Summary of Substantive Changes
between the 2012 and the 2018 editions of
CSA B651, "Accessible Design for the Built Environment"

Presented to the IAPMO Standards Review Committee on March 13, 2023

General: The changes to this standard may affect currently listed products. The changes are:

- Increased clearance space throughout the standard.
- Greater specification in luminance contrast and inclusion of Michelson Contrast formula.
- 4.6.2 Functional and cognitive barriers
- 5.6.4.2 Treadway
- 5.7.2.2.2 Accessible egress route
- 6.3.4 Adult change table
- 6.7.3.4 Adaptable seating
- 6.8 Dressing rooms, fitting rooms, and locker rooms
- 8.3.6.4 Bulb-outs (curb extensions)

1 Scope

1.1 Purpose

This Standard specifies technical requirements on how to make buildings and the exterior built environment accessible and safely usable by persons with physical, sensory, or cognitive disabilities.

1.3 Dimensions

This Standard contains minimum requirements based on adult dimensions. Dimensions are given in SI (metric) units (typically in millimetres) and, where converted from foot/ pound (imperial) units, have been rounded off with respect to critical dimensions. All dimensions in figures are given in millimetres and are measured to the centreline, unless otherwise specified.

1.4 ~~Commentary and~~ Figures

~~Commentary and f~~Figures are included for explanatory or illustrative purposes only and are not a mandatory part of the Standard. Figures are not to scale. If there is any difference between the text and figure (where provided), the text shall take precedence.

1.5 Annexes

~~Annex A, "Environmental considerations", is an introduction to several topics that are only partially covered in this Standard, but that have broad environmental implications for the accessibility and usability of spaces by all persons, whether they have disabilities or not. Annexes B to D provide additional information on topics considered in the Standard. Annex F provides references for accessible outdoor recreational environments, which are not otherwise addressed in the Standard.~~

~~Annex E is a mandatory Annex.~~

Annexes A to C provide additional information on topics considered in the Standard. Annex D provides guidance for the design of outdoor trails and beach access routes. Annex E contains references for accessible outdoor recreational environments, to supplement the information and guidance provided in Annex D.

1.6 Terminology

In this Standard, "shall" is used to express a requirement, i.e., a provision that the user is obliged to satisfy in order to comply with the standard; "should" is used to express a recommendation or that which is advised but not required; and "may" is used to express an option or that which is permissible within the limits of the standard.

~~Commentary~~ Text *accompanying tables and figures are considered part of the table or figure and may be written as requirements.*
Annexes are designated normative (mandatory) or informative (non-mandatory) to define their application.

2 Reference publications
This Standard refers to the following publications, and where such reference is made, it shall be to the edition listed below. See Annexes A, ~~B~~C, ~~and~~ D and F for additional reference publications.
CSA Group
ASME A17.1-~~2010~~2016/CSA B44-~~10~~16 Safety Code for Elevators and escalators
ASSE 1016-2017/ASME A112.1016-2017/CSA B125.16-17 Performance requirements for automatic compensating valves for individual showers and tub/shower combinations
B355-~~09~~15 Lifts for persons with physical disabilities
CAN/CSA-B613-00 (R~~2005~~2012) Private residence lifts for persons with physical disabilities
B651.1-09 (R2015) Accessible design for automated banking machines
CAN/CSA-B651.2-07 (R2017) Accessible design for self-service interactive devices
CAN/CSA-T515 ~~97~~(withdrawn) Telecommunications — Telephone terminal equipment — Acoustic and magnetic field requirements for handset telephones intended for use by the hard of hearing
T516 ~~02~~ (withdrawn) Telecommunications — Telephone terminal equipment — Requirements for pay telephone keypads and function keys with particular regard to use by persons with disabilities
CAN/CSA-Z10535.1:15 Hoists for the transfer of disabled persons — Requirements and test methods (Adopted ISO 10535:2006, second edition, 2006- 12-15, with Canadian deviations)
Z10535.2-17 Lifts for the transfer of persons -Installation, use, and maintenance
Center for Inclusive Design and Environmental Access Final Report of the Anthropometry of Wheeled Mobility Project, December 31, 2010
~~***ICC (International Code Council)***~~
~~*ICC/ANSI A117.1-2003*~~
~~*Accessible and Usable Buildings and Facilities*~~
ISO (International Organization for Standardization)
23599:12 Assistive products for blind and vision impaired persons — Tactile walking surface indicators

