) - Landscape Construction Detail Sheet #34 for the required design of an asphalt accessible ramp (referred to in the DGSS as “Wheelchair Curb Ramps”) with a depressed concrete curb.*

- C16.** Drainage shall be designed to prevent water and snow accumulation at the bottom of curb ramps.

D. Exterior Paths of Travel

All Calgarians should be able to use exterior paths of travel in the city safely, conveniently, and independently. Exterior paths of travel should be level or gently sloped and wide enough to accommodate all site users including people who use wheelchairs or other mobility devices needing to pass one another, two people communicating through sign language side-by-side and those traveling with a caregiver or a service dog. This section outlines The City of Calgary's standards for exterior accessible paths of travel and areas on the property of City-owned buildings, facilities and outdoor public amenities.

Exterior Accessible Path of Travel

- D1. [New]** An exterior accessible path of travel shall be provided that connects all outdoor facilities, amenities, accessory buildings, and program areas.

Note: *Some examples of facilities, outdoor amenities, accessory buildings and program areas include washrooms, a pool, playground, fitness area, basketball courts, seating, drinking fountains and more.*

- D2. [Revised]** Exterior accessible paths of travel shall have a minimum clear width of 1600 mm.

Explanation: *The NBC(AE) 3.8.3.3(1)(b) requires exterior barrier-free paths of travel to be no less than 1600 mm wide. This requirement also aligns with the CAN/CSA B651:23 Accessible Design for the Built Environment.*

Note: *In high traffic pedestrian areas, a clear width of 1800 mm or greater is recommended for exterior paths of travel.*

[Placeholder for new graphic]

- D3.** Exterior accessible paths of travel shall have surfaces that are firm, stable and slip resistant.

Note: *Generally, outdoor surfaces such as pavement, stones, crushed and compacted stone, and rubberized surfaces are firm and stable. Sand, pea gravel and wood chips/mulch are not firm and stable and should not be used. If required, the consultant may be asked to demonstrate a chosen product is firm (does not compress underfoot) and stable (endures weather conditions and does not shift).*

- D4. [New]** Where colored surface materials are applied to an exterior accessible path of travel, the color shall be applied in such a way to define the path of travel.

Explanation: *Color contrast is an effective strategy to support wayfinding for all pedestrian path users and especially people with vision loss. Busy and heavily patterned surfaces should be avoided as these can be visually confusing and disorienting.*

- D5.** Where an exterior accessible path of travel passes behind a loading or garbage pick-up area, audible and visual warning signals shall be installed.

Explanation: *Audible and visual warning signals alert people who are blind, have low vision, or are deaf or hard of hearing to the potential hazard of vehicles frequently backing up (e.g. driveways leading to underground garages). When the accessible path of travel conflicts with vehicle routes in unexpected ways, pedestrians must be made aware of a potential conflict by multi-sensory means.*

Note: *Other strategies that could be applied include color contrast and Tactile Warning Surface Indicators (TWSIs), depending on the condition.*

Exception: *Back lanes are an exception.*

- D6. [New]** Exterior accessible paths of travel shall:

- a) be well-drained to prevent the accumulation of snow, ice and water, and
- b) ensure that water from building downspouts and other drainage systems does not flow across them.

- D7. [New]** Stairs are prohibited on an exterior accessible path of travel, unless an adjacent sloped walk or accessible ramp is provided.

Explanation: *Stairs are not accessible to all users.*

Note: *Refer to Section XX.*

- D8.** Where necessary for a slope to be 1:20 (5%) or greater, a ramp shall be provided complying with *Section G. Ramps, Stairs, Elevators and Lifts*.

- D9.** Where an exterior accessible path of travel is directly adjacent to a vertical drop, edge protection shall:

- a) not be required for a standard road curb, and
- b) provide an edge barrier of at least 75 mm where the vertical drop ranges from 75 mm to 600 mm.

Note: Edge protection can be accomplished by several means (e.g. a concrete lip, raised landscape edging, or similar feature).

- D10.** Where a vertical drop is adjacent to an exterior accessible path of travel is greater than 600 mm, a guard shall be installed in accordance with NBC(AE) 3.4.6.6.

Obstructions and Clearance

- D11. [Revised]** Exterior accessible paths of travel shall be free and clear of obstructions.

Explanation: Pathway obstructions such as chains, cables, ropes, lamp posts, tree gates, trees, signposts, transformers, mailboxes, newspaper stands, trash containers, planter boxes, bus shelters, benches “sandwich boards” overhanging rails etc. may present potential hazards for all pathway users, especially people with limited mobility, low vision or blindness.

- D12. [New]** Refer to ADS XX for protruding objects along the exterior accessible path of travel.

- D13. [Revised]** The headroom clearance on an exterior accessible path of travel shall be no less than 2100 mm.

Explanation: Any overhead design or natural elements (e.g. tree branches) can present a hazard for path users, especially people with low vision or blindness. Headroom clearance of at least 2100 mm avoids creating a hazard for all people moving along an exterior pathway. For example: Snow can adversely lower branches to the extent that they become a hazard.

Figure D13 – Exterior Path of Travel Vertical Clearance



Dimension to be added to figure.

- D14. [Revised]** Guy wires located along an accessible path of travel shall be clearly distinguished from the surrounding areas by color-contrasted materials.

Explanation: Guy wires located outside the exterior path of travel and color contrasted from the surrounding area help protect against trips and falls for all pedestrian path users, especially people with low vision and those with blindness.

- D15.** Unless prevented by site constraints, manhole covers, tree grates, electrical vaults and other access covers or grates shall be placed adjacent to exterior paths of travel. The gratings shall have a maximum clear opening of 13 mm.

Explanation: The long dimension of the openings shall lie perpendicular to the path of travel. If small solid plates (like footprints) are placed in the direction of pedestrian traffic and spaced to accommodate an average stride, a person wearing high heels can cross gratings safely. Some gratings on electrical vaults may be larger (openings no larger than 20 mm wide by 90 mm long are permitted to meet transformer ventilation requirements, as specified by ENMAX).

Figure D15.1 – Grate Opening Width

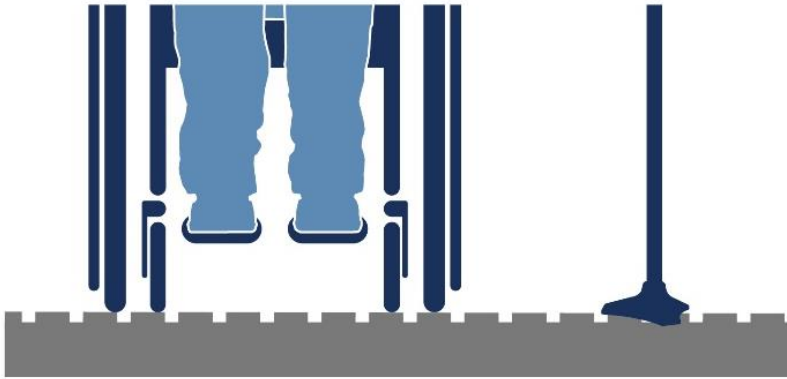
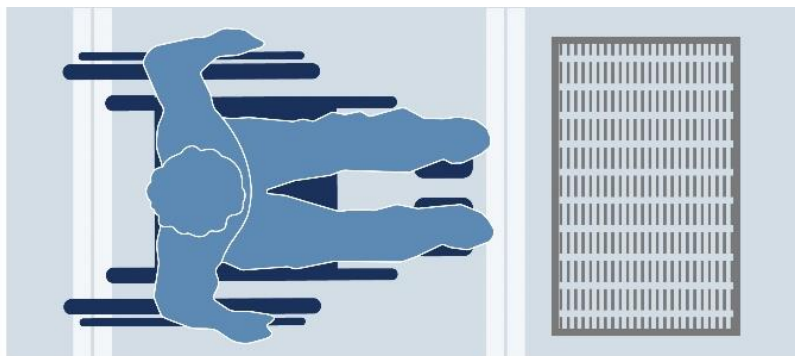


Figure D15.2 – Electrical Vault Grates



- D16.** Where bollards or posts are located along an accessible path of travel (or a public space), a minimum clear width of 1200 mm shall be provided.

Explanation: A clear width of at least 1200 mm will allow safe passage through for wheelchair users and other mobility device users. It also provides clearance for parents pushing variable stroller sizes.

Figure D16 – Clear Width Between Bollards



[Dimension for graphic to be added]

D17. [Revised] The minimum height of bollards and posts shall be 800 mm. Bollards and posts shall color contrast to the surrounding area.

Explanation: *A minimum height of 800 mm for bollards and posts and color contrast ensures that these are not a hazard for people with vision loss.*

D18. Where the entrance to a pathway connects to a street or sidewalk, refer to The City of Calgary Parks and Open Spaces: Development Guidelines and Standard Specifications (DGSS), Detail sheets #31, #32 and #33, for instructions on providing bollards.

D19. Chains, cables, or ropes shall not be installed in an accessible path of travel.

Explanation: *This is to ensure that chains, cables or ropes do not present a hazard or barrier for people with disabilities.*

D20. [New] Where bicycle parking is provided, it shall be located such that bicycles do not protrude into the accessible path of travel.

D21. [New] The bicycle parking area shall colour contrast to the surrounding surface.

Explanation: *Colour contrasted areas help define the parking area for all pathway users, especially people with low vision.*

Parks, Pathways, Trails, and Boardwalks

All relevant sections of the ADS, along with the standards listed below apply to City of Calgary parks, pathways, trails, boardwalks and amenities. Where applicable, amenities within parks or along pathways, trails, and boardwalks shall be accessible to all users. However, some natural areas may not be fully accessible due to terrain or environmental constraints.

For detailed instructions and standards on achieving this intent, refer to The City of Calgary Parks and Open Spaces: Development Guidelines and Standard Specifications (DGSS) alongside the ADS.

- Refer to ADS XX for Exterior Stairs and Ramps
- Refer to ADS XX for Outdoor Seating Areas
- Refer to ADS XX for Accessible Play Spaces

- Refer to ADS XX for Sanitary Facilities
- Refer to ADS XX for Drinking Fountains

Parks

D22. [Revised] All parks shall provide an exterior accessible path of travel to amenities and experiences.

Explanation: *Connecting an exterior accessible path of travel to other accessible areas of a park such as play spaces, picnic areas, washrooms etc. ensures that people with disabilities can participate equitably in City parks.*

Exception: *Providing an exterior accessible path of travel within a park does not mean that every path of travel within a park must be accessible. For example, naturalized areas where natural topography may prevent the development of an accessible path of travel.*

For requirements for Exterior Stairs, refer to Sections G. Ramps, Stairs, Elevators and Lift.

D23. [New] Where directional signage is provided, it shall be strategically placed to identify the locations of accessible amenities, such as accessible eating areas, playgrounds, washroom facilities, and parking.

D24. [New] Signage provided in outdoor parks that includes points of interest, warnings and other important information shall include raised characters that colour contrast against the sign's background in accordance with ADS XX.

D25. [New] Horizontally oriented sign surfaces containing points of interest, warnings and other important information shall be installed 860 mm above the ground and tilted.

Explanation: *Horizontally oriented signs are often used in park settings for interpretive purposes. It is important that they are positioned such that wheelchair users can see the information, which also provides visibility to people of shorter stature. It is also important to ensure there is adequate lighting to highlight signage when daylight is not available.*

Figure D25 – Horizontal Signs



Pathways

A pathway is a hard surfaced, typically asphalt, off-street route. This definition is consistent with *The City of Calgary Parks and Open Spaces: Development Guidelines and Standard Specifications (DGSS)*. Pathways can be part of either the regional pathway system or a local pathway.

- D26. [New]** Pathways shall be constructed per The City of Calgary Parks and Open Spaces: Development Guidelines and Standard Specifications (DGSS).
- D27.** Pathways shall be designed to drain water appropriately, to avoid puddles and ice build-up.
- D28.** Where provided, maze gates shall be designed to provide 1500 mm by 1700 mm clear space for a mobility device user to turn around.
- D29.** Guards shall be installed per the DGSS Detail Sheet #30: Pathway Guard Rail and meet cane detectability requirements.

Refer to ADS XX for cane detectability requirements

Explanation: *To ensure wayfinding for people using a long white cane, any object, such as a guardrail must have its bottom edge mounted at or below 685 mm from the ground. Guardrails that do not meet this requirement create barriers and are not considered accessible.*

- D30.** Where pathway signage is provided, it shall meet the requirements of ADS XX.

Multi-Use Pathways

The City of Calgary 5A Network, Always Available for All Ages and Abilities, is a pathway and bikeway system supporting active transportation across the city. Its goal is to provide safe, accessible and reliable year-round travel options for everyone, including people with disabilities. It aims to eliminate barriers by separating users by speed and strengthen pathway connections within the city, encouraging active transportation for all.

D31. An accessible path of travel that is shared with other users, such as cyclists and e-scooter riders, should:

- a) separate or delineate activities by their speed (in alignment with the 5A design principles),
- b) provide separation by grade, curbs, bollards or other physical means, and
- c) designate separate paths by signage (on grade and on posts).

Trails

Trails are unpaved linear paths designed for non-motorized recreational use within park-wide networks. Trail networks include any bridges or structures connected to the trails. These trails typically have a granular or compacted dirt surface to minimize environmental impact. This definition is consistent with *The City of Calgary Parks and Open Spaces: Development Guidelines and Standard Specifications (DGSS)*.

Unlike other exterior pathways, trails are not considered primary routes. Because of their surfacing and topography, some trails may only be accessible along certain sections. When designing accessible portions of the trail, it is important to consider the distance to parking lots, accessible entrances and exits, and exterior accessible paths of travel, amenities, and experiences.

Note: *Trail information should be provided at strategic locations including entrances, exits, decision points, and trailheads to describe typical trail conditions, including:*

- a) *length,*
- b) *average and minimum trail width,*
- c) *average and maximum running and cross slopes,*
- d) *surface type,*
- e) *extreme or unique conditions (e.g. steep slopes, obstacles, or narrow widths), and*
- f) *features, points of interest, and amenities along the trail.*

D32. Trails shall be designed as per The City of Calgary Parks and Open Spaces: Development Guidelines and Standard Specifications (DGSS).

D33. The accessible section of a trail shall meet the requirements of *ADX XX*.

D34. [New] Where trail signage is provided, it shall:

- a) be designed in accordance with *ADS XX*,
- b) have a glare-free surface,
- c) be consistently shaped, coloured, and positioned when used to convey the same type of information,
- d) be colour contrasted with its background, and
- e) provide necessary directional information at appropriate locations along the trail.

Boardwalks

D35. [New] Boardwalk surfaces shall be firm, stable and slip resistant.

D36. [New] Surface openings shall:

- a) not allow passage of an object that has a diameter of more than 13 mm in any direction, and
- b) any elongated openings are oriented perpendicular to the direction of travel.

E. Exterior Areas & Features

Accessible Play Spaces

Accessible play spaces should be integrated into a variety of outdoor public settings including parks, schools, childcare centres, recreation facilities and community associations. These inclusive spaces ensure that children and youth with disabilities have equitable access to meaningful play, peer interaction and opportunities for social development. It also fosters connections between parents of children with disabilities, contributing to reduced isolation and stigma and to building resilient communities.

Refer to ADS XX for exterior accessible paths of travel

Refer to ADS XX for accessible seating and benches

- E1. [New]** Where a play space is provided, at least one piece of play equipment or 20% of play equipment (whichever is more) shall be accessible.

Explanation: *Regardless of ability, City play spaces should be accessible to all children.*

- E2.** The ground surface around and beneath the accessible play equipment, shall be accessible.

Note: *A common example of an accessible play surface is poured-in-place rubber. For more information about safe and accessible playground surfaces, refer to CAN/CSA Z614:20 “Children’s playground equipment and surfacing” may be consulted for accessible surface materials.*

Figure E1 – Accessible Play Equipment



E3. [New] For designated inclusive play spaces, accessible play spaces and features shall conform to CAN/CSA Z614-20 “Annex H Children’s playground equipment and surfacing” that are accessible to people with disabilities.

Note: *The City of Calgary’s Inclusive Play Spaces Implementation Plan defines inclusive play spaces as areas designed to accommodate all users (e.g. people with disabilities, caregivers etc). For guidance on designing new or upgraded accessible play spaces, refer to:*

- Inclusive Play Spaces Implementation Plan (defines inclusive playgrounds), and
- Parks Development Guidelines and Standard Specification Landscape Construction

Figure E3 – Example Accessible Play Equipment



Service Dog Relief Areas

People who rely on the support of service dogs should have access to safe and well-maintained service dog relief areas when accessing City buildings and facilities. Service dog relief areas should be accessible to all people including wheeled mobility device users and should be located close to a building's main accessible entrance and connected to an accessible path of travel. A well-designed service dog relief area should be equipped with waste receptacles, pick-up bags, and a surface that drains well. This section applies to exterior service dog relief areas and to high-use and high-occupancy buildings where people are expected to stay for extended periods. Examples include recreation facilities, public libraries, transit stations, office buildings, and other facilities without nearby landscaping.

Note: Interior service dog relief areas should be considered in facilities where re-entry may not be permitted such as at an event, theatre performance, or large buildings where there is a significant distance to the exterior environment.

E4. [Revised] Where provided, a service dog relief area shall be located within 50 m from the main entrance of a building and connect to an accessible path of travel.

E5. [Revised] A service dog relief area shall be a minimum 3.0 m by 3.0 m in area.

Explanation: The service dog relief area should allow for a 3000 mm diameter circle within allowing a service dog to circle its handler prior to relieving itself.

[Placeholder for updated graphic]

E6. The surface of the service dog relief area shall be level, firm, stable, slip-resistant and easy to clean.

Note: Preferred surface materials include hard-packed gravel, grass, or sand.

- E7. [New]** Service dog relief areas shall be equipped with pick-up bags and waste receptacles.
- E8. [New]** Waste receptacles shall:
- a) be located adjacent or connected to the accessible path of travel,
 - b) be securely fastened to the ground, post or wall,
 - c) have the open or lid at a height between 900 mm to 1100 mm above the ground,
 - d) provide a clear area of at least 900 mm by 1500 mm, centred along either the short or long edge of the receptacle,
 - e) have the opening or lid be cane detectable to the ground, and
 - f) be colour contrasted from surrounding environment.
- E9. [New]** A tactile sign conforming to NBC(AE) 3.8.3.9.(2)(a) shall be provided at the entrance to the relief area.
- E10. [New]** All letters, numerals, pictograms and symbols on the tactile sign shall conform to ADS XX.

Refer to ADS XX for signage requirements

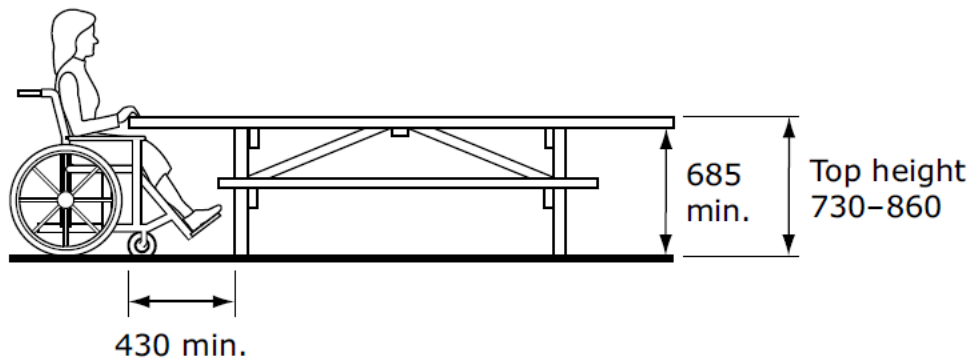
Outdoor Tables

- E11. [New]** Where outdoor tables (e.g. picnic tables) are provided, a minimum of one table shall be accessible or 20% of the total number of tables shall be accessible, whichever is more.
- E12. [Revised]** Accessible outdoor tables shall:
- a) connect to an accessible path of travel,
 - b) be installed on a level and firm surface, with an unobstructed area that extends at least 2000 mm on all sides,
 - c) provide knee clearance under the table at least 800 mm wide by 430 mm deep by 685 mm high, and
 - d) be color contrasted from the surrounding area.

Note: Any outdoor table that complies with the Americans with Disabilities Act (ADA) is considered to meet the requirements of the Access Design Standards.

[Placeholder for new graphic]

CAN/CSA B651:23 Figure 64 a) (p. 254) reference below.



Outdoor Seating Areas

Where outdoor seating is provided, it is essential to include accessible seating options. Accessible seating should be located on a stable, level surface with adjacent clear ground or floor space to accommodate wheelchair users, mobility devices, strollers, or service dogs. Some wheelchair and other mobility device users may choose to transfer onto a bench or seat.

Where outdoor seating is provided along a pathway or trail, it is recommended to provide seating at intervals of no more than 30 metres along an accessible path of travel.

E13. [New] In outdoor seating and rest areas, at least one seat (or bench), or 20% of the total seating, whichever is greater, shall be accessible.

Exception: In Calgary Transit Areas, all outdoor seating should be accessible.

E14. [Revised] Accessible seating and benches shall:

- a) be located on a firm, level surface and located adjacent to an accessible path of travel. *Refer to ADS XX for Exterior Accessible Paths of Travel*
- b) be pitched to shed water but not drain out onto exterior pathway surfaces where surface water or ice may create a hazard,
- c) include seat surfaces and vertical supports designed to avoid accumulating snow and debris,
- d) provide back support, such as a backrest, where not affixed to a wall,
- e) have a seat height located between 430 and 485 mm above the finished floor or ground,
- f) have armrests installed 200 mm above the height of the seat pan,
- g) provide heel space,

Note: Providing adequate heel space can support easier movement when rising from a seated position easier. This consideration should be integrated into the design of accessible seating.

- h) provide colour contrast against the surrounding area, and
- i) have an adjacent clear ground or floor space at least 900 mm by 1500 mm,

Explanation: Clear space adjacent to seating provides space for a wheeled mobility device user and for a service dog to rest.

[Placeholder Graphic]

- E15. [New]** In all areas where seating is provided, a mix of seating types (e.g. some with backrests, some with armrests, and some with both) should be provided.

Explanation: Providing a mix of seating styles benefits a wide range of users. Features like backrests and armrests can support older adults, people with temporary disabilities, people with balance or strength limitations, and caregivers. A variety of seating options also allow users to choose what best suits their comfort and functional needs, promoting inclusion and universal design.

Refer to ADS XX for benches in dressing and shower rooms.

Refer to ADS XX for seating in assembly areas.

Outdoor Patios and Balconies

In addition to general requirements for outdoor seating areas, the following standards are applicable to outdoor patios and balconies.

Refer to ADS XX for Outdoor Seating Areas

- E16. [New]** All outdoor patios and balconies located on roadways and rights-of-way shall follow “The City of Calgary Guidelines for Seasonal Patios” on public property.

Note: If there is a conflict between the Guidelines and ADS, the most accessible option should be chosen.

- E17.** Exterior patios and balconies shall connect to an accessible path of travel.

- E18. [New]** Doors opening onto patios and balconies shall meet the requirements of ADS XX.

- E19. [New]** Where there is a threshold at a patio or balcony, it shall conform to the NBC(AE) 3.8.3.6.(17)(d) and 3.8.3.2.(3)(e).

Explanation: Level thresholds are preferred; however, where the threshold is between 6 to 13 mm, it shall be beveled at a slope not steeper than a ratio of 1:2 (50%).

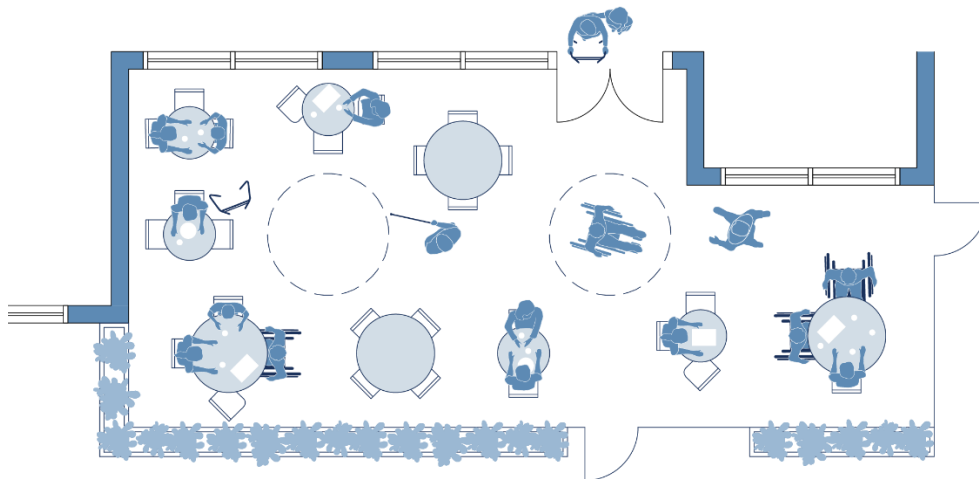
- E20. [New]** A minimum clear turning circle of 2100 mm shall be provided at transition points.