3 Definitions
Adaptable seating — a fixed seat or seats designed to facilitate a side transfer from a wheeled mobility device.
Alternative format *— information presented in braille, in large print, ~~on tape,~~ electronically (e.g., ~~CD-ROM, diskette~~ on removable or portable media), or online in an accessible format.*
Blended transition *— a connection with a slope of 1:20 (5%) or less between the level of a pedestrian walkway and the level of a ~~crosswalk~~ vehicular path of travel.*
Braille *— a system where raised dots are used to represent letters and words. Unified English Braille (UEB) is the braille standard for Canada.*
Note: *In this Standard, unless stated otherwise, "braille" indicates uncontracted braille.*
Change bench *— a fixed height bench with the necessary clearances and design elements to support its use by persons with disabilities.*
Note: *Change benches are intended for use by persons with disabilities with or without the assistance of another person.*
~~***Channelization*** *- the separation or regulation of movements into definite routes of travel.~~
Colour contrast *— a significant contrast in colour between the foreground and the background of an element, e.g., light on a dark background or dark on a light background.*

Note: The effectiveness of colour contrast depends on there being sufficient light for users to be able to perceive the difference in colour, and the term "luminance contrast" is increasingly being used in international standards for accessibility. This edition of CSA B651 will continue to use "colour contrast"; however "luminance contrast" will be used in the section on TWSIs, to be compatible with the international standard for these surfaces, ISO 23599 (70% contrast between characters and the background is considered an appropriate contrast for people with low vision).

Glare — ~~the~~ an excessive reflection of light from a surface.

***Luminance** — the intensity of light emitted or reflected in a given direction from the surface element divided by the area of the element in the same direction.*

***Pedestrian area** - an area where pedestrian traffic is permitted.*

Pedestrian clearance interval — The maximum time required for a pedestrian who has started their crossing at a crosswalk to arrive at a point clear of intersecting traffic.

Notes:

1) *The pedestrian clearance interval is indicated by a flashing signal, and follows the brief (4-7 second) "Walk" signal that alerts pedestrians to begin their crossing.*
2) *Pedestrian clearance time is computed as the crossing distance divided by the walking speed, usually calculated as 3.5 feet per second.*
3) *When the pedestrian clearance interval begins, pedestrians should either complete their crossing if already in the intersection or refrain from entering the intersection until the next pedestrian walk interval is displayed.*

***Ramp** — a sloping walkway leading from one level to another, which has a running slope with a ratio steeper than or equal to 1:20 (5%).*

Notes:

1) Walkways with a running slope shallower than 1:20 are not considered to be ramps in the context of this Standard. See Clause 5.5.1.

2) See also Curb ramp.

***Raised intersection** — a flat raised area that covers an entire intersection, with ~~ramps~~ sloped surfaces installed on all vehicular approaches. Note: The intersection is usually raised to the level of the sidewalk, or slightly below to provide a "lip" that is detectable by persons with a vision impairment.*

4 General requirements

4.1 Area allowances

To accommodate a single-wheeled mobility device user, a clear floor or ground area shall be

a) at least ~~750~~800 × ~~1200~~1350 mm for a stationary position (see Figure 1); and

b) at least ~~1500~~1700 × ~~1500~~1700 mm for an unobstructed U-turn (see Figure 2).

4.2 Operating controls

4.2.1 Scope

Operating controls include, but are not limited to,

a) door handles and locks;

b) window operators and locks;

c) faucets and adjustable shower heads;

d) electrical outlets and switches;

e) thermostats;

f) elevator call stations;

g) fire alarm pull stations; and

h) activation devices.

4.2.2 Floor area

Controls shall be adjacent to, and centred on, either the length or the width of a clear floor space of ~~750~~800 x ~~1200~~1350 mm.

4.2.3 Height

The centreline of the operating controls shall be located in a range between 400 and 1200 mm from the floor (see Figure 3).

4.2.4 Operation

Controls shall be operable

a) with one hand, using

i) a closed fist position; or

ii) ~~without~~ another method of operation that does not require tight grasping, pinching, or twisting of the wrist; and

b) with a force not to exceed 22 N.

4.2.5 Control devices

Control devices shall provide tactile and/or auditory information ~~indicating~~ to indicate function, position, and confirmation of activation.

4.2.7 Illumination

……

4.2.7.2

If an operating control has its own illumination or is backlit, and reading of the surface is not required for operation, an internal or background illumination level of 50 to 100 lx may be used.