Note: A transition point refers to any location where a change in direction occurs. Examples of transition points include intersections or junctions of pathways and entry or exit points.

Explanation: A 2100 mm turning circle ensures that a wheelchair user can turn around and change directions safely and independently, providing equitable access and use to wheeled mobility device users.

- E21. [New]** Where seating is provided, 20% of seating shall be accessible. Refer to ADS XX for Outdoor Seating.

Figure E22 – Example of Exterior Patio Area



- E22. [Revised]** Where provided, any obstructions (e.g. planter boxes, umbrellas etc.) shall not project into the accessible path of travel. Headroom clearance shall be no less than 2100 mm.

Note: Refer to ADS XX for requirements on obstructions.

E23. [New] Where a railing or guard is installed, it shall color contrast from the surrounding environment.

F.Entrances, Exits, Doors and Doorways

The main entrance to a building should be easy to locate and include safe entry and exit for all users. The building entrance doors should be easy to identify and operate, and wide enough to accommodate all users. Seasonal weather conditions, such as strong winds and drifting snow, should also be mitigated in the design of building entrances.

Entrances, exits, doors and doorways connect exterior paths of travel to interior paths of travel, and therefore must be barrier-free. The standards below have been developed to reduce barriers, ensuring that these architectural features are accessible and usable to all users.

This section outlines The City of Calgary's standards for entrances, exits, and doors and doorways of City-owned buildings, facilities, and outdoor public amenities (parks, transit stations, etc.).

Accessible Entrances

Entrances include all access and entry points into a facility. An entrance includes the approach and paths leading to the facility, the components of the entrance itself and transition between exterior and interior environments.

F1. [Revised] Every entrance to a building shall be accessible.

Explanation: *The NBC(AE) 3.8.2.2. requires all pedestrian entrances of a building to be barrier-free and applies to assembly, business, and personal services and mercantile occupancies. For City of Calgary buildings, all pedestrian entrances (including public and employee entrances) shall be barrier-free.*

Exception: *Service entrances, buildings listed under "the Application of these standards", as well as buildings listed under NBC(AE) 3.8.2.1. are not required to meet this requirement. Where feasible in the design of new buildings or additions, service entrances should also be designed barrier-free, as people with disabilities may be employed and need access to these spaces.*

Figure F1 – Accessible Entrances



- F2. [New]** Entrances shall be designed to be easily identifiable, with door frames and doors contrasting in color from the surrounding façade.

Explanation: A recessed entrance makes it easier for a person with vision loss to detect and locate. It can also create an acoustically different space. Color contrasted doorways and doors enhance the visibility of the entrance for all building users, especially people with low vision.

Note: Crime Prevention Through Environmental Design (CPTED) is a multi-disciplinary approach to designing safe buildings and natural environments. Lighting is one component of designing safe exterior spaces. Appendix XX of these standards should also be consulted when designing building entrances.

- F3. [Revised]** Drainage shall be directed away from building entrances.

Explanation: Well-drained areas can prevent the accumulation of ice and water which helps ensure a slip-resistant surface at building entrances, enhancing safety for all users.

Entry Seating

- F4. [New]** Where a building has a passenger pick-up and drop-off area, the building entrance shall provide a seating in accordance with ADS XX.

Signage

- F5. [New]** If the main entrance of a building is not easily identifiable, directional signage to the main entrance shall be provided. Directional signage shall be designed in accordance with *ADS XX*.
- F6. [New]** All accessible entrances are required to have signage in accordance with NBC(AE) 3.8.2.10.

Refer to ADS XX for additional requirements and information.

Exits

- F7.** All exits that can be reached by a person in a wheelchair shall connect to an accessible exterior path of travel.

Refer to ADS XX for ramps at exits, latch clearances, and maneuvering clearances.

Explanation: *In emergencies, all occupants should be able to evacuate quickly and safely. Stairs do not provide accessible exits for everyone. Accessible exits to the exterior, such as those provided with a ramp, ensure that people who use wheelchairs and other mobility devices can exit safely.*

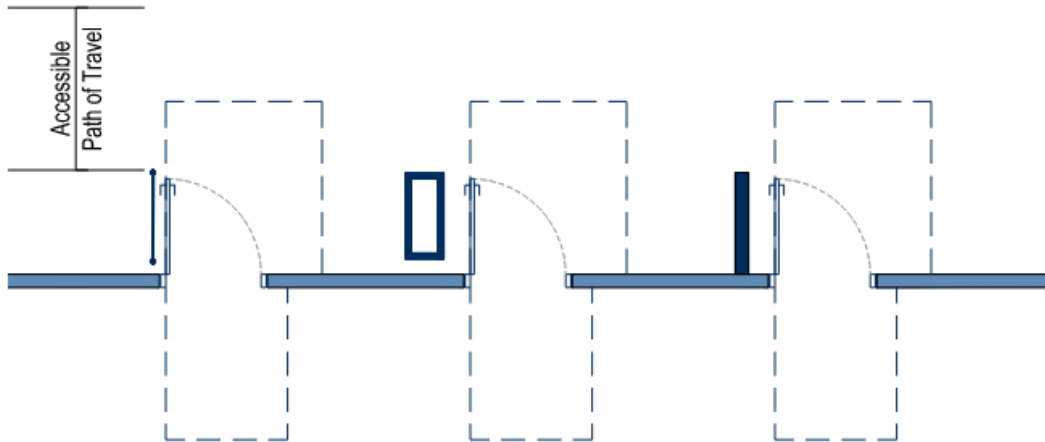
Exception: *Residential occupancies, where other requirements apply.*

Doors and Doorways

- F8. [Revised]** Where doors are not recessed and swing into the accessible path of travel, a cane detectable guard, or other type of barrier shall be installed. The guard shall:
- a) be located on the pull side of a swing door, and
 - b) meet the requirements of *ADS XX* for cane detectable features.
 - c) extend the full width of the door, plus an additional 50 mm, and
 - d) colour contrast from its surroundings.

Explanation: *A cane detectable feature such as a guard or planter, ensures that people who are blind or with low vision do not walk into an opening door.*

Figure F9 – Examples of Door Guards



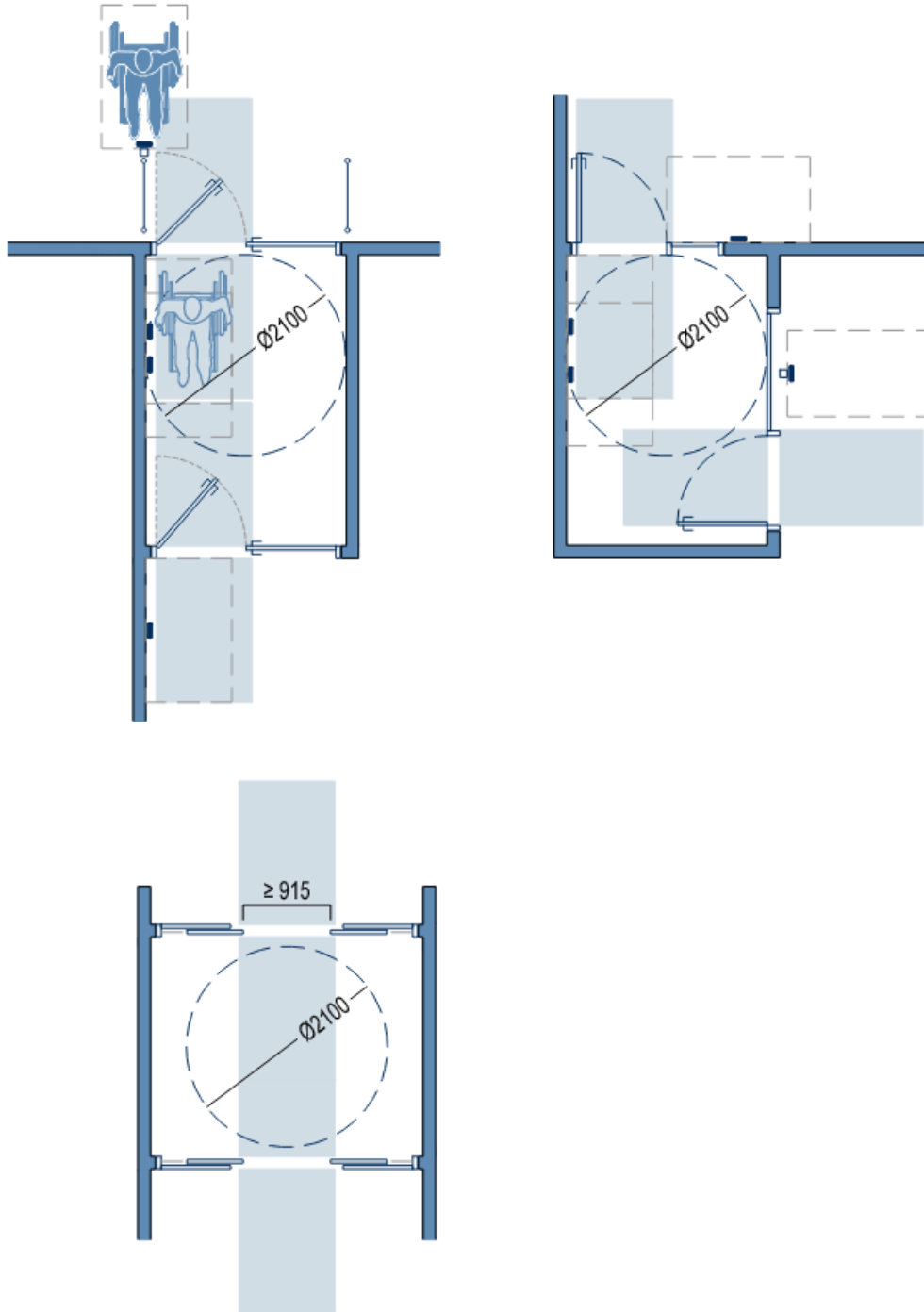
- F9. [Revised]** When turnstiles or revolving doors are provided, a swing door with an automatic power operated door shall be placed immediately to one side of the revolving door or turnstile.

Note: Turnstiles and revolving doors are not recommended at building entrances or within a building, as these door types may not be accessible to people who rely on service dogs for navigation or people impacted by blindness that may find it difficult to locate a moving door. The NBC(AE) 3.3.1.24.(1) and 3.4.6.15. Revolving doors should be consulted.

- F10. [New]** Where entry vestibules are provided along the accessible path of travel, it shall (refer to Figure XX):
- a) have a minimum distance of 2100 mm, plus the width of any door that swings into the space,
 - b) have a minimum clear width of 2100 mm, and
 - c) meet the requirements of ADS XX, where power door operator controls are provided.

Note: The type of surface materials within vestibules or near entrances should be considered, as weather conditions may make these surfaces more slippery. Permanent inlaid mats can help prevent slippery surfaces.

Figure F11 – Examples of Entry Vestibule Configurations



F11. [Revised] In any set of two or more doors or gates, the door opening shall alternate between right- and left-hand operation.

Explanation: If an entrance has three doors, there shall be one set of double doors, and the third door can be hinged on either the left- or right-hand side.

- F12. [Revised]** Room entrances with an L-shaped configuration shall provide a minimum clear floor area of 1700 mm by 1500mm to allow a wheelchair to turn the corner easily.

Explanation: *L-shaped entrances are often used at the entrances to washrooms or locker rooms. L-shaped entrances (also known as “screen wall” or “privacy wall”) are preferred wherever possible, as no doors or powder door operators are required. This type of entry configuration should be as wide as possible to enable easy wheelchair access, egress, and the passing of people. Garbage cans and other obstructions shall not be in the path of travel of an L-shaped entrance. Where the room or space serves a high volume of people, consider increasing this area to 2100 mm by 2100 mm.*

- F13. [New]** Doors and door frames shall contrast in color from the surrounding area.

Explanation: *Color contrasted doorways and doors enhance the visibility of the entrance for all building users and especially people with vision loss.*

- F14. [New]** Kick plates that are at least 250 mm high shall be located on the push side of swing doors located in high traffic areas.

Glazed Doors

- F15. [New]** Glazed doors (interior or exterior) and sidelights shall include color contrasted markings along the entire width. The markings shall be a minimum of 100mm wide and mounted between 1350 mm and 1500mm above the floor.

Explanation: *Color contrasted markings help building users to identify main entrance doors, especially people with vision loss. The colour contrasted markings can be achieved through mullions, markings or other elements.*

Exception: *Markings are not required if a guard rail is installed or required by code.*

Note: *(1) A secondary strip can be mounted between 850 mm and 1000mm above the floor. (2) Incorporating continuous color-contrasted markings at two levels along the full width of glazed doors achieves the optimal level of accessibility for people with vision loss and should be included in large scale facility projects. Refer to NBC(AE) 3.3.1.20. for additional requirements.*

[Placeholder for updated graphic]
CNIB Clearing Our Path graphic for reference below.



Clear Width and Maneuvering Space

F16. [New] The minimum clear opening width for a door or doorway along the barrier-free path of travel shall be 915 mm, measured as per NBC(AE) 3.8.3.6. This includes the following locations:

- a) building entry doors,
- b) exit doors,
- c) fire doors,
- d) smoke doors,
- e) sliding doors,
- f) interior swing doors, and
- g) gates.

Explanation: A clear door width of 915 mm improves the accessibility for larger mobility devices to pass through doorways. The NBC(AE) requires a clear door width of 915 mm for physician clinics and offices that provide services to the public. As the City of Calgary also provides a variety of public services, alignment with a 915 mm door width provides greater ease of access for everyone.

Note: The clear width noted above can typically be achieved by most doors that are 965 mm wide (38") doors. In some instances, a 1065 mm wide (38") door or wider may need to be used to meet this requirement.

F17. [Revised] Unless equipped with power door operators, doors located along the barrier-free path of travel shall provide the following maneuvering clearances:

- a) provide a minimum clearance of 600 mm on the pull side of a swing door in accordance with NBC(AE) 3.8.3.6.(11), as well as a minimum clear floor space for maneuvering of 1600 mm x 1700 mm measured from the hinge side of the door. Refer to *Figure XX*.

- b) provide a minimum clearance of 300 mm on the push side of a swing door in accordance with NBC(AE) 3.8.3.6.(11), as well as a minimum clear floor space for maneuvering of 1300 mm x 1500mm measured from the hinge side of the door. Refer to *graphic XX*.
- c) provide a minimum clearance of 300 mm on either side of a sliding door, and on both sides of the doorway, in addition to the clear floor space for maneuvering of that is measured 1600 mm perpendicular to the door. Refer to *graphic XX*.

Note: *The maneuvering clearances provided are minimum requirements and require the door size and latch clearances to be considered for the maneuvering space to be identified.*

[Placeholder for updated graphic]

Power Operated Doors

F18. [Revised] Power operated doors are required for the following door locations:

- a) building entrances, as per 3.8.2.7.(1)(a) and 3.8.2.7.(3);
- b) universal washrooms, as per NBC(AE) 3.8.2.7(1)(c);
- c) universal dressing and shower rooms;
- d) multi-user washrooms with accessible stalls, as per NBC(AE) 3.8.2.7(1)(c);
- e) accessible shower rooms;
- f) accessible changing room or family changing room;
- g) locker rooms;
- h) large multi-purpose rooms, board rooms, classrooms, or training rooms serving 30 or more people;
- i) fitness rooms; and
- j) assembly seating areas (e.g. theatres, arenas).
- k) staff kitchens;
- l) doors leading into rooms providing access to essential services, programs and highly used work support areas;
- m) doors within corridors along the barrier-free path of travel, as per NBC(AE) 3.8.2.7.(1)(b);
- n) roof top terraces;

Explanation: *Door controls and devices including control for power door operators and door opening devices (hardware) enhance the usability of doors for all individuals to navigate through a building. Power operated doors help to provide independent use of doors without relying on the assistance of others.*

Note: Where feasible, rooms without doors are preferred. Refer to ADS XX for additional information.

F19. [New] Where automatic doors or power operated doors with controls are used, the door shall:

- a) have hard wired backup power supply and the minimum clearances required for power operated doors in accordance with NBC(AE) 3.8.3.6.(16), or
- b) provide the manual clearance requirements for the door latch and door maneuvering in accordance with ADS XX.

Explanation: In the event of a power failure, doors and doorways are to remain accessible and shall not reduce the safety or movement of people through or out of a building.

F20. [Revised] Power operated doors shall have a minimum hold-open time of 5s before closing, in addition to the NBC(AE) 3.8.3.6.(6)(b) requirements.

Note: Hold-open times may need to be adjusted based on the specific needs of the building and its occupants. For large-scale assembly occupancies, both facility managers and a door hardware expert should be consulted.

Controls

F21. [Revised] Where controls for power operated door(s) are installed, the controls shall:

- a) comply with NBC(AE) 3.8.3.6.(6),
- b) have an increased floor space for accessing the controls in accordance with ADS XX, and
- c) have a vertical activation bar that is at least 75 mm in width and at least 900 mm in length.

Explanation: Vertical activation bars allow the button to be pushed by people of diverse heights and abilities including people that use a fist, arm, or foot to operate door controls. Controls can be mounted on walls or on free-standing pedestals close to the door.

Note: (1) Controls for power door operators are preferred on the latch side of doors wherever possible. This provides consistent and predictable locations for controls, as they are then located on the same side of the door as the door signage. However, there are instances, such as within vestibules, double swing doors, or building renovations, where this may not be possible or intuitive for use.

(2) People with low vision or no vision may experience difficulty activating wave-to-open sensors. This should be considered when specifying power operated door controls. Combination button and wave-to-open sensors are preferred.

- F22. [Revised]** The clear floor space required for accessing door controls as per NBC(AE) 3.8.3.8.(1)(iii) shall be increased in size and shall be centered either on the length or the width of an area that is at least 900 mm by 1500 mm, and shall be clear of the door swing.

Note: *The clear floor space applies to controls such as the operation of building services or safety devices, electrical switches, thermostats, faucets, door hardware, and intercoms, in accordance with NBC(AE) 3.8.2.6.*

Exception: *The clear floor spaces noted above are applicable to new buildings and additions. Where the above clear floor spaces cannot be achieved in a renovation, the minimum control areas stated within the NBC(AE) 3.8.3.8.(1)(iii) shall be used.*

- F23. [New]** Where power operated doors are required, the type of power door operator shall include the spatial requirements and door hardware compatible with one of the options below:

1. **Automatic Power Operated Doors** typically use motion-sensing technology (e.g. microwave sensors, infrared sensors, or combination, or pressure plate sensors). Where possible, automatic power operated doors are preferred, as they require no controls to activate and are intuitive to use.
2. **Power Operated Door Controls** require a form of manual activation to open the door. This can be in the form of a push button, wave-to-open sensor, fob reader, or card reader. The controls must be located at an accessible height per ADS XX and have a clear floor area for activation ADS XX. The operable controls shall comply with NBC(AE) 3.8.3.6.(4).

Explanation: *The term “high energy door operator” is sometimes used to refer to automatic power operated doors and the term “low energy door operator” is sometimes used for power operated doors with user activated controls. The terms “high energy” and “low energy” refers to the amount of force and speed the operator applies to the door, rather than electrical usage. Low energy operators use less force and move slower, while high energy operators apply more force for faster motion.*

Note: *(1) Power assisted doors reduce the force needed to open and operate a door. A power assisted door still requires physical force to begin opening the*

door, and the manual clearances to open the door, before a power assist mechanism opens the door and then closes the door automatically after a specified duration of time. **Power assisted doors do not meet the requirements** of NBC(AE) 3.8.2.7. or ADS XX. However, they can be reasonably applied to other doors along the accessible path of travel that are not listed in ADS XX. Power door operators should be prioritized over power assisted doors for full automation. (2) Keypads are not permitted for access along an accessible path of travel. (3) Where possible, sliding power operated doors are preferred as they do not reduce the accessible path of travel.

Door Security and Entry Systems

Refer to ADS XX for two-way communication system requirements.

- F24. [New]** Where provided, door security and entry systems shall be aligned horizontally to the power door operator with a clear floor area centered on the control as per ADS XX. The order of devices shall be sequential for what is required to open the door.

Explanation: Door security and entrance systems such as card readers, should be conveniently located next to power door operator controls to ensure that when a person activates the power door operator and then the door security and entry system, there is sufficient time for a slow moving user to pass through the door area.

Note: Security access systems capable of automatically opening a door through a single action are preferred.

G. Ramps, Stairs, Elevators, and Lifts

All City of Calgary buildings and facilities should be accessible to everyone, regardless of ability. Ramps, stairs, lifts and elevators are integral to ensuring that key areas of buildings and facilities are meaningfully accessible to all users.

All Ramps

Applicable to interior and exterior ramps.

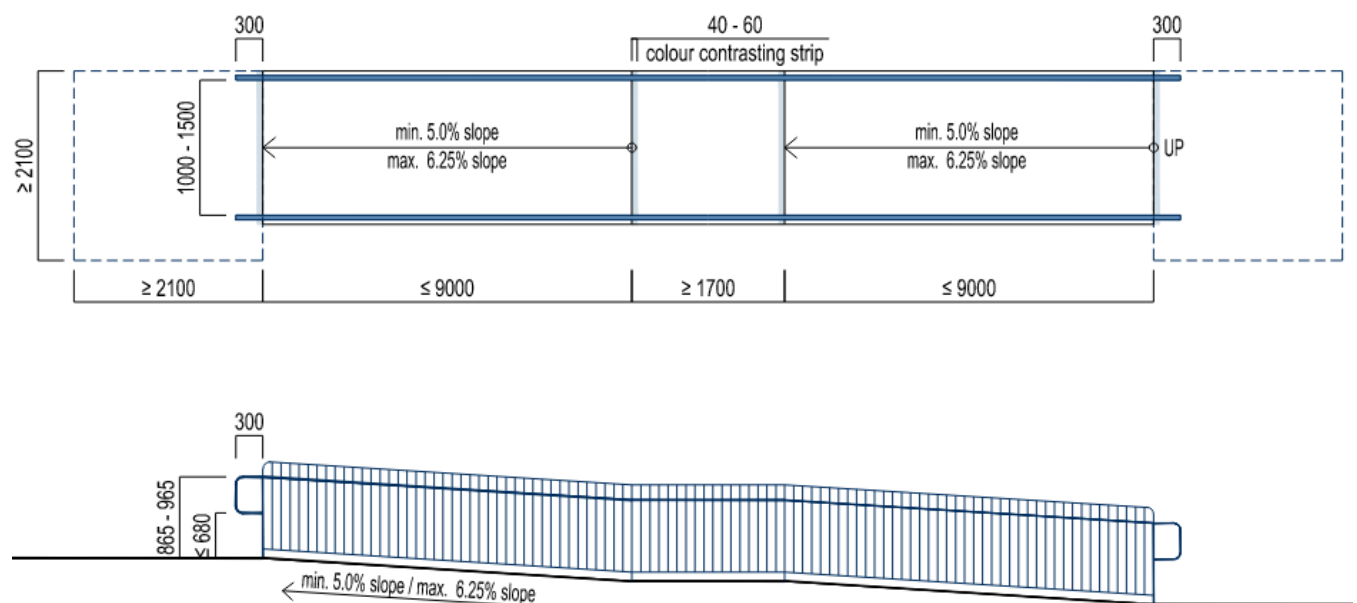
G1. [Revised] A ramp shall have a running slope between 1:16 (6.25%) and 1:20 (5%).

Exception: In renovation scenarios, if it is technically infeasible to provide a gentler slope, a ramp up to 3 m in length may have a running slope as steep as 1:12 (8.33%).

Refer to ADS XX for requirements of technical infeasibility

Note: Slopes shallower than 1:20 (5%) are considered sloped walks and do not need to be designed as ramps. Courtesy handrails can be provided for additional support if the slope is approaching 5%. The shallowest slope possible is always preferred for accessibility.

Figure G1 – Ramp Slope



- G2.** Glare-free, non-slip materials shall be used on ramp surfaces.

Note: Refer to NBC(AE) 3.8.3.5.(4).

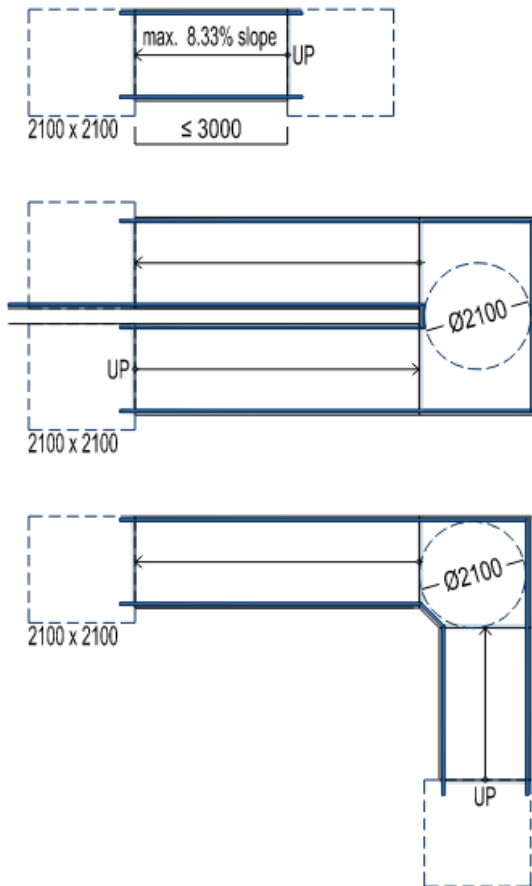
- G3. [Revised]** Ramps shall have level landings at intervals not more than 9 m along its length in conformance with the NBC(AE) 3.8.3.5.(1)(d).

Explanation: *The NBC(AE) 3.8.3.5.(1)(d). requires a level area occurring at set maximum intervals. The level areas can serve as a rest area for someone using a long ramp.*

- G4. [Revised]** Where a ramp makes a 90-degree turn or greater, the landing shall be 2100 mm long by 2100 mm wide.

Explanation: *The NBC(AE) 3.8.3.5.(1)(g). requires a level landing in a ramp to be no less than 1700 mm long by 1700 mm wide, where it makes a turn greater than 90-degree turn. In City of Calgary buildings and facilities, 2100 mm by 2100 is required to accommodate the ability of two wheelchair users to pass one another on a ramp.*

Figure G4 – Ramp Configurations and Landing Size



G5. [Revised] Ramps shall be a minimum of 1200 mm wide between handrails.

Explanation: A clear width of 1200 mm provides clear space for people using mobility aids, such as wheelchairs or walkers, to traverse comfortably and safely.

Note: When a ramp serves more than 100 occupants, it is likely that two or more occupants will be people who use a wheelchair. It is therefore necessary that the ramp be designed to allow two wheelchair users to pass one another on a ramp.

G6. [New] Handrails shall be installed in accordance with ADS XX.

G7. [New] Where there is a drop-off, ramp edge protection shall be provided in conformance with NBC(AE) 3.8.3.5.(5).

Explanation: Ramps and landings that are not at grade or are adjacent to a wall shall be protected on all edges with either a curb or a raised barrier.

G8. [New] Guards shall be installed in accordance with NBC(AE) 3.4.6.6.

Interior Ramps

In addition to all standards in All Ramps section, the standards below include additional requirements applicable to interior ramps.

- G9.** A minimal pattern shall be used on carpet and or tiles on interior ramps.

Explanation: *Heavily patterned carpets and other flooring surfaces can be disorienting.*

Exterior Ramps

In addition to all standards in All Ramps section, the standards below include additional requirements applicable to exterior ramps.

- G10.** Exterior ramps shall be provided along accessible paths of travel leading to a building, where the slope is greater than 1:20 (5%).

Explanation: *The NBC(AE) defines a ramp as a path of travel having a slope steeper than 1:20 (5%).*

- G11.** Exterior ramps shall be designed to reduce the accumulation of snow and ice.

- G12. [New]** Where there is a change in slope, a color contrasted and slip-resistant strip 50 +/- 10 mm wide equivalent to the width of the exterior ramp shall be applied.

Explanation: *The application of a color contrasted and slip resistant strip supports people with low vision, and all site users with awareness that there is a change in slope.*

All Stairs

- G13. [Revised]** A flight of stairs shall:

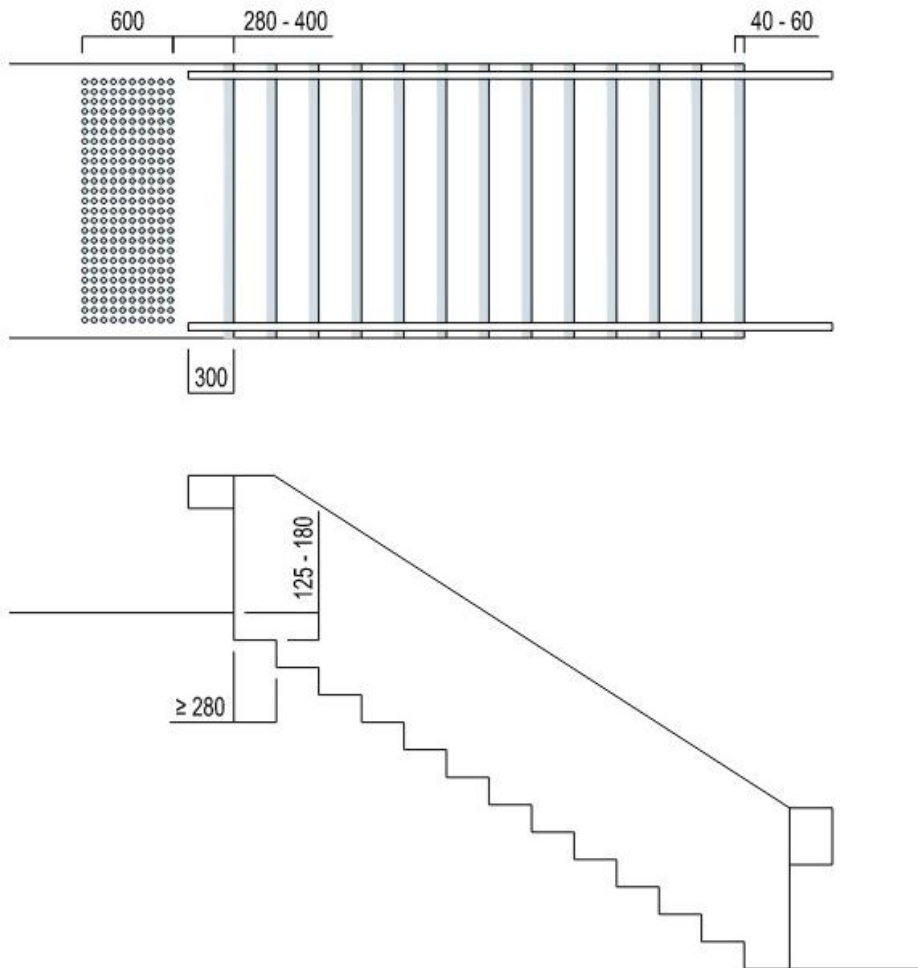
- a) have uniform riser heights and tread depths,
- b) have risers not less than 125 mm and not more than 180 mm high,
- c) have treads that are slip-resistant,
- d) have treads not less than 280 mm deep (measured from riser to riser),
- e) have no open risers, and

Explanation: *This allows people with reduced physical mobility and / or low vision to use the stairs safely. Open risers are more difficult for people who need*

a solid riser to guide their foot up the riser of the next step. It can also cause glare as light can shine through.

Note: Refer to Appendix C for guidance of effectively using lighting when designing for all.

Figure G13 – Example Stair



G14. [Revised] Stair nosings shall meet the following design criteria:

- a) project no more than 38 mm beyond the riser,
- b) have no abrupt or sharp undersides that could pose a tripping hazard,
- c) have a radius of curvature at the leading edge of the tread no greater than 13 mm,
- d) where projecting, be angled toward the riser at more than 60° to the horizontal, and

- e) include a horizontal strip 40 mm to 60mm deep that:
 - (i) is color contrasted at least 50% both the tread and riser, and
 - (ii) extends the full width of the tread.

Explanation: *These design requirements ensure that stair nosings are safe and easily identifiable, particularly for people who are blind or have low vision. While the NBC(AE) permits either a colour contrast or a distinctive pattern on stair nosings, the City of Calgary requires color contrast to enhance visibility and support safe navigation. Clear visual cues at the edge of each step help prevent trips and falls and promote independently mobility.*

G15. The top of the nosing shall comply with NBC(AE) 9.8.4.8.(1), which requires:

- a) a minimum horizontal project of 6 mm, and
- b) A maximum horizontal projection of 14 mm, measured from the front edge of the nosing.

Explanation: *The NBC(AE) 9.8.4.8.(1) outlines requirements for minimum and maximum nosing projections, including how to measure the projection. These dimensions are design to ensure stair edges are clearly visible and detectable, providing adequate tactile feedback for users, especially people who are blind or have low vision. Properly defined stair nosings contribute to safer, more accessible stairways for all users.*

G16. Handrails shall be installed in accordance with ADS XX.

G17. Guards are required in accordance with NBC(AE) 3.4.6.6.

Interior Stairs

In addition to all standards in Stairs General section, the standards below include additional requirements applicable to interior stairs only.

G18. A minimal flooring pattern shall be used on stairs.

Explanation: *Heavily patterned carpets and other flooring surfaces can create figure-ground confusion and hide the definition of nosings.*

G19. A color contrasted cane-detectable barrier shall be used to prevent access to the area under a cantilevered staircase.

Explanation: A color contrasted cane-detectable barrier prevents a person with low vision or blindness from inadvertently colliding with the underside of a cantilevered staircase. The barrier should comply with ADS XX for cane detection and must not create a tripping hazard.

[Placeholder for updated graphic – Cane detectable features and clearance below stairs]

- G20.** Where the headroom in a pedestrian area is reduced to less than 2100 mm from the floor, a guardrail or other barrier shall be provided with its leading edge at or below 200 mm from the floor.

Exterior Stairs

In addition to all standards in Stairs General section, the standards below include additional requirements applicable to exterior stairs only.

- G21.** Exterior stairs shall be designed in consideration of snow and ice accumulation.

- G22. [Revised]** Exterior stairs shall be a minimum of 1200 mm wide between handrails.

- G23. [New]** Exterior stairs should include a minimum of three risers.

Explanation: Stairs with fewer than three risers can pose a tripping hazard and may be difficult to detect for people with low vision or no vision, especially since tactile walking surface indicators (TWSIs) and handrails are typically not required for changes in elevation under 600 mm.

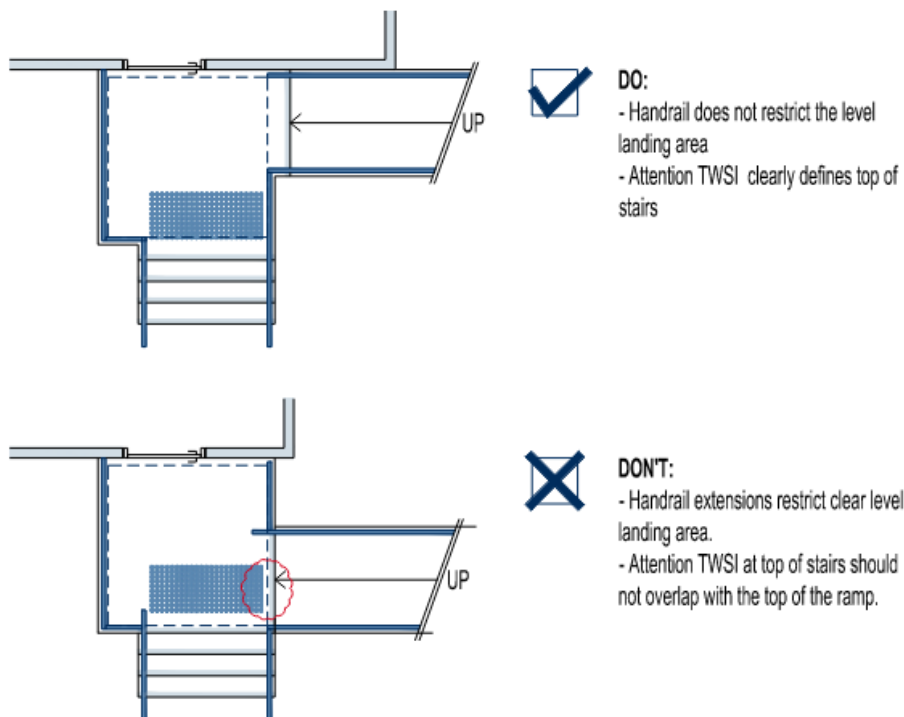
All Handrails

- G24. [New]** Handrails shall conform to NBC(AE) 3.4.6.5.(5-15) and shall be provided on both sides of ramps and stairs.

Explanation: Providing handrails on both sides of a ramp or stair at a consistent, accessible height along its run ensures that all ramp and stair users can rely on handrails to guide them when negotiating ramps and stairs, including people who are blind or have vision or people with mobility disabilities that may rely on them for stability.

Note: Installing handrails at two heights provides a universally designed solution that ensures that users of different statures, including children, can use handrails.

Figure G19 – Handrail Extensions & Attention TWSI



- G25.** Handrails shall have a consistent set of tactile cues, such as notches, dimples, grade 1 Braille, raised numbers or other texture changes within the last 300 mm at both ends of the handrail.

Explanation: This indicates to people who are blind or have low vision that they are approaching the beginning or end of the ramp or stairway.

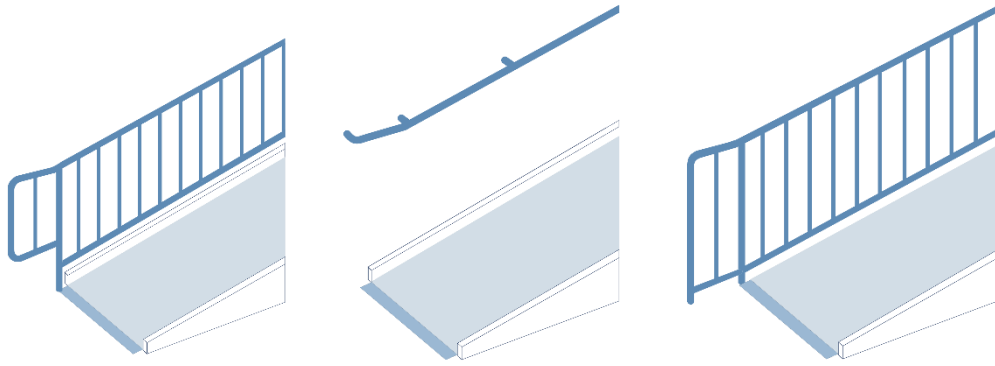
[Placeholder for new graphic]

- G26. [New]** Handrails extensions at the top and bottom of ramps and stairs shall return to a post, wall, or floor. Refer to NBC(AE) 3.4.6.5.(11).

Explanation: Proper termination of handrails prevents clothing or personal items from being snagged.

Note: Handrail extensions should be considered in the design of stairs and ramps, as they may otherwise be a hazard and protrude into the accessible path of travel.

Figure G25 – Examples of Handrail Termination to Post, Wall, and Floor



Elevators

Elevators provide essential vertical transportation in multi-story buildings and facilities, including access for people with mobility issues to navigate floors safely and independently. They ensure that all people can access all functional areas of a building or facility. It is also important that elevators include visual, tactile and audible to ensure that elevators are accessible to people with low vision and hearing loss.

G27. [New] Where one or more elevators are provided in a building, at least one elevator shall have internal cab dimensions to accommodate a stretcher, in accordance with NBC(AE) 3.5.4.1. Elevator Car Dimensions.

G28. [Revised] The minimum clear floor space in front of elevator or lift doors shall be 2100mm by 2100mm.

G29. [Revised] Call buttons shall:

- a) be installed between 900 mm and 1100 mm above the finished floor,
- b) have clear floor space of 900 mm by 1500 mm, centered on either the short or long side, and
- c) colour contrast from the adjacent wall surface.

Note: *Garbage cans, planters, and other obstructions shall not obstruct access to the elevator call buttons.*

Figure G30 – Elevator Call Button

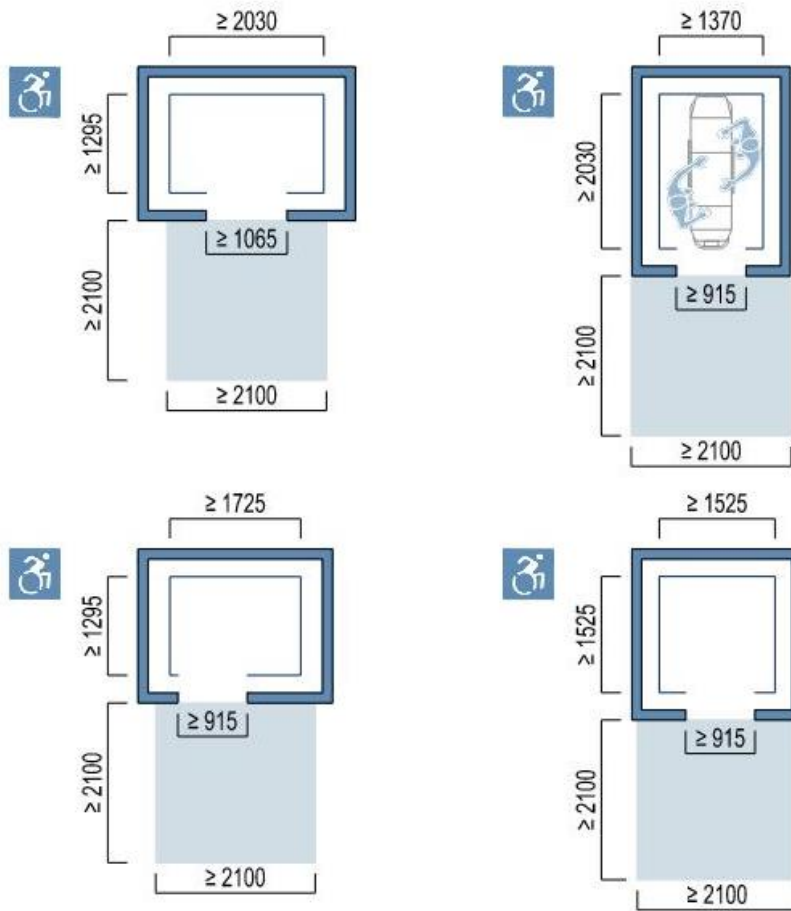


Dimensions to call button will be included in final version

G30. [Revised] Passenger elevators shall be designed to meet the requirements of Appendix E of ASME A17.1/CSA B44, Safety Code for Elevators and Escalators in conformance with NBC(AE) 3.5.2.1.

Explanation: ASME A17.1/CSA B44 Appendix E outlines the requirements for accessible elevators, including door timing and car calls, dimensions of elevator cars, door location, clear opening widths, buttons, keypads, visible and audible indicators, and emergency communications.

Figure G32 – Examples of Elevator Cab Dimensions



*Graphics are provided for clarity. Refer to the NBC(AE) and the CSA B44 for all elevator requirements, as well as discuss with an elevator consultant and elevator manufacturers for additional accessible elevator sizes and door configurations.

G31. [Revised] Elevator doors shall begin to close after a minimum of 8 seconds from the fully open position.

Explanation: The CAN/CSA B44 requires a minimum period of 5 seconds to elapse before the doors start to close if it is a hall call, and 3 seconds if it is a car call. However, City of Calgary buildings and buildings on City-owned land require elevator doors to remain open for 8 seconds to accommodate people with disabilities.

G32. [New] Where an accessible elevator is provided, wayfinding signage shall be provided near the main entrance of the building or facility.

Refer to ADS XX for wayfinding signage requirements.

G33. [New] A mirror extending across the width of the elevator shall be provided on the rear wall, with the bottom edge not more than 1000 mm above the floor.

Explanation: A mirror on the rear wall allows people to see behind them if they need to *back out of an elevator*.

Platforms Lifts

[In Development]

Inclined Lifts

[In Development]

Tactile Attention Indicators

Tactile attention indicators (TAIs) are important safety features that provide sensory cues through distinct underfoot textures. These indicators alert people, particularly those who are blind or have low vision, to changes in the environment, such as approaching stairs, transit platform edges, or vehicular traffic. The most common form of TAI is the truncated dome pattern, which signals the need for increased caution due to elevation changes or potential hazards.

G34. [New] Tactile attention indicators shall comply with NBC(AE) 3.3.1.19. with reference to clauses 4.3.5.3.1, 4.3.5.3.3, and 4.3.5.3.4 of CAN/CSA B651:18 - *“Accessible design for the built environment”*.

Explanation: *Tactile attention indicators help guide people by indicating the direction of travel and alerting them to important changes in the environment such as approaching stairs, transit platform edges, or vehicular traffic.*

G35. [New] Tactile attention indicators shall be installed in the following locations:

- a) at the top of both enclosed and open stairs,
- b) at landings that serve as entry points into stair systems,
- c) where the regular stairway pattern is interrupted, and
- d) where the depth of a landing with no continuous handrail is greater than 2100 mm.

G36. [Revised] Where provided at stairs, tactile attention indicators shall:

- a) be located at the top of stairs, and
- b) extend continuously across the full width of the stair, with no more than 300mm from the edge of the tread, and

Explanation: A tactile walking surface indicator that is detectable underfoot and by a long white cane is necessary to caution people with blindness or low vision that there is a change in elevation.

[Placeholder for new graphic]

***Canadian National Institute for the Blind (CNIB)’s “Clearing Our Path”
Figure can be referenced below.***



H. Interior Circulation

Interior circulation in buildings and facilities plays an important role in ensuring that all people, including people with disabilities, can move through a building safely and with ease. This involves a thoughtful design of various elements, including corridors, paths of travel, lighting, elevators, areas of refuge and open spaces. Designing accessible circulation enhances usability of buildings and facilities for all users.

This section outlines The City of Calgary's standards for interior circulation on the property of City-owned buildings and facilities.

For Doors & Doorways – refer to ADS XX

For Stairs and Ramps – refer to ADS XX

For Wayfinding and Signage – refer to ADS XX

Paths of Travel

Applicable to all interior paths of travel.

H1. An accessible path of travel shall be a minimum of 1200 mm wide.

Note: *High traffic paths of travel should be minimum of 1800 mm wide, which allows two wheelchair users, a person walking with a service dog or traveling with a caregiver, to pass each other.*

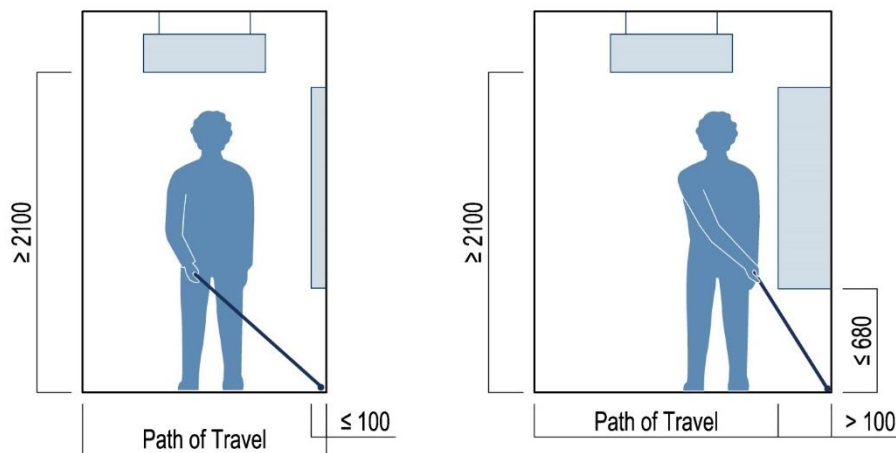
H2. [New] Where the accessible path of travel exceeds 24 m in length, a clear area of 1800 mm wide by 1800 mm long shall be provided for maneuvering.

H3. [New] The accessible path of travel width can be reduced to 915 mm wide for a length up to 600 mm long.

H4. [Revised] An object protruding more than 100 mm from a wall shall extend to within 680 mm from the ground for the entire length of the obstruction, in accordance with NBC(AE) 3.3.1.8.(3).

Explanation: *People with low vision or blindness that use a long white cane to navigate pedestrian travel find that obstructions more than 680 mm above the ground level is not cane-detectable and therefore represent a hazard. Extending to within 680 mm from the ground is good; however, extending to within 200 mm is better.*

Figure H4 – Protruding Objects

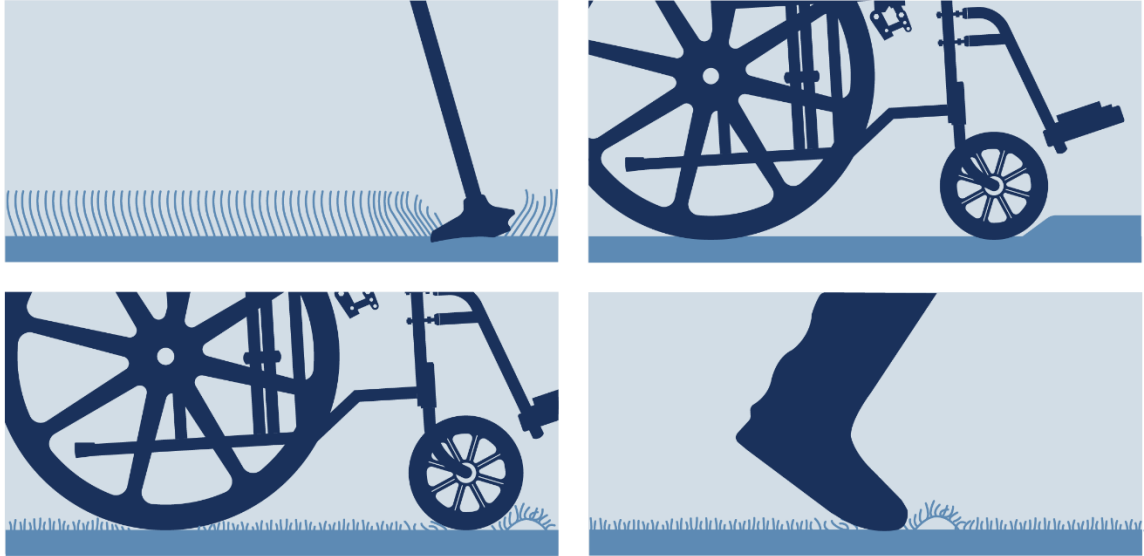


H5. [Revised] Carpets or carpet tiles installed in an accessible path of travel shall:

- a) have a low, firm and level pile or loop,
- b) have a combined carpet and pad height of not more than 13 mm,
- c) be securely fastened, and
- d) be backed or underlaid with firm materials only (if installed with a cushion, underpadding, or backing).

Explanation: Surface materials along circulation routes should not impede pedestrian movement. This is especially important for wheelchair users, people who use mobility aids or people impacted by low vision or blindness that may face greater challenges with carpet hazards.

Figure H4 – Flooring Surfaces

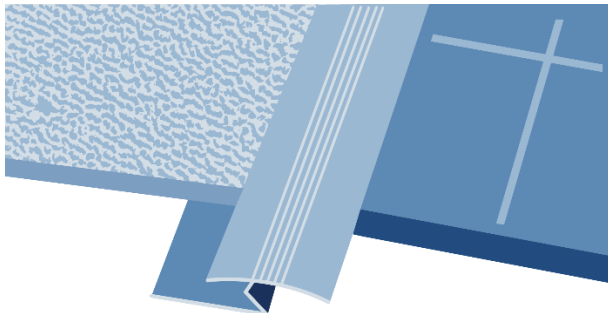


H6. All floor surfaces shall be stable, slip-resistant and non-glossy.

Explanation: Stable, slip-resistant, and non-glossy floor surfaces provide an easier pathway for all users including people with low vision who may be negatively impacted by high-gloss and unstable surfaces.

Note: For more information on floor finishes refer to CSA B651 “Annex B Potential for slip of floor and tread finishes”.

Figure H5 – Beveled Floor Transitions Between Different Flooring



H7. All surfaces on a path of travel shall be designed so they do not create glare. Busy pattern design shall also be kept to a minimum.

Explanation: Surface glare and busy patterned tiles or carpet can distort perception and generate confusion, which can create safety hazards for people with low vision, cognitive disabilities, or people sensitive to sensory stimulation.

Note: Differences and floor pattern applications, where color to texture is intended for wayfinding is recommended.

- H8.** Where wall surfaces are constructed entirely of mirror or glass, two continuous color-contrasted strips shall be applied that:
- a) are at least 50 mm in height each,
 - b) extend the full width of the mirrored or glass panel
 - c) the first strip installed between 1350 mm to 1500 mm above the finished floor, and
 - d) a second strip installed between 850 mm and 1000 mm above the finished floor.

Explanation: *A horizontal warning strip on a mirror or glass wall surface creates contrast, warning users that the surface is mirror or glass. Color contrasted strips at two heights help prevent collision with the mirrored or glazed surface and provide visibility for people of different heights.*

[Placeholder for new graphic]

Corridors and Hallways

In addition to all standards in Paths of Travel section, the standards below include additional requirements applicable to corridors and hallways.

- H9. [Revised]** Any change in corridor directions shall be at 90-degree angles.

Explanation: *Having 90-degree angles at direction changes points in a corridor makes it easier for wayfinding and memorizing a corridor's layout, which supports all users including people with cognitive disabilities, people impacted by blindness and low vision.*

- H10. [New]** At intersections between primary paths of travel, there shall be a change in flooring, or another wayfinding technique applied, that differs from the leading path of travel.

Explanation: *Consistent wayfinding techniques throughout a building or facility help all users safely and effectively navigate, especially users with low vision.*

Note: If windows are already in place, shades, blinds, or glazing should be used to both reduce glare and maintain appropriate lighting level.

Plus 15 Network

Accessible Design in the Plus 15 Network

The Plus 15 Network is Calgary’s elevated, climate-controlled walkways that connect buildings throughout the downtown core. To ensure equitable access for all users, including people with disabilities, it is essential that the design and renovation of Plus 15 spaces is accessible.

Accessible design allows everyone to move safely and independently, avoiding challenges such as vehicular traffic, sidewalk barriers, and harsh weather conditions.

Key design elements that support accessibility in the Plus 15 Network include:

- Adequate clearances and path widths
- Properly designed ramps and landings
- Elevators
- Rest areas for those who need to pause or recover
- Clear, consistent signage and wayfinding systems

All Plus 15 projects should follow “The City of Calgary Design Guidelines for the Plus 15 Network”.

For Paths of Travel and Obstructions – refer to ADS XX

For Doors & Doorways – refer to ADS XX

For Stairs and Ramps – refer to ADS XX

For Elevators – refer to ADS XX

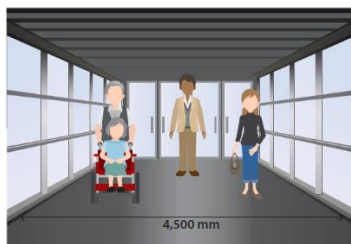
For Wayfinding and Signage – refer to ADS XX

For Seating Areas – refer to ADS XX

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ADS 2016 Figure C.82 can be referenced below.

Figure C.82



PLUS-15

Emergency Systems

The design of buildings should incorporate good accessibility into and out of each individual building. Means of exiting arrangements for disabled people, whether employees or visitors, should therefore have the same consideration. However, it is recognized that it may not always be possible to provide some disabled people with an independent means of escape, and they will require a degree of assistance.

This section outlines emergency systems on the property of City-owned buildings, facilities and outdoor public amenities (e.g. parks, transit stations etc).

- Areas of Refuge
- Emergency Exits
- Audible and Visible Signals

Areas of Refuge

H11. The design of buildings should incorporate accessibility entry and exit from a building. Some people with disabilities may require additional assistance from emergency responders to evacuate a building. An area of refuge is a dedicated space in a building where people with disabilities can safely wait for assistance during an emergency evacuation. Areas of refuge are typically required in multi-storey buildings where elevators cannot be used during emergencies and when the building does not have a sprinkler system. To ensure compliance and safety, coordination with qualified professionals is needed. This includes Architects, Mechanical and Electrical Engineers, code consultants, the local fire department, and permitting officials. The following design considerations are to be made when designing an area of refuge:

- a) Refer to the most current NBC(AE) and NFC(AE), with reference to the building occupancy, number of storeys, and construction type (combustible vs. non-combustible, or combinations thereof) in designing areas of refuge and protected floor areas. The NFPA 101 - Life Safety Code could also be referenced for additional information.
- b) Where a multi-storey building has a sprinkler system, additional consideration for the type of building and its use may also be needed when planning an area of refuge. The entire floor of a sprinklered multi-storey building can be considered an area of refuge. However, it is equally important to have appropriate fire-safety plans identifying a safe area for people to wait that is known to firefighters. Refer to *ADS XX to XX*.

- c) Where a designated area of refuge is provided in a building it should be located along the accessible path of travel and located
 - i. within every exit stair well, or
 - ii. in a room adjacent to every exit stairwell, or
- d) The area of refuge should provide the minimum required fire resistance per the NBC(AE) and be properly ventilated and smoke sealed.
- e) The area of refuge should be sized appropriately to accommodate at least two (2) people in a mobility device with a clear floor area of 900 mm x 1500 mm for each person.

Explanation: *Although the sizing of the area of refuge is based on the number of persons in wheelchairs and their ambulatory attendants, the area of refuge is also intended to be used by people who do not use a wheelchair but are nonetheless unable to use exit stairs during an emergency. It is acknowledged that many people in wheelchairs do not always have an attendant with them, and therefore it is assumed that the space allotted for ambulatory attendants might not be used in a real emergency.*

Note: *Where areas of refuge are located in an exit stairwell, the doors shall have the appropriate maneuvering clearances and latch clearances for the door. The area of refuge cannot impede or reduce access to the doors or stairs.*

- f) Where areas of refuge are located adjacent to the exit stairwell, appropriate signage should be used to indicate it is an area of refuge and indicated on a fire safety plan.
- g) An area of refuge should include a two-way communication system, with clear signage indicating location and instructions for use. The area should be well illuminated and include emergency lighting.
- h) Evacuation chairs can be used in addition to areas of refuge, or within existing buildings where there is no area of refuge. When provided, consider the spatial needs for an evacuation chair, instructions for use, and include within a fire safety plan.

Exits

H12. All exits on a floors with ground-level access that can be reached by a person using a wheelchair shall provide a barrier-free path of travel to the exterior.

Exception: *Residential occupancies, where other requirements apply.*

H13. Areas of refuge shall be identified on all publicly displayed floor evacuation plans and be included in evacuation procedure documents and the building's fire safety plan.

Emergency Signal Devices

H14. [New] In addition to NBC(AE) 3.2.4.19., visible and audible signal devices shall be provided in the following locations:

- a) private offices
- b) meeting rooms
- c) universal dressing and shower rooms
- d) single user toilet rooms

Exception: *Private offices and meeting rooms may not always require both an audible and visual alarm, if the room has a direct view to a corridor with an audible and visible signal.*

H15. [New] Visual and audible signal devices are to be placed so that a signal from at least one alarm is visible throughout an enclosed room or space.

I. Interior Rooms and Services

Interior rooms and services should be welcoming and useable for everyone, including people with physical, sensory and cognitive disabilities. These standards support equitable access to services, amenities, work areas, meeting rooms, exhibit and display spaces, and assembly areas by addressing barriers within interior environments. The following standards include The City of Calgary's requirements for interior rooms and services.

Entry Seating Areas

- I1. [New]** Where a building has a passenger pick-up and drop-off area, the building entrance shall provide a seating area that:
- a) provides accessible seating in accordance ADS XX,
 - b) have clear sight lines of the entrance door,
 - c) have clear sight lines to the passenger pick-up and drop-off area (if provided) and,
 - d) are located in an environment that is temperature controlled.

Note: *The temperature-controlled space can be an indoor temperature-controlled space or an outdoor sheltered space.*

[Placeholder for updated graphic]

Information, Reception and Service Counters

Information, reception and service counters should be designed to ensure that everyone, including people with disabilities, can use them comfortably and safely. These desks and counters must also be accessible from the building's front entrances and other functional areas of a building or facility through an accessible path of travel.

For accessible seating and waiting area requirements, refer to ADS XX.

For waiting areas and queueing are provided, refer to ADS XX.

- I2. [Revised]** All information, reception and service counters shall include:
- a) at least one section that is barrier-free in accordance with the NBC(AE) 3.8.3.20, and
 - b) incorporate an assistive listening system or adaptive technology in accordance with 3.8.2.9.(2). and 3.8.2.10.

Explanation: Providing a barrier-free section with code compliant knee clearance and assistive listening systems at all information, reception and service counters ensures that all users, including wheeled mobility device users, people unable to stand for long periods of time, and people who are hard of hearing can use these building amenities. Incorporating assistive listening systems are essential for people who are hard of hearing, as these technologies enhance audio clarity by reducing background noise, improving acoustics, and minimizing the distance between the speaker and the listener. This supports effective communication and ensures equitable access to information.

For Assistive Listening System requirements and guidance, refer to Section K. Interior Features.

Figure I2 – Accessible Counter



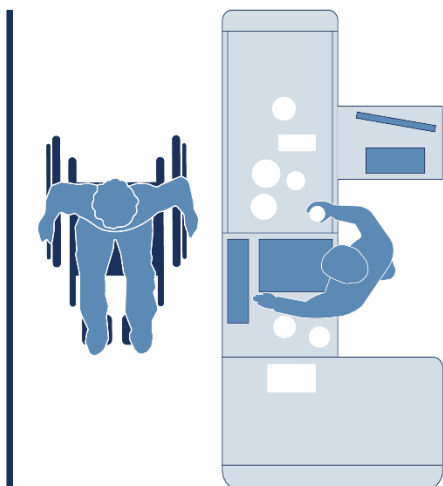
Draft Note: Dimension to be added for knee clearance.

- I3.** Information, reception and service counters shall colour contrast from their surroundings, and surfaces shall have a glare-free finish.

Explanation: Colour contrast and glare-free finishes can help people with low vision locate and use raised surfaces at reception desks and counters.

- I4. [New]** The minimum width of an accessible lane in front of information, reception and service counters shall be 1200 mm.
- I5. [Revised]** All products in a self-serve counter shall be within 450 mm of the edge of the counter and between 730 mm and 860 mm above the floor.

Figure I5 – Accessible Check-Out Lane



Draft Note: Dimension to be added to Figure above.

Waiting and Queuing Areas

Providing accessible waiting and queuing areas ensures that people with disabilities can meaningfully participate in everyday activities. These areas offer seating that connects to an accessible path of travel and safe and comfortable for people with physical, sensory and cognitive disabilities. Key locations such as waiting areas, rest zones, entrances and passenger pick-up and drop-off points should be thoughtfully designed to support equitable access and use.

16. Where waiting and queuing areas are provided with fixed seating:
 - a) at least 20% provided shall be accessible in accordance with ADS XX and
 - b) have clear sightlines to information, reception and service counters
17. Where work surfaces are provided in waiting and queuing areas, at least one work surface shall provide knee clearance in conformance with NBC(AE) 3.8.3.20.

Explanation: Some services may require the use of writing surfaces for completing forms or other documentation.

18. Interior accessible paths of travel shall be maintained in accordance with ADS XX.
19. In areas where queuing is required, the queue shall:
 - a) be located adjacent to an accessible path of travel,

- b) have signage indicating the starting point of the queue,
- c) Maintain a minimum clear width of at least 1200 mm (1600 mm is preferable),
- d) provide a clear turning space of 2100 mm at points where the queue changes direction, and at the start and end of the queue, and
- e) provide an adjacent accessible rest area with accessible seating in accordance with ADS XX.

I10. Queuing guides shall be stable (not easily moveable), cane detectable and color contrasted to the surrounding area.

Note: *The use of rope or flexible bands is discouraged as these may be difficult to detect with a cane and may provide a false sense of support.*

Refer to ADS XX for requirements on obstructions and protruding objects

Mobility Device Storage Areas

Mobility devices include a range of assistive equipment used by people with disabilities to assist in moving around. These include items such as walkers, crutches, canes, manual and powered wheelchairs, and mobility scooters. To ensure safety and convenience, designated mobility device storage areas should be provided for these devices. These areas can also accommodate items like strollers.

Mobility device storage areas should be provided in locations where people are likely to temporarily leave their devices while participating in activities. The number of storage spaces should reflect the expected usage of the facility and be scaled appropriately in areas with higher demand. Where electrical outlets are available, people who use electric and battery powered wheelchairs and mobility scooters should have the opportunity to charge their mobility device while not in use. Examples of locations for mobility device storage areas include recreation facilities, waiting and queuing areas, and assembly type rooms or spaces (those that are 100 square metres or greater).

Refer to ADS XX for mobility device storage requirements in assembly areas.

Refer to ADS XX for mobility device storage requirements in recreation facilities.

I11. Mobility device storage areas shall be located adjacent to and connected with an accessible path of travel in accordance with ADS XX.

I12. Each storage space within a mobility device storage area shall have a clear floor area of at least 900 mm by 1500 mm.

Note: *Mobility device storage areas should be located to prioritize user security and passive surveillance to ensure that mobility devices remain safe while users access amenities.*

I13. Mobility device storage spaces shall be accompanied by signage that identifies the use and designated space of the mobility storage area. The signage shall:

- a) be colour contrasted with surrounding surfaces,
- b) be installed at a height of 1500 mm measured to the centre line, and
- c) include raised characters and braille in accordance with NBC(AE) 3.8.3.9.(2)(a).

I14. Electrical power, such as power outlets, should be provided in mobility device storage areas in conformance with ADS XX.

Explanation: *Electrical power allows people who use electric and battery powered mobility devices to charge their mobility device when not in use.*

Note: *In some settings, an electrical outlet may not be feasible or appropriate, such as in exterior spaces.*

Work Areas

I15. [New] All work areas shall provide an accessible path of travel in accordance with ADS XX.

I16. [New] A clear floor space of 900 mm by 1500 mm shall be provided in front of all office equipment and office systems furniture.

I17. [New] The entry to all workstations shall be a minimum clear width of 915 mm.

I18. [New] Where workstations are provided, at least one workstation or 20% of workstations (whichever is more) shall be accessible.

I19. [New] Accessible workstations shall:

- a) provide height adjustable office chairs with back support,
- b) provide height adjustable desk, and
- c) provide storage and cabinet controls in accordance with ADS XX.

Meeting Rooms

Refer to ADS XX for doors and doorway requirements.

Refer to ADS XX for room signage requirements.

Refer to ADS XX for controls and operating mechanisms.

Refer to ADS XX for visible and audible signal devices.

Refer to ADS XX for assistive listening system requirements.

- I20. [New]** Where glazed walls or doors are provided, the panels shall include color contrasted markings in accordance with ADS XX.

Explanation: Color contrasted markings enhance visibility and safety for all users, primarily people with low vision, where transparent surfaces may not otherwise be easily detectable.

- I21. [New]** Where whiteboards or other collaborative boards are provided, the bottom edge of the board shall be no higher than 760 mm above the floor.

Explanation: Lower mounting heights ensure access and use for people in seated positions or of shorter statures.

- I22. [New]** Where audio visual equipment is installed, the equipment shall be provided at an accessible height and reach:

- a) mounted between 400 mm and 1100 mm above the floor,
- b) clear floor area in front a minimum of 900 mm by 1500 mm,
- c) controls and interfaces located within a 600 mm horizontal reach for seated users.

- I23. [New]** All tables and sideboards shall provide a clear floor space in front that is a minimum of 900 mm by 1500 mm.

Explanation: Providing unobstructed space around both fixed and moveable furniture supports ease of use and maneuverability for mobility device users.

- I24.** Tables on raised platforms shall not be used.

Explanation: *Tables on raised platform impede access for people who use wheeled mobility devices and people with other mobility issues. Raised platforms also present a tripping hazard.*

- 125. [New]** At least one meeting room or 20% of all meeting rooms (whichever is more), shall be equipped with a permanent or portable assistive listening systems.

Refer to ADS XX for assistive listening requirements

Kitchen Areas

[In development]

Dining Areas

[In development]

Acoustic Considerations

Acoustics are integral to accessible design, influencing how sounds interact within a space. People who are hard of hearing and people who are impacted by blindness or low vision rely on sound for communication and navigation. Reducing ambient noise enhances comfort for all users, particularly those who struggle to communicate in noisy or echoey environments and those with neurodiverse conditions who find noisy settings overstimulating. Conversely, some sound reverberation benefits people with blindness or low vision by providing spatial awareness and auditory cues for wayfinding.

- 126. [New]** The heating ventilation air conditioning system (HVAC) shall be designed in accordance with *Design Guidelines For City of Calgary Funded Buildings*.

Exhibit and Display Spaces

It is essential that exhibits, displays and their labels be placed at an elevation that makes viewing participation comfortable for all visitors.

- 127. [New]** The floor area in front of exhibits and displays shall be centred on either the long or short edge of an area not less than 900 mm by 1500 mm.
- 128.** Display lighting fixtures shall be designed and placed to minimize glare and reflection.

- I29. [New]** Exhibits and displays shall be supplemented with tactile signage, designed in accordance with the NBC(AE) 3.8.3.9.(2)(a).

Explanation: *Exhibition and displays areas should be barrier-free, or an alternative method of interpreting the message should be provided, such as audio-visual presentations, large print text and/or tactile signage. The NBC(AE) 3.8.3.9. outlines the requirements for signage mounting height, location, braille and colour contrast.*

- I30.** Displays and labels shall be located between 1000 mm and 1200 mm above the finished floor surface or ground level.
- I31.** Table displays shall be located between 1100 mm and 1200 mm above the finished floor or ground level.
- I32.** Wall-mounted displays shall be located between 1100 mm and 1200 mm above the finished floor or ground level.

Assembly Areas

Assembly areas such as auditoriums, theatres, cinemas, arenas and stadiums, should have accessible seating options distributed throughout the venue, offering choices at the front, back, center, and at all levels. At least some accessible seating should be located side by side with sufficient clear floor space on a level, unobstructed surface for wheeled mobility devices and unobstructed sightlines. Companion seating should also be flexible and available directly beside accessible seating, with clear space for service dogs.

Stages should be accessible to performers, speakers, and audience members, with clearly marked edges on elevated stages using color-contrast and tactile material, and height adjustable podiums or tables with appropriate knee clearance.

Backstage areas, including dressing rooms, washrooms, green rooms, audio-visual equipment zones, and staff spaces, should also be accessible. Ticket counters and concessions should provide knee clearance and audio accessibility technologies to support communication.

Lighting design should enhance visibility for presenters and sign language interpreters, with adequate lighting for the intended use of the space.

- I33.** The number of designated spaces for wheeled mobility device users shall comply with NBC(AE) Table 3.8.2.3.

Note: The 2023 NBC(AE) Table 3.8.2.3 outlines the minimum number of spaces required for wheelchair users.

I34. [New] The designated space shall:

- a) meet the requirements of NBC(AE) 3.8.3.22.(1)(b),
- b) connect to the accessible path of travel,
- c) be distributed throughout the seating area on all levels,
- d) be located adjacent to other seating, and
- e) allow for at least half of the designated spaces to be positioned side by side.

Note: Providing seating dispersed throughout the seating area provides choice for people using wheeled mobility devices and should be able to accommodate a companion who may be a wheeled mobility device user or an ambulatory person.

[Placeholder for new graphic]

I35. Assembly areas shall be designed to limit glare.

Explanation: If a speaker or presenter is in front of a window or with lights shining from behind the speaker, this will create glare and should be avoided.

I36. Lighting strips shall be provided on steps and accessible paths of travel.

I37. Mobility device storage spaces shall conform with NBC(AE) 3.8.3.22(4).

I38. The size of mobility device storage spaces within areas of assembly shall conform with *Section I. Interior Rooms and Services*.

J. Interior Features

This section outlines The City of Calgary's standards for interior features on the property of City-owned buildings, facilities and outdoor public amenities (e.g. parks, transit stations etc.)

Controls and Operating Mechanisms

The design and location of controls are important for accommodating individuals with disabilities. Mechanisms that demand a high degree of dexterity or strength will be difficult for many to use. Controls should be positioned within accessible reach for everyone who needs to use them. This includes, but is not limited to, light switches, electrical outlets, thermostats, intercoms, and fire alarms.

- J1. [New]** Controls and operating mechanisms shall incorporate a pronounced color contrast to differentiate them from the surrounding environment.

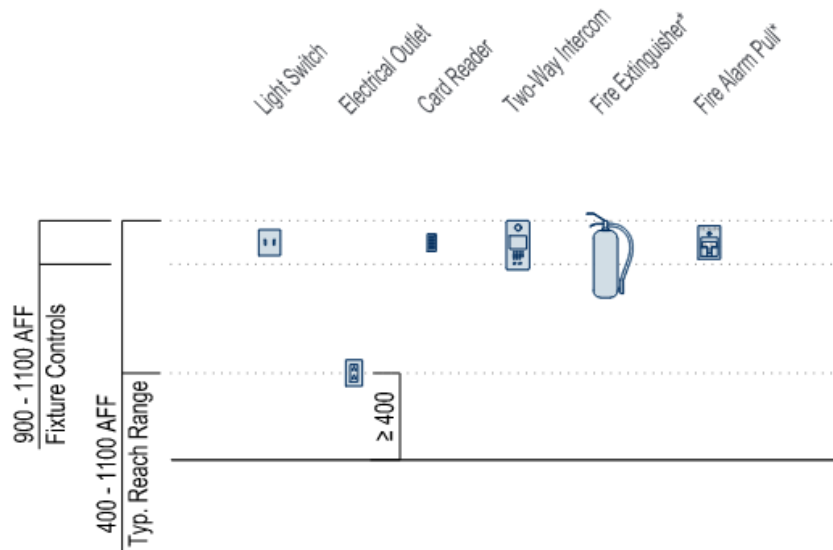
***Note:** This includes, but is not limited to, light switches, electrical outlets, thermostats, intercoms, and fire alarms.*

- J2.** Rocker-type light switches shall be used.

- J3. [New]** A clear, level floor area of minimum 900 by 1500 mm shall be provided at controls and operating mechanisms.

- J4. [Revised]** The operable portions of controls and operating mechanisms shall be installed 900 mm to 1,100 mm above the floor.

Figure J5 – Typical Mounting Heights of Controls



- J5. [Revised]** Electrical outlets shall be located no lower than 400 mm measured to the centre line of the outlet. A range between 400 mm to 1100 mm is acceptable. *Refer to Figure J5.*

Exception: *Where electrical outlets are provided as components of systems furniture, these devices need not comply with this section.*

- J6. [New]** The operation of all controls shall comply with the NBC(AE) 3.8.3.8 (1)(b).

Explanation: *This design ensures that controls are accessible to people with limited use of their hands or arms, as well as those other conditions affecting hand dexterity. By keeping the required force low, it guarantees that people with limited strength can operate the controls comfortably.*

Note: *A control intended for reading or adjustment should be positioned at an angle that allows for easy use from both seated and standing positions.*

Refer to ADS XX for accessible faucets.

Drinking Fountains

- J7.** Where a drinking fountain is in an alcove the fountain it shall:

- conform to NBC(AE) 3.8.3.10,
- provide an increased clear floor area as outlined in ADS XX.

Refer to ADS XX for clear floor area requirements

Explanation: Locating the drinking fountain out of the route of travel is preferred. Recessing the drinking fountain in an alcove removes it as a protrusion hazard.

Note: Providing two drinking fountains at different heights accommodates the needs of most people, including people of diverse heights.

Figure J9 – Accessible Drinking Fountains



Draft Note: Dimension to be added.

- J8.** Where a drinking fountain projects into the barrier-free path of travel, it shall be designed in accordance with the dimensions stated in *ADS XX*.

Refer to ADS XX for obstructions along the path of travel.

- J9. [New]** A spout shall:

- a) have the opening between 750 mm to 900 mm above the finished floor,
- b) be located at the front of the unit, and
- c) direct water flow in a trajectory that is parallel to the front of the unit.

- J10. [New]** A drinking fountain shall have a clear floor area in front of the unit that is at least 900 mm by 1500 mm.

Water Bottle Filling Stations

- J11. [New]** Water-bottle filling stations located in a story where a barrier-free path of travel is required shall:

- a) conform to NBC(AE) 3.8.3.11., and

- b) provide an increased clear floor area as outlined in ADS XX.

Self-Service Interactive Devices

Self-service interactive devices include automatic bank machines (ABMs), retail self-checkout machines, ticket vending machines, and more.

- J12. [New]** When self-service interactive devices are provided, at least 20 per cent of machines provided shall be accessible, with a minimum of one accessible machine provided.

Note: *The design of self-service interactive devices including automated banking machines should follow CSA / ASC B651.2:22 “Accessible design for self-service interactive devices”.*

- J13. [New]** The accessible self-service interactive devices shall be installed to ensure they are accessible from the designated accessible path of travel in conformance with ADS XX.
- J14. [New]** The accessible self-service interactive device shall have a clear floor area in conformance with ADS XX.
- J15.** The operable portions of an accessible self-service interactive device shall be in conformance with ADS XX.
- J16.** The knee space below a self-service interactive device shall be in accordance with 2023 NBC(AE) 3.8.3.16(1)(e).
- J17.** Text and audio messages should be installed at all accessible self-service interactive devices.
- J18.** Signage featuring the active symbol of access shall be installed to indicate the accessible self-service interactive devices.

Public Address Systems

Public address systems should be designed to best accommodate all users.

J19. Whenever public communication is provided audibly, (e.g. narrated videos on screens or announcements on speakers), the same information should be provided visually by closed captioning in key locations.

Explanation: The intent is to ensure people with a hearing or visual impairment have access to required information as per the function of the building or facility. Occupant safety is a key consideration.

J20. [New] Public address speakers shall be mounted above head level and provide sound coverage in required areas such as corridors, assembly, and meeting room areas, recreation and entertainment facilities, and common use areas.

Note: *Speakers (except those required for the fire alarm system) should not be placed near important areas of in-person communication, such as above information, reception or service counters.*

Two-Way Communication Systems

Two-way communication systems enable real-time interaction between people and building and facility personnel such as building operators or security staff. These systems should be accessible to all users, including people with physical, sensory, and cognitive disabilities. They should provide both audible and visible indicators to confirm that communication has been received. Clear signage should be provided to guide users on how to operate the system. Controls should be operable with a closed fist, without requiring tight grasping, pinching, or twisting of the wrist. Systems should also be color contrasted from the surrounding surfaces to enhance visibility. Additionally, alternative communication options should be provided for deaf and hard of hearing users, such as a text-enabled phone number or website. Common examples of two-way communication systems in City spaces include intercoms, help phones, call buttons and interactive kiosks.

J21. [New] Two-way communication systems should be designed to:

- a) Include both microphone and speaker for voice input and output,
- b) be hands-free allowing users to communicate without holding or pressing buttons continuously,
- c) be installed at an accessible height in accordance with *ADS XX*,
- d) provide a visual display to support users who are deaf or hard of hearing,
- e) include volume control or amplification to ensure messages are clearly heard, and
- f) include operable controls in accordance with *ADS XX*.

Visual Displays

J22. [New] Information on visual displays shall meet the following requirements:

- a) provide a minimum clear space of 900 mm by 1500 mm in front of the display to allow for unobstructed access,
- b) supplement information with tactile and / or auditory formats to support users with diverse accessibility needs,
- c) color contrast visual content from the surrounding surface, and
- d) mount displays on surfaces that minimize glare to ensure visibility in various lighting conditions.

Refer to ADS XX for requirements for controls and operating mechanisms

Assisted Listening Systems

Many people who use hearing aids have difficulty functioning in noisy environments, especially when the speakers are far away. Many systems are available that can overcome the combined problems of distance and background noise. FM, infrared and induction loop systems are examples of assistive listening systems. All three of these systems assist people who require aid in hearing, without disturbing the listening enjoyment of other people.

Deaf and Hear Alberta can assist in choosing the most appropriate system (including information on cost, installation, and maintenance; suitability to the audience; ease of operation; and attention to the need for privacy) and report on designers and suppliers.

For design and implementation, the 2023 NBC(AE), the Alberta Ministry of Municipal Affairs Accessibility Design Guide (2024) should be consulted.

J23. An assistive listening device or system (permanent or portable) shall be installed at all barrier-free sections of information counters, reception and service counters.

For requirements for information, reception counters, refer to Section I. Interior Rooms and Services

J24. [New] Assistive listening systems (permanent or portable) shall be installed in all assembly type rooms or spaces that are 100 square metres or larger.

Explanation: *The NBC(AE) 3.8.2.9.(1) outlines requirements for an assistive listening system in assembly occupancies over 100 metres squared (all classrooms, auditoria, meeting rooms and theatres). The City of Calgary extends*

these requirements to all assembly type rooms or spaces that are 100 square metres or greater.

Note: *Other large rooms and spaces where public events or gatherings occur, such as community rooms should also include an assistive listening system.*

FM Radio Frequency Systems

Frequency Modulation (FM) systems transmit sound on a specific frequency. The transmission is received by a small device that can be connected directly to a person's hearing aid via a direct audio input. FM systems are generally recommended for large public facilities, such as airports and other transport terminals. When clearly marked, the FM broadcast area provides the traveler with an easily located listening zone so all information, especially important announcements, is readily available.

- J25.** Where FM systems are provided, signage with the symbol for assistive listening systems shall be provided.

Figure J27 – Frequency Modulation (FM) Systems Symbol



Infrared Systems

Infrared technology uses infrared radiation to transmit sound from a transmitter to a person who is hard of hearing or deaf. The individual wears a receiver or headset that works with a loop or T-switch in their hearing aid. Infrared signals cannot pass through walls or be transmitted if interrupted by moving objects or people. These systems are suitable for listening in both large and small groups, whether watching TV, listening to the radio, attending meetings, or other public venues. Both FM and infrared systems can be used as personal listening devices or provided in public spaces like meeting rooms, lecture halls, places of worship, and theaters. Infrared rays are contained within the space where they are used and should be shielded from the sun to maintain transmission strength.

- J26.** Where infrared systems are provided, signage with the symbol for assistive listening systems shall be provided. Reference to the T-switch shall also be made on the sign.

Figure J28 – Infrared T-Switch Symbol



Induction Loop Systems

Induction loop systems work with hearing aids by using a wire installed under the floor or in the ceiling, connected to a microphone. When someone speaks into the microphone, it generates a current in the wire, creating an electromagnetic field in the room. The telecoil in the hearing aid picks up this signal when the T-switch is activated, and the volume is controlled through the hearing aid's settings.

- J27.** Where induction loop systems are provided, signage with the symbol for assistive listening systems shall be provided. Reference to the T-switch shall also be made on the sign.

Figure K29 – Induction Loop Symbol



K. Sanitary Facilities

Accessible toilet stalls and universal washrooms provide a safe, private, and dignified space for personal use and with care attendants(s). This section outlines The City of Calgary's standards for sanitary facilities on the property of City-owned buildings, facilities and outdoor public amenities (parks, transit stations, etc.).

Note for Renovations: *In a building renovation it is important to consider the accessibility of the existing space and the scope of the renovation. As per the City of Calgary bulletin "Barrier-free Washroom Requirements in Existing Buildings" (2015), where major renovations to existing washrooms involve plan changes or relocations of plumbing fixtures or the addition of new washrooms, the current building code and the application of this section apply in full. However, where more minor renovations are anticipated within a building, consider how improvements to the accessibility of washroom facilities can be included with the requirements of this section and current building code. This will help to support the various needs of building users and future proofing the building.*

General

- K1. [Revised]** Every floor shall have an accessible washroom located along the accessible path of travel. As required by the NBC(AE) 3.8.2.8.(1), an accessible universal washroom is required at each location where washrooms are provided in a storey.

Explanation: *A universal washroom is an accessible inclusive washroom that provides privacy for a person, as well as a care attendant, regardless of gender.*

- K2. [New]** If a building has multiple storeys, the floor plan should be designed in such a way that the location of washrooms is consistent on every level, where feasible.

Explanation: *Placing washrooms in the same location on each floor is especially helpful for people with vision impairments or cognitive disabilities, as it allows them to easily find a washroom, even on unfamiliar floors. A consistent layout of stalls and fixtures on every floor is also preferred.*

- K3. [New]** Where gendered washroom stalls are provided, an accessible stall shall be provided in both the men's and women's washroom.

Washroom Entrances

- K4. [New]** All washroom entrances require accessible signage.

Refer to ADS XX on signage location and requirements.

- K5. [Revised]** Doors leading into accessible washrooms and universal washrooms shall be equipped with power door operators.

Refer to ADS XX for doors and doorways requirements.

Note: *Refer to NBC(AE) 3.8.2.7.(1)(c).*

- K6. [New]** Washroom entrances shall be designed in accordance with ADS XX for door and doorway requirements.

- K7. [Revised]** Doors leading into accessible toilet stalls and limited mobility stalls shall be equipped with spring or gravity hinges that slowly close the door.

Explanation: *The door to an accessible toilet stall typically swings outward and is aligned with the transfer space adjacent to the toilet. This allows a person in a wheelchair to back into the stall, where the door will automatically close and can be locked from the inside. This reduces the amount of maneuvering required when closing and locking the stall door.*

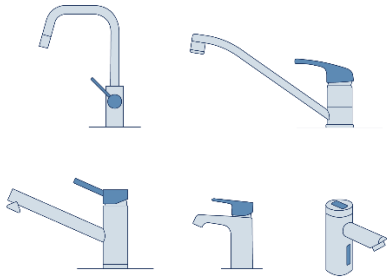
Note: *Refer to NBC(AE) 3.8.3.12.(1)(d)(iv) & 3.8.3.15.(1)(b)(iv) for self-closing door requirements.*

- K8. [New]** All washroom enclosures or stall doors shall be provided with an “occupied” indicator.

Accessible Sink and Fixtures

- K9.** Automatic or lever-type faucets shall be used.

Figure K10 – Example Faucet Types



Note: Faucets to comply with NBC(AE) 3.7.2.3.(4)

K10. [New] Within a multi-user washroom area that includes multiple stalls or toilet rooms, a minimum clear floor space of 2100 mm by 2100 mm is required in front of the accessible sinks and accessible stalls.

K11. [New] Accessible sinks shall meet the following requirements in accordance with NBC(AE) 3.8.3.16.:

- a) be located so that the centre line of the sink and any side wall is not less than 460 mm
- b) have a clear floor space in front of the sink that is at least
 - i. 900 mm wide and centred on the sink, and
 - ii. 1500 mm long, of which no more than 430 mm is beneath the sink
- c) have a rim height not more than 865 mm above the floor
- d) have a clearance beneath the sink not less than
 - i. 900 mm wide, centred on the sink
 - ii. 735 mm high at the front edge
 - iii. 685 mm high at a point 200 mm back from the front edge, and
 - iv. 230 mm high over the distance from point 280 mm to a point 430 mm back from the front edge

Explanation: The code requires a minimum clear floor space of 800 mm by 1350 mm per NBC(AE) 3.8.3.16.(c). ADS has increased this floor space to 900 mm by 1500 mm to accommodate a wider range of wheelchair users and maneuvering space.

K12. Accessible sinks shall have insulated water supply and drainpipes where pipes are exposed. Refer to NBC(AE).

K13. [Revised] Where a wall mounted soap dispenser is provided, it shall:

- a) have the dispensing point be located between 900 mm and 1100 mm from the finished floor,

- b) be located within a 450 - 500 mm reach from the front edge of the sink, and
- c) comply with NBC(AE) 3.8.3.16.(1)(g).

Explanation: *Soap dispensers are not accessible if mounted on the wall or mirror behind the sink, as the depth of the sink or counter prevents someone in a wheelchair from being able to reach the dispenser. If there is no side wall adjacent to the sink, a sink with an integrated soap dispenser is best practice.*

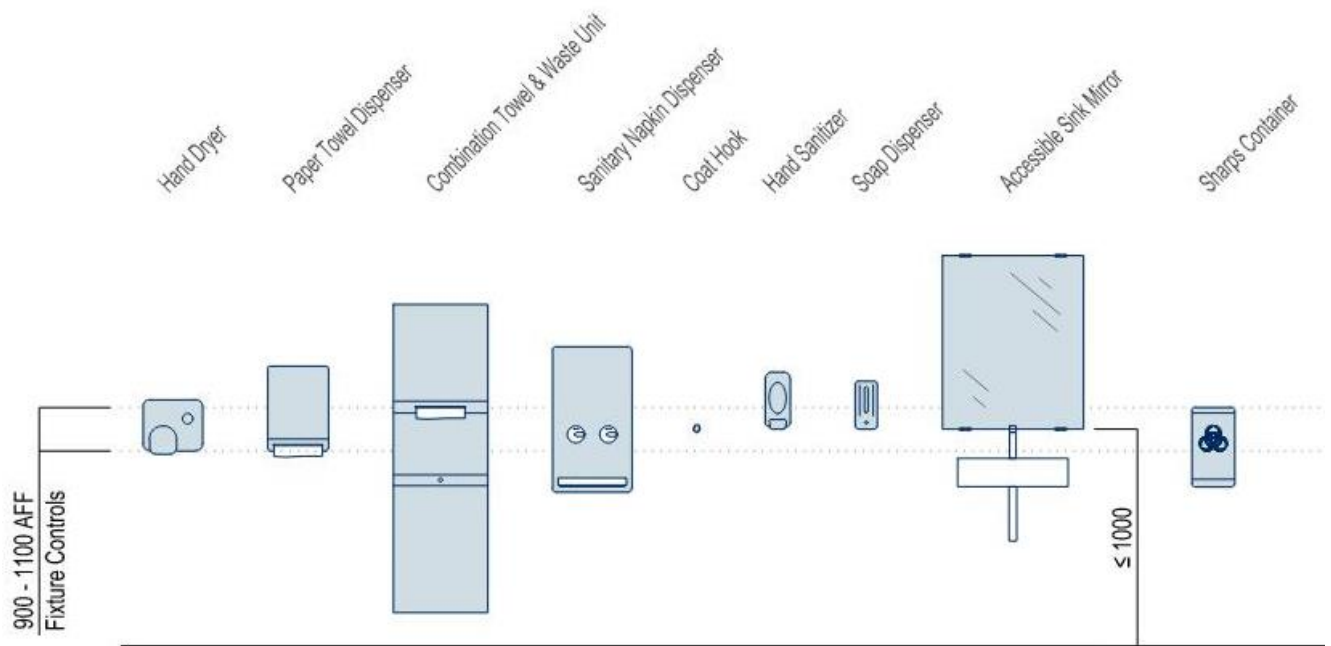
K14. [Revised] As per NBC(AE) 3.8.3.16.(h), a paper towel dispenser or hand dryer is to be located adjacent to an accessible sink and shall:

- a) be located within a 450 - 500 mm reach of a person seated at the sink,
- b) have the operable portion between 900 mm and 1100 mm from the finished floor,
- c) comply with NBC(AE) 3.8.3.8(1)(b),
- d) not protrude into the route of travel or reduce the clear floor area for the sink (refer to ADS XX – Protruding Objects), and
- e) colour contrast with the adjacent wall.

Explanation: *The auditory volume of automated hand dryers can negatively affect the ability of someone with a vision impairment to locate sinks or toilets.*

Note: *A recessed wall mounted combination paper towel dispenser and waste receptacle are preferred. These recessed combination units do not reduce the necessary clear areas that is required around a sink or within a washroom.*

Figure K15 – Washroom Fixture Mounting Heights



- K15. [New]** Where manual paper towel dispensers are provided, they shall be operable with one hand in a closed fist position, without requiring tight grasping, pinching with fingers, or twisting of the wrist.

Explanation: Automatic paper towel dispensers are preferred. Paper towel dispensers which use a manual dial to dispense the paper towel or require two hands to grasp the paper towel are not to be used.

- K16. [Revised]** Waste receptacles shall be installed such that the opening of the receptacle is between 800 mm and 1000 mm from the finished floor.

Explanation: Paper towel dispensers, hand dryers, and waste receptacles cannot reduce the accessible path of travel or clearances within the washroom. Refer to ADS XX – Obstructions. Floor mount waste receptacles need to be taken into consideration during design, as they can obstruct the clearances for doorways, sinks, toilet transfer, and mobility device maneuvering.

Note: If a recessed combination waste receptacle paper towel dispenser is selected, the installation height shall be to the centerline of the operable portion of the paper towel dispenser.

Toilet Fixtures

K17. [Revised] Where provided, toilet seat cover dispensers shall be mounted 900 mm to 1100 mm above floor level.

Note: *The placement of toilet seat covers should not conflict with access to grab bars.*

K18. [Revised] A toilet paper dispenser is to be installed on the wall beside the toilet and conform to the NBC(AE) 3.8.3.12.(1)(i).

Explanation: If rolls are open, recessed, or semi-recessed than access to the horizontal grab bar is possible. While large commercial covered dispensers may require less attention from operations staff, they are difficult to install in an accessible location without conflicting with the L-shaped grab bar.

K19. [New] Recessed toilet paper dispensers or large single roll dispensers are required next to an accessible toilet.

Explanation: *It can be difficult for a person to reach double roll dispensers. If open roll toilet paper dispensers are used, consider including a spare toilet tissue holder adjacent to the dispenser.*

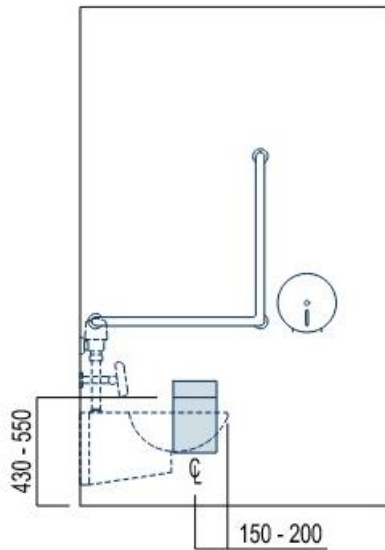
K20. [New] Adjacent to every toilet (including accessible toilet locations, limited mobility toilets, and regular toilet stalls and enclosures) there shall be a sanitary napkin disposal that conforms to the following requirements:

- a) be wall mounted,
- b) have the operable portion of the sanitary napkin disposal mounted between 460 mm and 600 mm above the floor, and
- c) be located 150 - 200 mm from the edge of the toilet on the side wall closest to the toilet.

Explanation: *All toilet locations require a sanitary napkin disposal, as it can be used for menstrual product disposal, incontinence products, catheter care, regardless of gender. As new facilities are being constructed, or existing washrooms are being renovated, the accessible location of sanitary napkin disposal containers are to be provided.*

Note: *The sanitary napkin disposal shall not have a spring or foot-operated lid.*

Figure K20 – Location of Sanitary Napkin Disposal



Grab Bars

K21. [Revised] A L-shaped grab bar is to be installed on the side wall closest to an accessible toilet that:

- a) has a horizontal component not less than 760 mm long and mounted between 750 mm to 850 mm above the floor, and
- b) a vertical grab bar not less than 760 mm long and mounted 150 mm from the front of the toilet.

Note: Refer to the NBC(AE) 3.8.3.13.(1)(f). Ensure appropriate wall backing is provided.

K22. [New] One or two horizontal grab bar(s) are to be installed above the toilet in conformance with the NBC(AE) 3.8.3.13(1)(g).

Note: Ensure appropriate wall backing is provided.

K23. [New] A flip down grab bar is to be installed on the transfer side of the toilet and shall:

- a) be 750 mm minimum in length,
- b) be mounted between 390 mm and 410 mm from the centre line of the toilet,
- c) have the top of the grab bar mounted at the same height as the horizontal component of the L-shaped grab bar,
- d) comply with NBC(AE) 3.7.2.7. Grab Bars, and

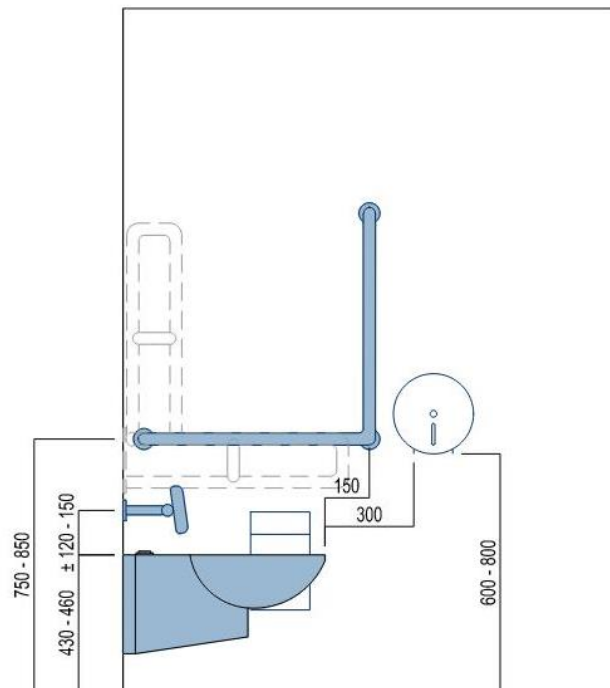
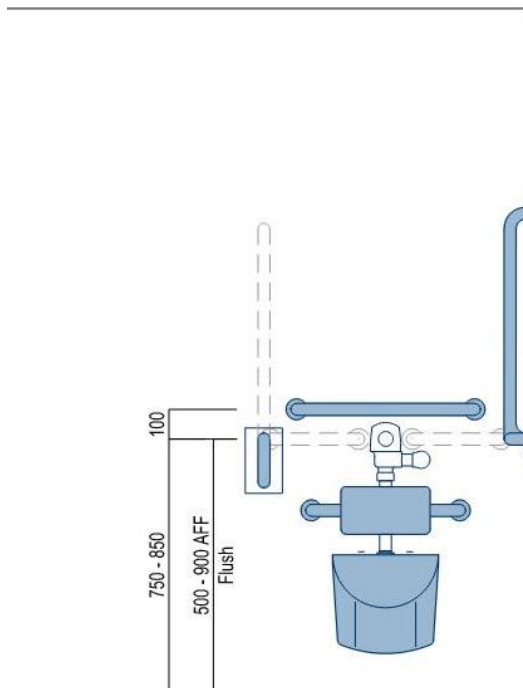
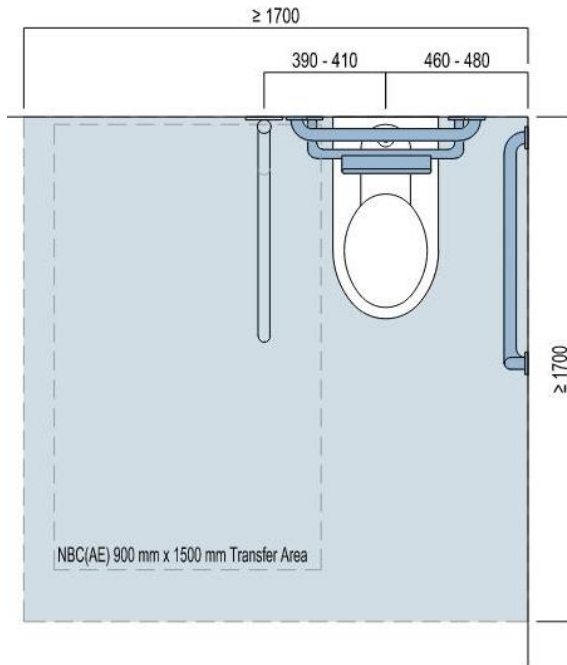
e) not require a force of more than 22 N to pull it down.

Explanation: *Grab bars provide additional safety measures that can help a person to maintain balance while maneuvering or can be used to grab onto in the event of a slip or fall. A caregiver may also use a grab bar to assist someone.*

Notes:

- Review the manufacturer requirements of flip down grab bar prior to selection and installation.
- Ensure appropriate wall backing is provided.
- Since toilets vary in height, the best placement of horizontal grab bars is between 300 mm and 375 mm from the surface of the toilet seat.
- Where limited mobility stalls are provided, the Alberta Accessibility Design Guide may be consulted for interpretation and guidance.
- The mounting heights for grab bars within dwelling units can be customized based on personal need. Refer to ADS XX.

Figure K23 – Accessible Toilet & Fixtures



Accessible Toilet Transfer Space

K24. [New] Where an accessible toilet is provided, a clear area around the toilet is required for maneuvering:

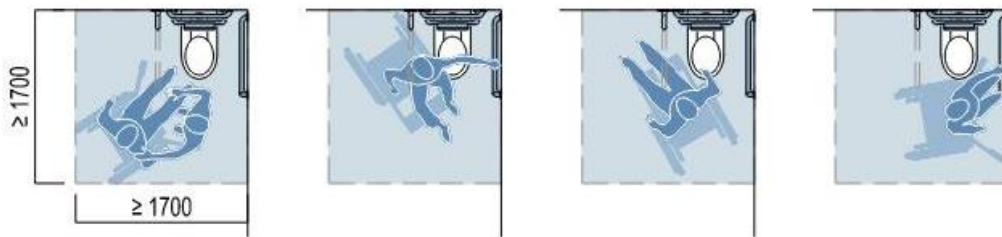
- a) in front of the toilet, measuring at least 1700 mm from the back wall, and

- b) beside the toilet, measuring at least 1700 mm perpendicular from the side wall.

Explanation: The clear space adjacent to the toilet and in front of the toilet allows people using a wheelchair to choose how they prefer to transfer onto the toilet and provides room for caregivers to assist. The 1700 mm by 1700 mm clear area around the toilet includes the minimum transfer clearance of 900 x 1500mm adjacent to the toilet, as required by NBC(AE) 3.8.3.12.(1)(b).

Note: (1) If more than one accessible washroom is provided, the transfer space should be located on opposite sides of the toilet. Many people have a dominant or preferred side when transferring onto the toilet. (2) The clear area around the toilet shall be clear of obstructions, such as garbage bins or baby change tables.

Figure K22 – Toilet Maneuvering Area Examples



K25. [New] Where an accessible toilet is provided it shall be designed in accordance with NBC(AE) 3.8.3.14.

K26. [New] Where an accessible toilet (water-closet) stall is provided it shall:

- a) have a clear maneuvering area around the toilet in accordance with ADS K22,
- b) a turning circle with a diameter of 1700mm within the stall,
- c) have a door with a clear width of at least 900mm that
 - i. swings outward, unless there is an additional clear floor space of 900 mm by 1500mm that does not overlap with the turning circle for the door to swing inward,
 - ii. is self-closing so that when at rest the door is ajar by not more than 50mm beyond the jamb, and equipped with gravity hinge (ADS XX),
 - iii. can be latched from the inside with a mechanism located 900 mm to 1100mm above the floor and conforms to NBC(AE), and
 - iv. NBC(AE) 3.8.3.12. Accessible Water-Closet Stalls door pull requirements
- d) be equipped with accessible toilet grab bars (ADS XX)
- e) be equipped with a toilet paper dispenser (ADS XX), and

- f) be equipped with a coat hook not more than 1100 mm above the floor and located on a side wall, projecting not more than 50 mm from the wall.

[Graphic Placeholder]

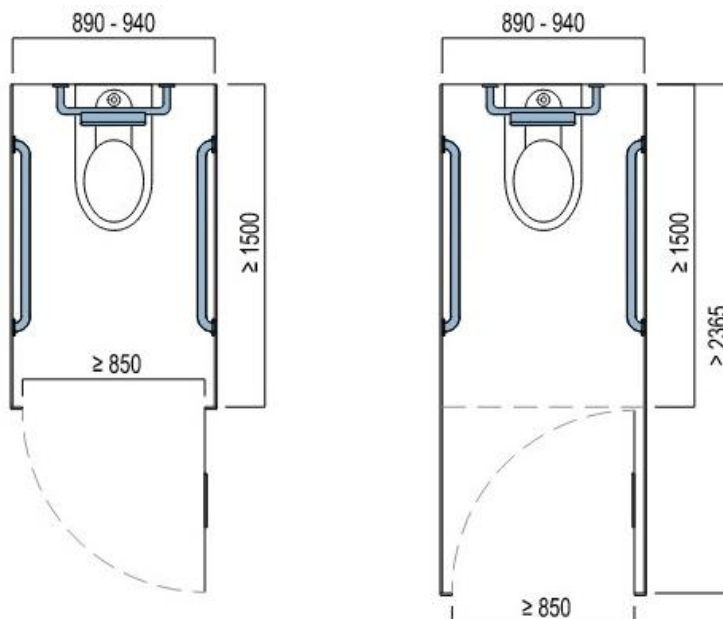
Limited Mobility Stalls

K27. [New] Limited mobility urinals are to be provided in accordance with NBC(AE) 3.8.2.8.(6) and 3.8.3.15.

K28. [New] Limited mobility stalls shall be provided in accordance with NBC(AE) 3.8.2.8.(7) and 3.8.3.15. Refer to *Figure XX* below for typical dimensions.

Note: Refer to the *Accessibility Design Guidelines (Alberta Ministry of Municipal Affairs, 2024)* for additional interpretation on when an accessible stall can be combined with a limited mobility stall.

Figure K29 – Limited Mobility Stall Plan View

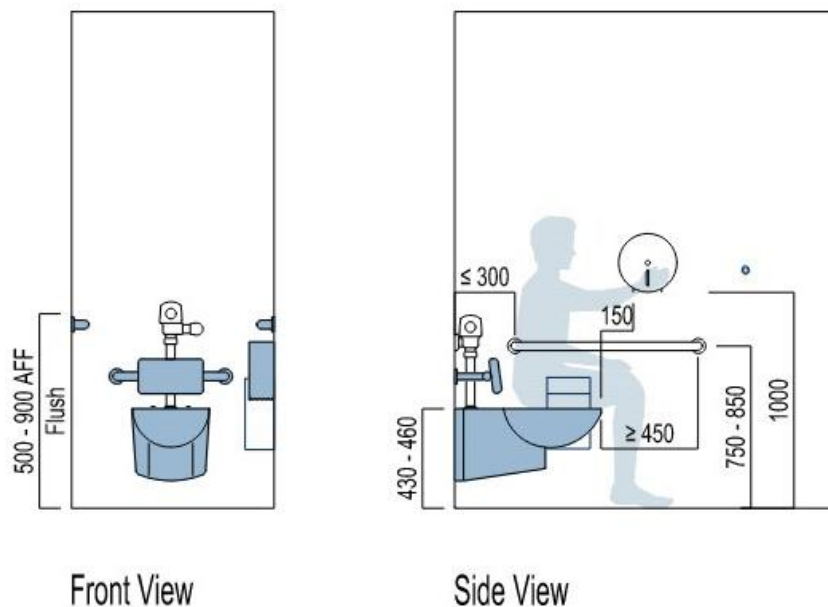


K29. [New] Limited mobility stalls required by NBC(AE) 3.8.2.8.(7) should provide a toilet paper dispenser that

- a) is mounted 900 mm – 1000mm above the finished floor, and
- b) has the dispensing portion located 150mm in front of the toilet.

Note: Refer to *ADS XX* for accessible toilet paper dispensers.

Figure K30 – Limited Mobility



Universal Washroom

K30. [New] All universal washrooms shall have an occupancy or vacancy sensor. Once activated, it shall remain on for a least 15 minutes.

K31. [New] All public universal washrooms shall include a baby change table. The baby change shall:

- a) be mounted so that the work surface height of the baby change table is between 760 mm and 865 mm off the finished floor,
- b) have a clear floor space of 900 mm by 1500 mm on the long side of the change table,

Explanation: The addition of a baby change table within a universal washroom should be considered as part of the space planning, so that it does not conflict with the placement of any other required washroom fixtures or controls.

Note: Baby change tables are not to be placed within an accessible stall of a multi-user washroom. When selecting a baby change table model, confirm that the model meets accessibility compliance and refer to the installation manual. Recessed or partially recessed baby change table models are preferred.

Refer to ADS XX on protruding objects.

[Placeholder for new graphic]

K32. [Revised] All universal washrooms shall provide a wall-mounted sharps disposal container adjacent to the sink. The operable portion of the sharps disposal container shall be located between 900 mm and 1100mm above the finished floor and within 400 mm forward reach of a wheelchair user.

Explanation: *By providing a sharps disposal container it ensures that biohazardous waste is disposed of safely. This ensure safety for both washroom users and for cleaning staff.*

[Placeholder for new graphic]

K33. [New] Where a shelf is required adjacent to a sink in a universal washroom, it shall:

- a) conform to the requirements of NBC(AE) 3.8.3.13.(1)(i),
- b) be at least 200 mm deep and 400 mm wide,
- c) have no sharp edges,
- d) not reduce the clear area required around the sink.

K34. [New] A coat hook shall be provided adjacent to an accessible sink within a universal washroom in conformance with NBC(AE) 3.8.3.12.(1)(h).

Note: *A coat hook shall not be located on the back of a door.*

Universal Washroom Emergency Call Buttons

K35. [Revised] An emergency notification button *should* be installed in all universal washrooms. The button shall be mounted on the wall side of the toilet 450 mm above the finished floor.

Explanation: *Call buttons enable a washroom user to activate an audible and visual alarm outside the washroom if they require assistance. The lower height call button is located close to the floor in the event someone has fallen.*

Note: *Emergency call buttons are used to notify building occupants that a person within the universal washroom requires assistance. The audible and visible signal should be different from other building alarms that are used for building related emergencies. The emergency call button is intended to provide a local alert and is not required to be linked to a central monitoring station. Additional signage may be provided informing washroom users that there is no central monitoring provided.*

K36. [New] Where an emergency call button is provided, an emergency sign that states “IN THE EVENT OF AN EMERGENCY PUSH EMERGENCY BUTTON AND AUDIBLE AND VISIBLE SIGNAL WILL ACTIVATE” in letters at least 25 mm high with a 5 mm stroke, and that is posted adjacent to the emergency button.

K37. [New] Where an emergency call button is provided, a visual and audible alarm system is to be installed outside a universal washroom, and shall be activated when the emergency call button within the washroom is pushed.

Adult Change Table

K38. [New] In a building containing an assembly occupancy (e.g. library, recreation facilities, museums, zoo, community associations), serving 150 people or more, at least one universal washroom shall include an adult change table. Refer to NBC(AE) 3.8.2.8.(15) for all other building occupancies requiring an accessible adult changing space.

Note: *It is important to consider the types of programs offered within a building, the number of users and specific user group needs, as well as the overall layout and size a building or site when deciding where a universal washroom is provided that includes an adult change table. For example, consider some of the scenarios below:*

Scenario #1: *Within an aquatic facility, consider providing an adult change table within the Universal Washroom, Dressing & Shower Room instead of a change bench. This allows for flexibility of use for people using a universal washroom, and for those needing the adult change table and showering facilities.*

Scenario #2: *Within a large exterior programmed site with public washroom facilities, it may be more appropriate to provide a universal washroom with an adult change table at more than one location where washrooms are provided throughout the site.*

Scenario #3: *Within a large multi-storey building or a building with a large floor plate (such as a recreation facility or museum), consider the travel distances and the programmed spaces within the building. In some instances, a single universal washroom near the main entrance may be the most suitable, or it may be beneficial to provide a secondary universal washroom with an adult change table.*

K39. [Revised] An adjustable adult change table shall:

- a) be at least 810 mm wide by 1830 mm long (NBC(AE) 3.8.3.13.(2)(b)),
- b) have an adjustable surface height range between 450 – 500 mm at the low range and 850 – 900 mm at the high range,
- c) have a clear floor space along the entire length of the change table, that is at least 900mm wide,
- d) include appropriate wall backing as required by the supplier,
- e) include a shelf mounted between 900 mm and 1100 mm above the finished floor and that does not conflict with the operation of the change table.
- f) signage instructions for use.

Explanation: *Adult change tables are most often used by caregivers, as they can accommodate an ergonomic height for a caregiver and can be adjusted to find the optimum height for transferring someone onto or off the change table, with or without using a lift.*

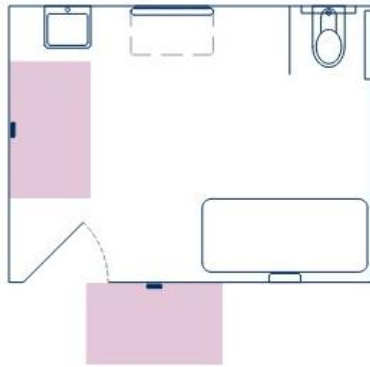
Note: *The size of an adult change table may vary by manufacturer and should be considered in the spatial planning of a universal washroom. If a fold down table is provided, it shall not reduce any required clearances within the universal washroom in the folded down position.*

K40. [New] A combined universal washroom, dressing and shower room within a recreation facility *should* provide a ceiling track for use of the shower, adult change table, and toilet. Where personal lifting devices are provided, they shall comply with CAN/CSA-Z10535.1 & CSA Z10535.2.

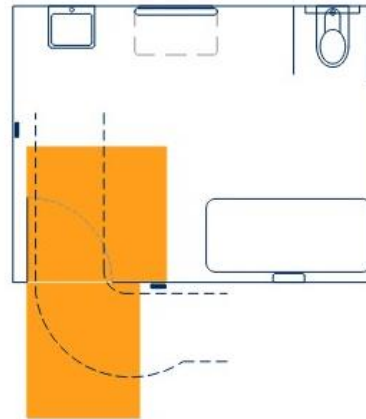
Explanation: *A ceiling track can be provided to assist caregivers when transferring a person onto an adult change table. Ceiling track users are to provide their own sling for use.*

K41. [New] Where an adjustable adult change table within a universal washroom is provided, a diaper only waste disposal bin with a lid *should* be provided.

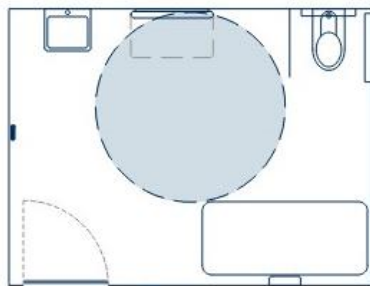
Note: *In addition to providing a diaper only waste disposal bin, it is recommended to provided disinfecting wipes to wipe down the adult change table, as well as hand sanitizer.*



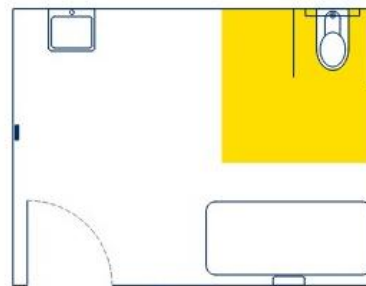
1. Universal washroom clearances for power door operator controls and locking mechanisms.
- Controls should be placed in a location that reduces the amount of maneuvering required to open, close, and lock the door.



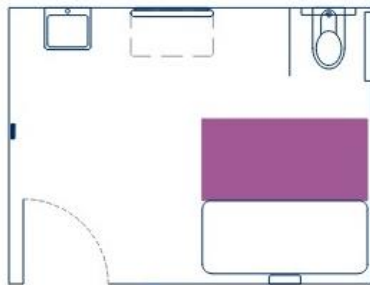
2. Doorway maneuvering and clear width of doors.



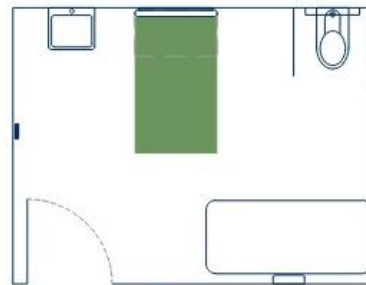
3. Clear turning circle within washroom with a 2100 mm diameter.



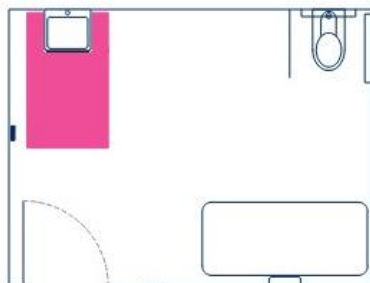
4. Clear floor area around toilet of 1700 mm x 1700 mm to allow for different transfer positions and space for an attendant.



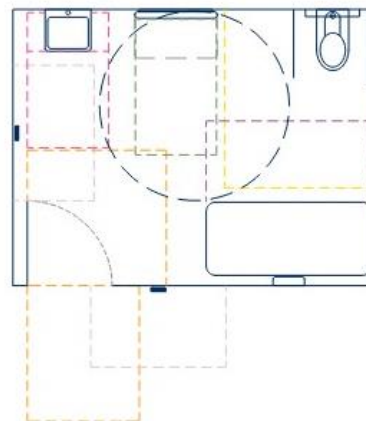
5. Clear floor space adjacent to the adult change table for transfer.



6. Clear floor space of 900 mm x 1500 mm in front of an accessible baby change table (where provided).



7. Clear floor area and knee space in front of a sink.



8. All clear floor areas shown.

Universal Dressing and Shower Rooms

K42. [New] Where showering facilities are provided, at least one universal dressing and shower room shall be provided.

Refer to ADS XX - XX.

Explanation: Individual shower and changing rooms for people with disabilities allow family members or caregivers of the opposite gender to provide assistance with dignity and respect. These facilities may also be used by people who require additional privacy than what the gender-specific change rooms provide. The universal dressing and shower room shall be planned as an integral part of a larger changing area and located in close proximity to other change rooms. Universal dressing and shower rooms are required in, but not limited to, gymnasias, arenas, indoor swimming pools and exercise/fitness facilities, industrial occupancies which provide showers, or showers provided for general use by employees or the public.

Note: A universal dressing and shower room shall be located within close proximity to each bank of showers within a floor area (NBC(AE)). A Universal Dressing and Shower Room can be combined with a Universal Washroom, however in some public facilities it may be beneficial to separate these spaces so that wait times are not too long (eg. aquatic facilities). Separating the universal washroom and dressing room prevents people from waiting a long time to use a washroom or a shower. If the Universal Dressing and Shower Room is equipped with a toilet, it shall also conform to ADS XX & NBC(AE) requirements.

Refer to NBC(AE) 3.8.2.13(2).

K43. [Revised] Where a universal dressing and shower room is provided it shall:

- a) be located along a barrier-free path of travel,
- b) have a door capable of being locked from the inside and released from the outside in the event of an emergency,
- c) have a power door operator in conformance with ADS XX,
- d) have a sink and a mirror conforming to ADS XX,
- e) have a shower conforming to ADS XX,
- f) an accessible toilet conforming to ADS XX,
- g) have an adult change bench conforming to ADS XX or an adult change table conforming to ADS #XX,
- h) have a coat hook conforming to NBC(AE) 3.8.3.12.(1)(h),
- i) provide a 2100 mm turning circle.

Note: *In some public facilities, consider providing an adjustable adult change table (refer to ADS XX) instead of an adult change bench, or providing the appropriate space and clearances to replace an adult change bench with an adjustable adult change table in the future. A universal dressing and shower with toilet can also meet the requirements of a universal washroom. This may depend on building code requirements, other ADS requirements, the number of occupants, and the type of facility. Please reach out to the City's Accessibility Technical & Advisory Services Team for project guidance on when a universal washroom and universal dressing & shower room should be separate versus when they could be combined.*

Refer to NBC(AE) 3.8.2.8.

K44. [New] An accessible change bench shall

- a) be at least 1830 mm long by 760 mm wide,
- b) be between 480 mm to 520 mm high,
- c) have a clear transfer space adjacent to the long side of the bench that is 900mm wide and as long as the bench (see Note A-3.8.3.17.(2)(f)), and
- d) support a weight of 250 kg
- e) have a horizontal grab bar that
 - i. conforms to NBC(AE) Sentence 3.7.2.7.(1).
 - ii. is centered on the long edge of the bench;
 - iii. is at least 1200 mm long;
 - iv. is mounted between 750 and 850 mm from the floor.

Explanation: *Benches that are wide enough may assist people who use wheelchairs to transfer onto the bench and stay upright. This is particularly helpful for people who cannot touch the ground with their feet.*

Accessible Showers

K45. [New] Where enclosed showering facilities are provided, at least 10% of accessible shower stalls or enclosures shall be provided.

Refer to ADS XX - XX (NBC(AE) 3.8.2.8.(13).

Explanation: *An accessible shower and change cubicle within a gender-specific change room provides a choice for people with any disability who are independent, yet want a more inclusive change setting within a recreation facility than the Universal Dressing & Shower Room.*

K46. [Revised] An accessible shower shall

- a) conform to the requirements of accessible showers within the NBC(AE) 3.8.3.17.(1)
- b) have a recessed soap dispenser that is
 - i. located 100 – 200 mm in front of the seat, and
 - ii. the lower ledge shall be mounted between 550mm and 950 above the floor
- c) have a floor with a slope that does not exceed 2%
- d) have an additional horizontal grab bar installed on the side wall opposite the seat that
 - i. conforms to NBC(AE) Sentence 3.7.2.7.(1);
 - ii. is at least 600 mm in length;
 - iii. is located between 750 mm and 850 mm from the finished floor;

Accessible Private Change Rooms

K47. [New] Where private change rooms are provided a minimum of **10%**, but never less than one, should be accessible and meet the requirements of *ADS XX*.

Explanation: *The number of accessible change room stalls provided should consider the use of the facility and the needs of all individuals. Private change rooms are dry spaces that do not include showers, toilets, or sinks.*

K48. [New] An accessible change room shall:

- a) have a door that conforms to *ADS XX OR ADS XX*.
- b) have signage in conformance with *ADS XX*
- c) provide a 2100 mm diameter turning circle
- d) include an accessible change bench in conformance with *ADS XX*.
- e) provide at least one coat hook located adjacent to the bench.
- f) include a full-length mirror that does not reflect the door

Locker Rooms

K49. [New] A minimum of 20% of lockers shall be accessible.

K50. [Revised] Accessible lockers shall have a lower height and have latches that are easily operable with one hand and are within 400 mm – 1100 mm vertical reach of a wheelchair user.

Explanation: *Lockers should be available for use by someone in a wheelchair and the lower height ensures access. Latches that are easy to manipulate ensure people with limited hand strength can use them. (Insert code reference)*

K51. [Revised] A 2100 mm turning circle is to be provided directly in front of accessible lower lockers.

Note: Benches in front of accessible lockers block the access, so a clear space in front of the accessible lockers provides a changing area large enough for wheelchair maneuvering.

K52. [Revised] A minimum 1200 mm wide accessible path of travel shall be provided throughout the change room.

Explanation: Change rooms may have different use areas such as, lockers, changing areas, washrooms, showers, etc. Change room sizes also vary, and the minimum width of travel should take into consideration the number of users.

Refer to ADS Section H – Interior Circulation.

L. Signage and Wayfinding

Signage and wayfinding systems play a key role in designing public spaces are accessible to everyone. City spaces should be designed to have simple, logical layouts and consistent features, such as washrooms in the same location on each floor and using uniform signage throughout. Good lighting is also important. Evenly distributed lighting can highlight important areas like entrances, stairs, ramps, paths, and signs, making it easier for people to find their way and reducing physical and cognitive barriers.

Consistent and well-placed signage provides clear directions to services, floor numbers, parking areas, and other amenities. Signs should be installed at appropriate heights, whether overhead or wall-mounted, and positioned consistently so people can easily identify facilities and services. Signs should be located near building entrances and along routes to help people navigate City buildings, facilities, and outdoor public spaces.

Additional wayfinding features can include tactile and textural cues, sound cues, colour and brightness contrast, and newer technologies such as navigation beacons and virtual assistants. The combination of features used should reflect the needs of the people who will be using the space.

Tactile signage, which includes Braille, raised letters, and raise symbols (or pictograms), is designed to be read by touch. These tactile features are essential for effective wayfinding, particularly for people who are blind or have low vision.

This section outlines The City of Calgary's standards for signage and wayfinding on the property of City-owned buildings, facilities and outdoor public amenities (e.g. parks, transit stations etc).

Note: Signage should present information in multiple formats, including text, pictograms, raised tactile characters, and Braille. This ensures accessibility for a wide range of users, including people with physical, sensory, and cognitive disabilities.

For more detailed guidance on wayfinding, refer to Appendix E – Wayfinding Design for Accessible Navigation

All Signage

L1. All signage should meet the following design criteria:

- a) use matte or non-glare finishes to reduce reflections and improve readability,

- b) maintain a consistent design style across all signs within a building or outdoor space,
- c) provide color contrast between the sign and its background surface, and
- d) use uniform shapes, colors, and placement for signs that convey similar types of information.

Explanation: *These design features help ensure that signage is easily visible and understandable for all users. Providing signs in consistent locations helps people easily identify facilities and services.*

L2. [New] Building entry and room signage providing visual information shall be installed to clearly identify the location of the following accessible features:

- a) Accessible entrances
- b) Accessible changerooms
- c) Accessible passenger-elevating devices
- d) Accessible parking spaces
- e) Accessible seating areas
- f) Accessible showers
- g) Accessible washrooms
- h) Adult change tables
- i) Assistive listening systems or adaptive technologies
- j) Limited mobility stalls
- k) Universal dressing and shower rooms
- l) Universal washrooms

Note: *This list of accessible facilities expands on NBC(AE) 3.8.2.10(1)(a)-(f) and A-3.8.2.10.(4) which specifies the locations where signage, including directional signage, is required.*

L3. [New] Room signage shall conform to NBC(AE) 3.8.3.9.

Exception: *For mobility access, the Dynamic Symbol of Accessibility shall be used instead of the International Symbol of Access.*

Explanation: *The Dynamic Symbol of Accessibility, also known as the “forward movement symbol” or the “active symbol of access,” is an updated version to the International Symbol of Access that shows a person in a wheelchair leaning in a forward active motion. The symbol aims to represent a more inclusive and empowering image of people with disabilities.*

Note: *(1) All signage shall include Grade 1 Braille to support tactile reading for people who are blind or have low vision. (2) The NBC(AE) 3.8.3.9. outlines*

requirements for signage, including mounting height, location, Braille specifications, and colour contrast, with reference to CSA B651:18, “Accessible Design for the Built Environment”.

Symbols of Access

L4. [New] The following symbols of access shall be used for all signage:

Figure L1.1 – Mobility Symbol (Dynamic Symbol of Accessibility)



Figure L1.2 – Vision Loss Symbol



Figure L1.3 – Cognitive Disability Symbol



Figure L1.4 – Communication Access Symbol



Figure L1.5 – Hard of Hearing Symbol



Figure L1.6 – Open Captioning Symbol



Figure L1.7 – Closed Captioning Symbol



Figure L1.8 – Talk to Text Symbol



Figure L1.9 – Large Text Symbol



Figure L1.10 – FM Infrared System Symbol



Figure L1.11 – Sign Language Symbol



Figure L1.12 – White Cane Symbol



Figure L1.13 – Service Dog Symbol



Figure L1.14 – Assisted Listening Symbol



Figure L1.15 – Braille Symbol



Figure L1.16 – Information Symbol



Directional Maps

Directional maps are visual guides that help users navigate a space. They help people navigate large, busy environments and are a key component of effective wayfinding systems so that people can easily and efficiently find their way through a building or outdoor space, reducing confusion and stress. Directional maps also assist in emergency evacuation by clearly marking exits and areas of refuge.

Tactile Guide Maps

Tactile guide maps are a type of directional map designed for people who are blind or have low vision. These maps use raised surfaces, textures, and Braille to help users understand their surroundings and navigate independently.

To be most effective, tactile guide maps should be installed at key decision points, such as entrances. They should help users:

- know where they are now,
- where they want to go, and

- how to get there safely.

Tactile guide maps should include only the essential information needed to understand the space and move through it, such as the location of ramps, stairs, elevators and washrooms.

Raised symbols, pictograms or letters should be easy to feel and interpret. Each feature should be clearly explained use a legend or labeled directly on the map.

Refer to ADS XX for accessible reach ranges

- L5. [New]** Where a building directional map is provided, a tactile guide map should be incorporated.

Explanation: *Providing a tactile guide map ensures that people who are blind or have low vision can understand and safely navigate public spaces.*

- L6. [New]** Located at a height between 1100 mm and 1200 mm above the finished floor or ground level (ADS) / with its centreline at 1400 mm (ISO). All tactile guide maps should include:

- a) a clear title,
- b) a legend explaining the symbols used,
- c) a “You Are Here” marker to indicate the current location, and
- d) key amenities and services, such as ramps, stairs, elevators, service counters, washrooms and other amenities.

Note: *Symbols and pictograms used on tactile guide maps should be consistent across all City spaces. Consistency in visual and tactile symbols is important for effective wayfinding, especially for people with cognitive disabilities or those who rely on touch to navigate. Familiar and predictable symbols help users quickly recognize and understand information, reducing confusion and improving independent navigation.*

- L7. [New]** Where tactile guide maps are installed on a sloping plane, the lower edge shall comply with ADS XX.

- L8. [New]** Where tactile guide maps are installed on a horizontal plane, the map shall comply with ADS XX.

- L9. Explanation:** *Providing a tactile guide map at an accessible height and angle ensures that it can also be used by wheeled mobility device users.*

- L10. [New]** Where tactile guide maps are wall mounted, the map shall be installed in accordance with *ADS XX*.



M. Recreation Facilities

Accessible recreation facilities contribute to the health, independence, and inclusion of people with disabilities. These environments enable people to participate in activities of their choice and access all functional areas of the facility. Inclusion means ensuring that people of all abilities can engage in community life based on their unique needs and goals. To achieve this, full access shall be provided to all areas of the recreation facility, including the site, lobby, reception, activity spaces, gymnasiums, exercise and fitness areas, aquatic pools, arenas, ice rinks, dry slabs, golf courses, athletic parks, change rooms, washrooms, showers, and lockers.

For parking – refer to Section B. Vehicular Access

For exterior paths of travel – refer to Section D. Exterior Paths of Travel

For building entrances – refer to Section F. Entrances, Exits, Doors and Doorways

For interior circulation - refer to Section Interior Circulation

For interior features – refer to Section K. Interior Features

For change rooms – refer to Section J. Sanitary Facilities

For washrooms - refer to Section J. Sanitary Facilities

For lockers – refer to Section J. Sanitary Facilities

Exercise and Fitness Areas

- M1. [Revised]** An accessible path of travel at least 1200 mm wide shall be provided through the exercise and fitness area to each type of fitness equipment with a 2100 mm turning circle between and around the rows of exercise equipment.

Explanation: *An accessible path of travel free from obstacles to and around exercise equipment allows people using a wheeled mobility device to use the facility. An accessible 1200 mm wide path ensures there will be wheeled mobility device clearance to exercise equipment.*

- M2. [Revised]** All fitness equipment and machines that can reasonably be used by a wheeled mobility device user shall have an adjacent clear floor space of at least 900 mm by 1500 mm.

Explanation: A clear floor space beside equipment facilitates the transfer process from a wheeled mobility device. Examples of inclusive fitness equipment and machines include exercise equipment usable without transferring from a wheeled mobility device (e.g. cables, dumbbells, etc.), swing-away seating, machines with back support, light-weight settings (e.g. 2.5 - 5lbs), hand grips/hooks, and controls on exercise equipment in alternative formats (e.g. raised buttons, audible cues, large print, pictures).

[Placeholder for updated graphic]

- M3. [New]** Inclusive fitness equipment and machines, usable by people with varying abilities, should:
- a) have tactile characters (including on free weights),
 - b) have colour contrast against adjacent surfaces,
 - c) have clear sight lines between people using equipment and machines and the facility staff and service counter (where provided),
 - d) have a map of the equipment and machine plan that has tactile characters, and
 - e) have an AED located along an accessible path of travel.
- M4. [New]** Where electronic fitness equipment and machines are provided, they should:
- a) have a visual display,
 - b) audible descriptions of the visual display, and
 - c) be designed to connect headphones or ear buds.
- M5. [Revised]** A raised stretching mat (recommended height: 450 mm from the finished floor) shall be available as an alternative to stretching on the floor.
- Explanation:** A raised platform with a padded surface allows for easy transfer from a mobility device and may be easier to use for anyone with reduced mobility.
- M6.** Where drinking fountains are provided, refer to *Section J. Interior Features* for requirements.

Aquatic Pools

Accessible aquatic environments including swimming pools, hot tubs, saunas and steam rooms are essential for people with disabilities who may rely on aquatic activities

as a form of rehabilitation or exercise to benefit their health and well-being. Design requires an accessible path of travel from the entrance lobby to change rooms and pool decks, and safe access into and out of all pool basins and rooms. Using colour contrast at pool edges also enhances safety and orientation for all users, especially people with low vision. Aquatic wheelchairs should be provided for use in the showers and be available to provide access from the change room to the pool deck and ramp access into swimming pools. Mobility device storage space should also be included in the design.

Refer to ADS XX for clear floor space requirements

Refer to ADS XX for mobility device storage area requirements

Refer to NBC(AE) 7.2.9. for further requirements on Steam Rooms and Sauna Rooms.

M7. [New] A mobility device storage area shall be provided.

Refer to ADS XX for mobility device storage area requirements.

Explanation: *Mobility device storage areas provide mobility device users with a secure place to leave their personal devices while using wet facilities, such as showers and pools. In wet environments, storage should provide ease of transfer to aquatic chairs, helping to protect personal mobility devices from moisture and maintain hygienic conditions.*

Note: *The number of mobility device storage spaces should consider the use of the facility and be increased where it is expected that a greater number of people will require them. Mobility device storage areas should be located to prioritize user security and passive surveillance to ensure that mobility devices remain safe while users access amenities.*

M8. [New] Where saunas or stream rooms are provided, a minimum clear turning space of 2100 mm shall be provided within the room.

Explanation: *All amenities should be available for use by people with disabilities and a 2100 mm clear turning space allows for wheelchair and other mobility device maneuvering.*

Note: *People using a sauna or steam room with a wheelchair or other mobility device may transfer onto the bench and park the wheelchair or device outside the room to prevent it from overheating. A clear floor space inside must be provided to facilitate safe transfers. A mobility device storage area should be provided outside the room and near the sauna or steam room entrance.*

All Pool Basins

M9. [Revised] Pool basins shall include at least one accessible entry point designed with a sloped approach such as a ramp or zero-depth beach-style entry. If a ramp is used, it shall:

- a) include handrails on both sides,
- b) provide a minimum clear width of 1000 mm between handrails,
- c) feature a curb to prevent water wheelchairs from rolling off the edge,
- d) extend fully to the bottom of the shallow end, without steps or ledges,
- e) end at a water depth between 600 mm and 900 mm,
- f) maintain a slope between 1:20 (5%) to 1:12 (8%), and

Note: A slope is not specifically specified for pool basins to allow design proposals on a case-by-case basis; Minimally a ramp access would need to comply with NBC(AE) 7.2.3.12.(2) with reference to Article 3.8.3.5.

Explanation: Sloped entry, such as ramps or beach-style access, is the preferred method for new pool basins as it promotes inclusion, safety and independence. In retrofit scenarios involving existing pool basins, alternative entry methods may be considered acceptable if considered to be inclusive in daily practice. The ramp must reach the bottom of the shallow end of the pool basin, without any steps or ledges, even as some users become buoyant at depths between 600 mm and 760 mm below the stationary water level. For added safety, a solid wall along the poolside of the ramp is recommended.

Note: Lifts are only acceptable in retrofit situations. If a lift is the only acceptable solution, a permanent, independently operated lifts such as platform lifts and pool pods, are preferred. If a lift is considered for an existing pool basin, a hard-wired permanent lift (e.g. not battery powered) is recommended to ensure reliable and independent use. Portable pool lifts are not recommended in any situation.

[Placeholder for new graphic – Accessible Pool Ramp]

M10. [New] Pool basins shall feature a colour and texture contrast between the water surface boundary and the surrounding pool deck.

Ice Rinks and Dry Slabs

M11. [Revised] An accessible path of travel shall connect to all key areas of ice rinks and dry slabs, such as from the parking lot to spectator areas, washrooms and other amenities.

Explanation: Ensuring access to all amenities at ice rinks and dry slabs provides equitable access for participants, spectators and staff.

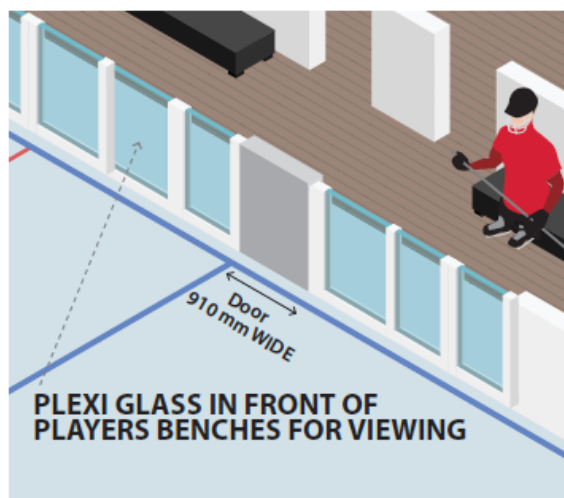
- M12. [Revised]** An accessible path of travel shall connect to players' benches and timekeepers' box without requiring travel on the ice surface. For the requirements of an accessible path of travel, refer to Section D. Exterior Paths of Travel.

Note: While some smaller ice rinks or dry slabs may not include players' benches or timekeepers' boxes, they are still required to meet ADS requirements by providing an accessible path of travel to all key areas and amenities.

- M13. [New]** Any access route leading onto the ice (e.g. from benches or penalty boxes) shall have a minimum clear width of 910 mm.

[Placeholder for new graphic]

ADS 2016 Figure G.220 may be referenced below.



- M14.** Level access onto the ice shall be provided with a maximum lip of 25 mm lip at entry points such as benches and penalty boxes.

Explanation: A minimal threshold onto the ice allows quick, independent access and egress, required when changing players. Ideally, access to the ice surface should be completely level to allow players to go on and off the ice in their sledges; however, a 25 mm lip is considered acceptable due to operational requirements, as it helps prevent ice creeping onto the players' benches.

Note: It is important that ice rink design consider adaptive sports such as sledge hockey played by people with disabilities, as well as spectators, visitors and staff who may require accessible features.

Sledge Hockey

M15. [New] Ice rinks intended for sledge hockey shall comply with the “Canadian Recreation Facilities Council Sledge Hockey Accessibility Design Guidelines for Arenas”.

Note: *In addition to these standards, refer to Hockey Canada’s sledge hockey guidelines for additional design considerations.*

Figure M15 – Sledge Hockey



Golf Courses and Driving Ranges

An accessible path of travel that connects all areas, features, spaces and buildings within the site boundaries of the golf course ensures people with disabilities can participate in playing golf.

For requirements for accessible paths of travel, refer to Section D. Exterior Paths of Travel.

I39. [Revised] An accessible pathway of minimum 1800 mm width shall connect to all key areas of the golf course, such as from the parking lot to the clubhouse, to adjacent cart paths, between tee boxes, fairways, putting greens and driving range.

Figure M16 – Accessible Golf



- I40.** The surface of the pathway shall be firm and stable and meet all other requirements of *Section D. Exterior Paths of Travel*.

Explanation: Generally, outdoor surfaces such as pavement, stones, crushed and compacted stone, and rubberized surfaces are firm and stable. Sand, pea gravel and wood chips/mulch are not firm and stable and should not be used. If required, design consultants may be asked to demonstrate a chosen product is firm (does not compress underfoot) and stable (endures weather conditions and does not shift).

- I41. [New]** Where curbs are installed along cart paths to restrict access to certain fairway areas or to prevent erosion, 1800 mm wide openings shall be provided at safe intervals.

Explanation: An 1800 mm clear width accommodates mobility device users and golf equipment.

Athletic Parks

For requirements for accessible paths of travel, refer to *Section D. Exterior Paths of Travel*.

- I42. [Revised]** An accessible path of travel, minimum 1800 mm wide, shall connect all components of athletic parks, including parking, sports fields, running tracks, spectator areas, and washroom facilities.

- I43. [Revised]** Pathway surfaces shall be firm and stable.

Explanation: Generally, outdoor surfaces such as pavement, stones, crushed and compacted stone, and rubberized surfaces are firm and stable. Sand, pea

gravel and wood chips/mulch are not firm and stable and should not be used. If required, design consultants may be asked to demonstrate a chosen product is firm (does not compress underfoot) and stable (endures weather conditions and does not shift).

N. Calgary Transit Facilities

Accessible public transit facilities are essential in ensuring equity for all people including people with physical, sensory and cognitive disabilities. These facilities should be designed to eliminate barriers that impede full and independent access to public transportation services. Key design elements such as signage, wayfinding, paths of travel, help phones, platforms and transit shelters should be usable by everyone. This section outlines The City of Calgary's standards for accessible transit infrastructure.

Refer to Section B. Vehicular Access for parking facilities

Refer to Section D. Exterior Paths of Travel and H. Interior Circulation for exterior and interior accessible paths of travel requirements

Refer to Section E. for accessible seating and bench requirements

Refer to Section F. Entrances, Exits, Doors & Doorways for requirements.

Refer to Section G. Ramps, Stairs, Elevators and Lifts for stairs, ramps, elevators, lifts, handrails and tactile walking surface indicators (TWSIs) requirements

Refer to Section L. for signage and wayfinding requirements.

All Transit Facilities

Applicable to interior and exterior transit facilities.

- N1. [Revised]** Signage displaying the active symbol of access and conforming to NBC(AE) 3.8.3.9. shall be installed to clearly identify the locations of accessible station and platform entrances, help phones, and elevators.
- N2.** An accessible path of travel shall be provided throughout the site, connecting key areas such as parking lots, LRT stations, LRT or BRT platforms and transit stops.
Refer to Section D. Exterior Paths of Travel and H. Interior Circulation for exterior and interior accessible paths of travel
- N3.** At-grade track crossings shall be smooth, level across the tracks, and include both visual and auditory cues to support safe and accessible navigation.

- N4. [Revised]** Tactile attention indicator tiles measuring between 600 to 650 mm wide, shall be installed at LRT pedestrian crossing entrances, covering the full width of the crossing.
- N5.** Benches and other seating shall be installed in accordance with the requirements outlined in *Section E. Exterior Areas & Features*.
- Exception:** *In general, when benches or other seating types are installed, at least 20% of seating is required to be accessible. However, in Calgary Transit areas, all benches shall be accessible.*
- N6.** All interior and exterior lighting shall be designed and installed to reduce glare and eliminate backlit areas.
- Explanation:** *Lighting should support natural surveillance and be clearly visible to users.*

Platforms

- N7.** All vertical obstructions on LRT and BRT platforms shall be installed at least 2500 mm from the edge of the platform.
- Explanation:** *This clearance aligns with Calgary Transit's Design Guidelines Manual.*
- Exception:** *Help Phones locations may be not always meet this requirement.*
- N8.** Vertical obstructions on LRT and BRT platforms shall be painted Pantone 289C up to 220 mm above the finished surface.
- N9.** Tactile walking surface indicators (TWSIs), measuring between 600 to 650 mm wide, shall be installed along LRT and BRT platform edges.
- Note:** *Contact Calgary Transit for current tactile warning tile specifications and Calgary Transit TWSI Guidelines.*
- N10.** If a pedestrian bridge connects to a platform, the bridge shall be a minimum 3000 mm wide.
- Explanation:** *A 3000 mm width is required in the City of Calgary's Bridge Design Guideline.*

Transit Shelters

A transit shelter is a covered space designed to provide protection and comfort for passengers waiting for public transportation, such as trains or buses. These shelters should be designed to provide enough space for public use, including passengers using mobility devices.

Refer to Section D. Exterior Paths of Travel for requirements for accessible paths of travel, level surfaces, and obstructions.

Refer to Section E. Exterior Areas and Features for accessible seating and bench requirements

Refer to Section F. Entrances, Exits, Doors and Doorways for doors and doorways.

- N11. [New]** Transit shelters that incorporate glass panels shall include color contrasted markings along the entire width of the panels. These markings shall be at least 100mm wide and installed between 1350 mm and 1500mm above the ground surface. A secondary strip shall be installed between 850 mm and 1000mm above the ground surface.

Explanation: *Color contrasted markings on transit shelter glass panels enhance visibility, making it easier for all users, especially people with low vision, to identify shelter locations.*

Note: *Incorporating continuous color-contrasted markings at two levels along the full width of glazed doors achieves the optimal level of accessibility for people with low vision. Refer to NBC(AE) 3.3.1.20. for additional requirements.*

- N12. [New]** A transit shelter shall:

- a) provide an unobstructed clear floor area at least 1700 mm by 1500 mm directly inside the doorway;
- b) where no door is provided, have a clear opening at least 1000 mm wide; and
- c) where a door is provided, refer to *Section F. Entrances, Exits, Doors and Doorways* for door requirements.

Explanation: *Transit shelters should provide enough space for everyone, including people who use mobility devices, to wait comfortably and safely.*

Note: *Furnishings within the shelter must not obstruct the area inside the doorway.*

[Placeholder for new graphic]

Bus Stops

A bus stop is a designated location where passengers can board or exit from a bus. It is typically marked by a sign or pole indicating the stop.

- N13. [New]** All equipment at bus stops shall provide a clear ground area of minimum 900 mm by 1500 mm for a stationary position,

Note: *A clear floor or ground area of 900 mm by 1500 mm accommodates people using wheeled mobility devices, crutches, walkers, long white canes, and those traveling with service dogs.*

- N14. [New]** Where a bus stop features a transit shelter, the shelter shall comply with ADS XX.

Note: *Consistent placement of transit stop features is essential for creating a predictable environment that supports wayfinding for all transit users, especially people with low vision, blindness and cognitive disabilities.*

[Placeholder for new graphic]

O. Accessible Dwelling Units

Accessible dwelling units play an important role in ensuring livable environments so that people can access and use their homes to the greatest extent possible. Having accessible dwelling units may allow people with a wide range of disabilities to live independently, creating a positive impact on well-being and increasing engagement within communities.

The CSA/ASC B652 “Accessible dwellings” standard outlines best practices for designing, constructing, and renovating homes to support the needs of people with disabilities and older adults. This includes design elements such as ensuring enough space for mobility devices, and making sure that every day features, like handles, light switches, and other controls are easy to use.

CSA/ASC B652 can be applied to many types of housing including single family homes, duplexes, townhouses and apartments. It contains accessibility requirements for people with a range of physical, sensory, or cognitive disabilities or a combination thereof. For these reasons, The City has adopted CSA/ASC B652 as a comprehensive guide to accessible dwelling units for adoption by ADS.

- O1. [New]** Accessible dwelling units shall comply with the latest version of CSA/ASC B652 “Accessible Dwellings” or NBC(AE) whichever is most accessible.
- O2. [New]** In multi-unit buildings, site amenities, entrances, parking and common areas shall meet the applicable sections of these Access Design Standards where they have a higher degree of accessibility than CSA/ASC B652 or NBC(AE).

Glossary

Access aisle	A clear, level area parallel to a designated accessible parking stall
Accessible	Describes products, devices, information, services, facilities or public spaces that provide independent, equitable and dignified access for people with disabilities, including but not limited to those with physical, sensory and cognitive disabilities.
Accessible path of travel	A continuous, unobstructed path connecting universal design elements and spaces of a facility or other public space. Interior accessible paths of travel include elements such as corridors, floor surfaces, ramps, elevators, platform lifts and clear floor space requirements at fixtures. Exterior accessible paths of travel include elements such as parking access aisles, curb ramps, pedestrian crossings, sidewalks, pathways, trails, ramps, platform lifts, LRT stations and bus stops. *In building codes and accessibility standards, “accessible path of travel” and “barrier-free path of travel” are closely related terms, often used interchangeably depending on the jurisdiction. The NBC(AE) outlines specific barrier-free design requirements for a barrier-free path of travel. The Access Design Standards refers to an “accessible path of travel” where its requirements exceed the NBC(AE).
Adaptable	The ability of a product or space to be modified to meet changing needs of its users over time.
Adaptable units	Dwelling units that are designed to be easily modified without requiring significant structural changes to meet the changing needs of occupants and offer greater flexibility in the living space. Units include clear spaces to allow for easier travel throughout the units with the use of mobility device. Structural provisions and wall and ceiling reinforcements are incorporated in the construction for possible future installation of grab bars and ceiling hoists.
Area of refuge	An area separated from the general floor space by a fire-rated barrier with a fire-resistance rating equal to or greater than that required for an exit, which is smoke-protected and served by either an exit or a firefighter elevator.
Assistive listening device (ALD)	Electronic devices designed to enhance the listening experience for individuals with hearing loss. These devices can be used with hearing aids or headphones and operate by transmitting signals directly to specialized receivers or compatible hearing aids. They often reduce or eliminate background noise, improving sound clarity in most environments.

Audible signal	Signals which emit distinctive sounds, messages, or alerts to provide warnings or indicate a readiness to respond, such as an alarm bell or beeping sound.
Barrier	Physical and perceived obstacles that limit or prevent a person's full participation in the activities of daily living.
Barrier-free	As defined in the NBC(AE), buildings and facilities that can be approached, entered and used by people with physical or sensory disabilities.
Bollard	A vertical post often used for traffic control and security to protect the pedestrian path of travel.
Braille	A system where raised dots are used to represent letters, numbers, punctuation and words. Unified English Braille (UEB) is the braille standard for Canada.
Cane-detectable	Any object or change in surface texture that falls within the detection range of a long white cane.
Cane detectability	An object or protective barrier is considered cane detectable if it's leading edge is at 200 mm or lower to the walking surface. The National Building Code (A/E) ~~ABC~~ considers objects to be cane detectable if they are 680 mm or lower to the walking surface. The lower the object, the earlier a person using a cane can detect it. A lower height is also more effective for children who use white canes.
Clear	Unobstructed.
Clear floor space	The minimum unobstructed floor or ground space required to accommodate a single wheelchair, mobility scooter, or other mobility device, including the device user.
Closed captioning	A process of displaying text on a screen or visual display to provide someone who is deaf or hard of hearing with audio content that they would otherwise be unable to access. Closed captioning may also include descriptions of non-speech elements.
Colour contrast	A significant contrast in colour and brightness between the foreground and the background of an element, or between two adjacent elements, such as a door frame and a wall.
Cross slope	The slope that is perpendicular to the direction of travel.

Crosswalk	That portion of a pedestrian crossing that is within the vehicular right-of-way.
Curb ramp	A sloped surface built into a curb.
Deaf	A person who is hard of hearing or has no hearing; a medical or audiological term referring to individuals who have little or no functional hearing. (Adapted from Canadian Association of the Deaf) Note: deaf (lowercase spelling) and Deaf (spelled with a capital D) can have two separate meanings in social contexts. Deaf (with a capital D) is a sociological term that refers to a person or group of individuals who are medically deaf or hard of hearing who identify with and as part of the culture, society and language of Deaf community and, often, have been deaf or hard of hearing from a young age or from birth. Sign language is often a first language and used as the preferred method of communication (adapted from Gallaudet University and the Canadian Association of the Deaf).
Depressed curb	A continuous area where a curb is lowered to match the height of the adjacent roadway, allowing for a smooth transition between the pedestrian pathway and vehicular roadway.
Disability	Any temporary, recurring, or permanent impairment, including a physical, mental, intellectual, cognitive, learning, communication, or sensory impairment, or a functional limitation that, in interaction with a barrier, hinders a person's full and equal participation in society.
Dynamic Symbol of Access	The Dynamic Symbol of Access, also known as the "forward movement symbol" or the "active symbol of access," is an updated version to the International Symbol of Access that shows a person in a wheelchair leaning in a forward active motion. The symbol aims to represent a more inclusive and empowering image of people with disabilities.
Element	An architectural component of a space or site (e.g., curb ramp, seating, door frame)
Facility	All or any portion of buildings, structures, site improvements, parking lots, roads, elements, infrastructure and pedestrian or vehicular routes located on a site.
Glare	An excessive reflection of light from a surface.

Glare-free	Surface treatments and finishes that are designed to minimize light reflection, offering a matte or low-sheen appearance that reduces vision discomfort and improves accessibility for individuals with vision related disabilities or conditions.
Guard	A safety railing used as a barrier to prevent encroachment or accidental falls from a given height.
Handrail	A component typically grasped by hand for support at stairways, ramps, and other places where necessary for stability and pedestrian safety.
Horizontal strip	A distinct, textured surface applied to the leading edge of a stair tread or at the stair nosing that is colour contrasted to visually distinguish the edge of each stair tread.
Illumination	The intensity of light as measured in lux (lx).
Induction loop	A hearing support system that uses electromagnetic signals to wirelessly transmit and receive sound to amplify sound and enhance audio for individuals who use hearing aids.
Lavatory	A sink or wash basin.
Long white cane	A mobility tool primarily used by people who are blind or have low vision. It extends from the floor or ground to the user's sternum and is designed to help detect obstacles and navigate surroundings safely. Users typically move the cane by rolling or tapping it from side to side as they walk, allowing them to gather sensory information about the environment.
Mobility device	A range of assistive equipment used by people with disabilities to assist with mobility (e.g. crutches, canes, manual or powered wheelchairs, braces, etc.).
Nosing	The edge part of a stair tread that protrudes beyond the riser below.
Operable portion	The part of a device or a control that requires touch, a push, pull, turn, or other manipulation to make it function. Examples include door handles, drawer pulls, switches, levers, and dials.

Passenger drop-off and pick-up area	Passenger loading areas are separated from the flow of vehicular traffic and located close to the main entrance of a building. Their main function is to allow passengers to get in and out of vehicles safely and conveniently. They are especially beneficial for people with limited mobility, people with low vision or no vision, people with service dogs, seniors, and people pushing strollers.
Pedestrian crossing	The combination of crosswalk segments, curb ramps or blended transitions, medians and refuge islands that connect departure and arrival walkways across a vehicular right-of-way.
Pedestrian right-of-way	The portion of a public space designated for pedestrians to move freely and safely.
Platform lift	An elevating device that is installed at a permanent location in a building structure and is used to transport people with disabilities on a platform that moves between permanent levels.
Raised crossing	A crossing that is elevated higher above the road or adjacent ground surface to a height between 80 mm and 150 mm (3 inches to 6 inches) with ramps on the approaches. Its purpose is to slow vehicular traffic and make the crosswalk more visible, helping pedestrians to cross safely.
Ramp	A walking surface which has a running slope greater than 1:20 (5%).
Rest area	A level, unobstructed area adjacent to a pedestrian route that provides space for people to stop, sit, or rest.
Riser	The vertical portion between two stair treads.
Running slope	The slope or incline that runs parallel to the path of travel.
Service dog	A dog that is trained to perform a specific task or tasks to provide assistance to a person with a disability or disabilities.
Slope	The ratio of rise to run on an inclined surface.
Street furniture	A variety of elements and amenities installed in the public right-of-way for use by the public, such as transit shelters, benches, waste bins, bike racks, and information pillars.

Suite	A room or series of rooms of similar use, under a single tenancy, and includes residential dwelling units, motel and hotel rooms, stores, offices, etc.
Tactile	An object or element that can be perceived through touch.
Tactile attention indicator (TAI)	A surface feature composed of truncated domes that signals an upcoming hazard or a point requiring decision-making, such as an intersection or change in direction. These indicators provide a tactile cue detectable underfoot or by a long white cane.
Tactile direction indicator (TDI)	A surface feature consisting of parallel, flat-topped elongated bars that communicate the suggested path of travel. These indicators assist individuals with low vision or who are blind in wayfinding by guiding movement along safe and accessible routes.
Tactile sign	Any sign that can be read by touch. Braille, raised print and raised symbols or pictograms are examples of tactile elements used on signs.
Tactile walking surface indicator (TWSI)	Standardized surface features built into or applied to walking surfaces or other elements to assist people with low vision or blindness. They communicate essential sensory cues through distinct textures detectable underfoot or by a long white cane, providing alerts or directional guidance and warning of potential hazards along circulation paths.
Telecoil	A small coil inside of some hearing aids that acts as a small receiver or antenna to pick up signals from an induction loop system to amplify the sound while dampening background noise.
The Americans with Disabilities Act (ADA)	The ADA of 1990 prohibits discrimination and ensures equal opportunity for persons with disabilities in employment, state and local government services, public accommodations, commercial facilities, and transportation. www.ada.gov provides information and technical assistance on the ADA, including the 2010 ADA Standards for Accessible Design.
Transfer space	An unobstructed area that allows for the positioning of a wheeled mobility device, such as a wheelchair, enabling a person to transfer to an adjacent seated element, such as a bench or toilet.
Tread	The portion of the stairway that is stepped on.
Universal Design	A space that is designed to be accessible, easily understood, and usable by all people regardless of their age, size, ability, or disability.

Visible signal	A cue or indicator that conveys information, an alert, or instruction through sight. This can include lights, signs, symbols, or displays that are intended to be seen. Often, this is beneficial for people who are deaf or hard of hearing.
Wayfinding	The ways in which people orient themselves in physical space and navigate from or between place to place.
Wheeled mobility device	A device that supports mobility and functional independence for people who have limited mobility, are unable to walk unassisted over long distances, or those who do not have the ability to walk. Examples include manual and power wheelchairs, electric scooters, and other power-drive mobility aids.

Appendix A – Universal Design Principles

The concept of universal design was developed by Ronald Mace, the founder and former program director of The Center for Universal Design at North Carolina State University. Universal design can be thought of as a living, evolving approach to design that considers the varied abilities of users.

Universal design enhances access by prioritizing those most affected by barriers and centering the experiences of people with disabilities who often face the greatest inaccessibility in the built environment, ensuring inclusivity for all.

A working group composed of architects, product designers, engineers and environmental designers defined seven principles of universal design in 1997. The seven principles are:

1. **Equitable Use:** The design is useful and marketable to people with diverse abilities.
2. **Flexibility in Use:** The design accommodates a wide range of individual preferences and abilities.
3. **Simple and Intuitive Use:** Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.
4. **Perceptible Information:** The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.
5. **Tolerance for Error:** the design minimizes hazards and the adverse consequences of accidental or unintended actions.
6. **Low Physical Effort:** The design can be used efficiently and comfortably with minimum fatigue.
7. **Size and Space for Approach and Use:** Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility.

Appendix B – CoLATE Principles

Five basic principles for safe and effective environmental design for People with Visual Disabilities were developed by Mark Iantkowiak in 2003 and are best remembered by using the acronym CoLATE.

Co – Colour and contrast

L – Lighting

A – Audible cues

T – Tactile cues

E – Ergonomics

Co – Colour and contrast

Effective use of colour and contrast designs can enhance safe orientation and mobility of people with visual impairments. Walls should be in contrast with flooring and furniture should contrast with carpeting and surrounding walls. Colour and contrast cues can be used for wayfinding and to indicate important fixtures such as doorknobs, door frames, drinking fountains, etc.

L – Lighting

Lighting (or perhaps more aptly phrased as illumination, since we are referring to the actual way an area is illuminated rather than, necessarily, the source or type of lighting) is a vital consideration in providing safe access/egress and use of a structure or outdoor area. Designers often use accent lighting to highlight a decision-making point or a point of interest. Even back-lit lighting is used to highlight certain points of interest or for information purposes. Such lighting designs are not desirable for most people with visual impairments. Most eye conditions require a well-distributed, constant level of lighting. Back-lit areas or areas where glare is present or proceeding from a dark lit area to a brightly lit area only exacerbate orientation and mobility for people with visual impairments.

A – Audible Cues

Audible cues are also a vital consideration for people with varied levels of vision. One can align their path of travel according to sounds they know the location of, they can relate the distance from various objects by sound or even track where they are located within a structure by knowing a sound cue within a structure. A water fountain which gives off a distinctive sound within a shopping mall is an example of an audible cue.

T – Tactile Cues

Tactile cues are a parallel consideration to audible cuing. One might align oneself according to the direction of a wall, curb or planter, if there is some indication that it is used in a consistent way within a structure. Tactile cues may also be used at decision-making points for wayfinding (e.g. different textures on floor surfaces, textures on walls, signs in relief placed consistently next to doorways, railings with different textures when approaching changes in elevation).

E – Ergonomics

Although ergonomics is commonly defined as the study of people in relation to their working environment, the following is a broader application of the term. Ergonomics within the context of safe orientation and mobility for people with visual disabilities is meant to allude to the logical layout and usage of a structure or area. Simply by reasoning, one might assume there will be washrooms adjacent to an eating area, seating next to a reception area, public telephones close to an entry vestibule to a major building. The way the walls, doors and various fixtures are oriented to one another may be an ergonomic consideration. Generally, only when a structure is planned with right angles, logical wayfinding and situating facilities according to usage or complementary considerations, might the safe orientation and mobility of people with visual disabilities be met.

Appendix C – Illumination

Proper illumination is a key component of accessibility in public spaces. While good lighting benefits everyone, it is especially important for people with low vision or those who experience difficulty in environments that are too bright or too dim.

Effective lighting enhances spatial awareness, helps people distinguish colors and textures, and supports safe, independent navigation. It also improves the visibility of signage and other key features, and facilitates visual communication, such as lip-reading, for people who are deaf or hard of hearing.

Consistency in illumination levels is essential for people with low vision, as they often have difficulty adjusting to changes in lighting.

Illumination Levels

- **[New]** Minimum Lighting Performance levels shall be as per latest Illuminating Engineers Society (IES) standards.

***Note:** It is recommended that lighting levels in high use areas be aligned with the needs of older adults to better support people with low vision.*

- **[Revised]** Illumination levels shall be increased to emphasize stairs, entrances, obstacles, information signs and key indoor and outdoor amenity areas.

***Explanation:** Well-lit paths of travel with evenly distributed lighting are easiest to navigate for all users including people with low vision and cognitive challenges.*

***Note:** Lighting can also be used as an effective wayfinding element to delineate paths of travel or emphasize building features such entrances, exits, stairs, ramps and signage.*

Appendix D – Sensory-Friendly Design

Spaces that incorporate sensory-friendly design benefit everyone, particularly people who have difficulty with sensory regulation. Sensory-friendly design strategies can support people of all ages and abilities, including those with autism spectrum disorder (ASD), attention deficit hyperactivity disorder (ADHD), post-traumatic stress disorder (PTSD), anxiety disorders, sensory processing disorders, developmental or intellectual disabilities, dementia, and brain injuries.

The word neurodiversity is often used to describe the different ways people experience and respond to the world around them, including how they process sights, sounds, and other sensations.

Sensory-Friendly Areas

Sensory-friendly areas provide a safe retreat where people can regulate their sensory input, reduce stress, and feel more at ease in public spaces or busy environments. While most existing buildings lack dedicated spaces for this purpose, retrofitting projects present an opportunity to repurpose underutilized spaces such as offices, meeting spaces, or wellness rooms to help reduce sensory overload or distress. In new construction, it is recommended to include a sensory-friendly area as part of an inclusive design strategy.

To promote accessibility, sensory-friendly spaces should be easy to locate and usable without requiring staff assistance or navigating security protocols. Signage should comply with the Access Design Standards (ADS) to ensure clarity and consistency. Seating areas within the sensory-friendly space should accommodate a range of needs by offering both fixed and movable options, with and without armrests, varying seat heights, and adequate back support. Overall, sensory-friendly environments should be designed to promote comfort, calm, and engagement.

Furniture and features within sensory-friendly spaces may include rocking chairs, tactile surfaces, weighted blankets, sensory toys, and auditory aids such as noise machines, headphones, and books.

To improve acoustic comfort, design strategies should aim to carefully locate these spaces from adjacent louder areas such as traffic, playgrounds, hallways or assembly areas. In buildings minimize noise from HVAC systems and utilize materials such as carpets, acoustic panels, ceiling tiles, soundproof curtains, or corkboard to help create a quiet, calming environment.

Lighting should be adaptable and user-controlled (where feasible), allowing people to adjust direction, brightness, and colour to meet individual sensory needs. Accessible window coverings offer one method of achieving this flexibility, while clerestory windows can provide natural lighting without introducing visual distractions. Features like dimmer switches further support customizable lighting conditions. Light fixtures should use bulbs that are free from flicker, hum, or buzzing to maintain a calm and comfortable environment.

Note: *All relevant sections of the Access Design Standards (ADS) apply to Sensory-Friendly Areas. Refer to ADS XX and all other relevant provisions.*

Sensory-Friendly Design Approach

In addition to dedicated sensory-friendly areas, the principles of sensory-friendly design should inform the overall planning and layout of buildings and spaces. These concepts can be scaled and integrated into broader design strategies to create environments that are welcoming, adaptable, and supportive for all users. Whether in new construction or renovation projects, embedding sensory-friendly principles helps ensure inclusion from the outset.

Recommended Resource:

PAS 6463: Design for the Mind

- This resource offers guidance for going beyond minimum accessibility requirements, supporting the creation of inclusive, forward-thinking spaces that address a wide range of sensory and cognitive needs

Appendix E – Wayfinding Design for Accessible Navigation

Overview

To support safe, independent, and equitable movement for everyone, including people with disabilities, buildings and outdoor environments should incorporate inclusive wayfinding strategies. These strategies should align with the principles outlined in the Alberta Accessibility Design Guide (2024) and all applicable ADS standards and appendices.

Key Elements of Accessible Wayfinding Design

1. **Intuitive Layouts** – Spaces should be organized in a clear and intuitive manner to reduce cognitive load and support passive orientation for all users. This should be supplemented with a comprehensive wayfinding strategy including the elements below.
2. **Tactile Walking Surface Indicators (TWSIs)** – Textured ground and floor surfaces provide important non-visual cues for people who are blind or have low vision, assisting in route identification and hazard awareness.
3. **Auditory Cues** – Sound-based navigation elements, such as directional audio signals, can assist people with low vision or cognitive disabilities in understanding spatial requirements.
4. **Visual Contrast** – High contrast color schemes and brightness differentiation between surfaces improves visibility for people with low vision.
5. **Accessible Signage** – Signage should include tactile, Braille, and audible components to ensure usability by people varying sensory needs. Placement should be consistent and within reach ranges in accordance with *ADS XX*.
6. **Lighting and Daylighting** – Uniform, glare-free lighting improves visibility and safety, especially people with sensory sensitivities and low vision. Additionally, daylighting, the use of natural light, can support orientation and navigation. Features like windows and skylights help people understand the time of day, locate key areas such entrances and exits, and maintain a sense of direction within a space.

Lighting should also support spatial orientation and navigation. Natural light can help people understand where they are and where they need to go. For example, windows and skylights can show the time of day, help people orient themselves, and highlight important areas like entrances, exits, and gathering areas.

7. **Digital Wayfinding** – Digitally accessible information, such as online maps and geospatial information that are found on a website or through an application can help people navigate through and to spaces, as well as prepare their journey ahead of time.

Types of Wayfinding Information

As defined in the Alberta Accessibility Design Guide (2024), effective wayfinding communicates four key types of information:

- **Orientation** – Helping users understand their current location
- **Direction** – Indicating the correct path or route to a destination
- **Identification** – Labeling rooms, features or landmarks clearly
- **General Information** – Providing contextual or environmental details that support decision-making

Sensory Navigation in Wayfinding

People rely on a combination of sense to navigate spaces:

- Sight - Visual cues such as signs and lighting
- Hearing - Sounds and echoes
- Touch - Textures and tactile elements
- Smell - Environmental cues

Appendix F – Construction Detours

Construction activities in public spaces must prioritize pedestrian safety including accessibility. To reduce the risk of injury and ensure safety, temporary accessible paths of travel should be provided and be clearly delineated from construction zones and adjacent roadways.

Any City construction or infrastructure project that interferes with the public right of way or access to City buildings, recreation facilities, or other public spaces must provide temporary accessible routes around the work zone.

All temporary paths should be physically separated from active construction zones and adjacent roadways using hoarding or solid barriers. These paths must be well illuminated and free from obstructions, including construction materials. Barricades used along these routes should be colour-contrasted with surrounding surfaces and cane-detectable to support individuals with low vision.

Both exterior and interior paths of travel affected by construction must maintain accessible routes through or around the work zone to ensure continuous, safe passage for all people, including individuals with disabilities, using mobility devices, or pushing a stroller.

Exterior Temporary Pedestrian Route

- Where construction blocks a pedestrian route, a safe, accessible alternate route shall be provided.
- The alternate pedestrian route shall be an accessible free path of travel in accordance with *ADS XX*.
- Where temporary stairs, ramps or handrails are required along an alternate pedestrian route, they shall meet the clearance and design standards outlined *ADS XX*,
- Where curb ramps are required along temporary routes, they shall meet the standards outlined in *ADS XX* and *The City of Calgary's Road Construction Standard Specifications*.

Safety and Hazard Prevention

- Design temporary pedestrian routes that minimize hazards and provide the most direct and intuitive route around the construction site.
- Refer to *ADS XX* for signage requirements.

- Where scaffolding is provided, ensure it does not obstruct the path of travel. If obstruction is unavoidable, provide an alternate accessible route. Scaffolding components located at or below 2100 mm from the ground shall be highlighted in a contrasting colour for visibility.
- A minimum clear width of 1600 mm shall be provided between all scaffolding elements.
- Fencing that is erected to prevent access to a construction site must not reduce the maneuvering space at curb ramps where the existing pedestrian path of travel is otherwise maintained.
- Hazard zones must be marked with highly visible, colour-contrasted barriers that are cane-detectable at or below 685 mm.

Barricades and Barriers

- Use solid, stable, cane-detectable barriers that are highly visible and colour-contrasted with surrounding surfaces.
- Barricades and barriers must be at least 1070 mm in height.
- When pedestrian routes are diverted onto roadways, install physical barriers to separate pedestrians from vehicular traffic.

Visibility, Access, and Sightlines

- Construction elements must not obstruct visibility of traffic signals or lights.
- All temporary paths must be well-lit.
- Access to pedestrian controls, such as signal activation buttons, must remain unobstructed.

Signage

- Provide temporary signage in accordance with *ADS XX* to identify and guide pedestrians along accessible detour routes.
- Place signage at the entry point of the alternate route to avoid confusion or backtracking.
- Remove signage promptly once it is no longer needed to prevent conflicting information.

Interior Temporary Routes

- Where interior construction affects the existing pedestrian route, an alternate accessible route should be provided in accordance with *ADS XX*.
- Temporary paths should be well-illuminated at the floor surface.

- Ensure slip-resistant surfaces are provided within temporary routes to avoid tripping or slipping hazards.

Appendix G – Crime Prevention Through Environmental Design (CPTED)

Crime Prevention Through Environmental Design (CPTED) is a design approach that helps reduce crime and enhance safety by shaping the physical environment to discourage unwanted behaviour. These strategies benefit everyone, and are especially important for people with disabilities, who may be more vulnerable in certain situations.

While traditional security measures such as security guards, cameras, and alarms can be effective, they are often costly and require ongoing maintenance. CPTED offers a more sustainable approach by using design features such as lighting, landscaping, and layout to naturally promote safety and reduce the need for constant monitoring.

Key Design Elements

1. **Territorial Definition:** Use sidewalks, landscaping, porches, and other features to clearly indicate where public space ends and private space begins.
2. **Access Control:** Guide movement using pathways, doors, fences, gates, shrubs, and signage to limit access to authorized users only.
3. **Signage:** Clearly communicate rules and expectations (e.g. permitted activities, age restrictions, hours of operation) to help prevent unwanted behaviour.
4. **Surveillance:** Place windows and lighting to allow people to see and be seen. This helps deter crime by increasing visibility and awareness.
5. **Lighting and Landscaping:** Ensure areas are well-lit and free of visual obstructions to maintain clear sightlines and improve safety.

Design Strategies for Safer Spaces

- Define clear boundaries of controlled spaces.
- Mark transitions between public, semi-public, and private areas.
- Place gathering spaces where they can be easily seen and assessed but not hidden from view.
- Use natural barriers to separate conflicting areas.
- Schedule space use to ensure consistent and appropriate activity levels.
- Design areas to increase the feeling of being watched (natural surveillance).
- Reduce isolation through well-connected pedestrian paths and thoughtful layout.