4.3.3 Carpets

Carpets or carpet tile 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;

d) ~~have exposed edge trim complying~~ comply with Table 1 with respect to level changes in edge trim; and

e) ~~have a firm cushion, underpadding, or backing, where provided~~ be backed or underlaid with firm materials only, if installed with a cushion, underpadding, or backing.

4.3.5 Tactile walking indicator surfaces

4.3.5.1 General

Tactile walking indicator surfaces are used to inform persons ~~who are walking over them~~ both visually and by contact under foot or cane, of two possible situations:

a) an attention indicator (truncated domes) signals a need for caution at a change in elevation, a vehicular route, train tracks, etc. [see Figure 5 a)]; and

b) a direction indicator (~~linear bar surface~~ elongated flat top bar surface) facilitates wayfinding in open areas and indicates a possible route that may be taken.

4.3.5.2 Surface

A tactile walking surface shall

~~(a) be installed in a manner that~~

~~(i) avoids interference from an irregular walking surface; and~~

~~(ii) does not create a tripping hazard;~~

~~b~~a) have ~~its~~ the base surface level with the surrounding surface, or with its edges beveled and not more than 3 mm above ~~or below~~ the surface to which it is applied [see Figure 5 b)];

b) be slip-resistant; and

~~d~~c) ~~be colour-contrasted with the surrounding~~ surface have any smooth adjacent walking surface smooth for at least 600 mm wide.

4.3.5.3 Tactile attention indicator surfaces

4.3.5.3.1 Configuration

A tactile attention indicator surface shall be composed of truncated domes

a) with a height of between 4 and 5 mm ~~±1~~;

b) with the top diameter between 12 and 15 mm and the base diameter 10 ± 1 mm greater than the top diameter;

c) arranged in a square grid; and

d) with a centre-to-centre distance of adjacent domes complying with Table 2 [see Figure 5 b)].

4.3.5.3.3 Installation

When ~~A~~a tactile attention indicator surface is used to indicate a hazard, it shall be ~~(a)~~ Installed along the full width of the hazard

~~(i)~~a) to a depth between 600 and 650 mm; and

~~(ii)~~b) with one ~~Long~~ side against the edge of the hazard, unless otherwise indicated in this Standard.

~~*(b) in a colour that*~~

~~*(i) contrasts at Least 70% with the surrounding surface; or*~~

~~*(ii) if yellow, contrasts at Least 40% with the surrounding surface.*~~

4.3.5.3.4 Luminance contrast

When a tactile attention indicator surface is used to indicate a hazard, it shall

a) have a luminance contrast of at least 50% with the adjacent surface using the Michelson Contrast formula (see Clause 4.3.5.3.5); or

b) if yellow, have a contrast of at least 40% with the surrounding surface. If this level is not achievable, the necessary contrast may be provided by means of an adjoining continuous luminance contrasted band at least 100 mm wide installed adjacent to the indicator surface.

4.3.5.3.5 Calculation of the luminance contrast value

The luminance contrast value (%) shall be calculated using the following formula, known as Michelson Contrast, CM:

$CM = (L_1 - L_2) / (L_1 + L_2) \times 100$

where

L_1 *= the value of luminance on a lighter surface, expressed in* cd/m^2*;*

L_2 *= the value of luminance on a darker surface, expressed in* cd/m^2

When luminance values are not available, but CIE Y values are available, the values Y_1 *and* Y_2 *may be substituted for* L_1 *and* L_2*. Note that the CIE Y value is identical to the LRV.*

When the CIE Y values or the LRVs of the two surfaces to be compared are known, these values may be used to determine the luminance contrast. Otherwise, a measurement of luminance or reflectance shall be used to determine the luminance contrast. For measurement methods, see IESNA HB-9-00 (referenced in Clause A.4 of this Standard).

4.3.5.4 Tactile direction indicator surfaces

4.3.5.4.1 Configuration

A tactile direction indicator surface shall be composed of flat- topped, parallel, elongated bars having

a) a height of 4 to 5 ~~±1~~ mm;

……

4.3.5.4.3 Installation

A tactile direction indicator shall
a)where installed to define a route,
i) be between 250 and 300 mm wide;
ii) have a clear space at least 600 mm on each side;
iii) have the elongated bars running in the direction of the route of travel; and
iv) have a 600 to 650 mm square tactile attention indicator surface installed at turns and decision points;
b) where installed across an accessible path of travel as an indicator of a facility or diverging route,
i) be between 600 and 650 mm wide; and
ii) have the elongated bars running in the direction toward the facility or diverging route [see Figure 7d) and e)];
c) where there is a risk of water ponding, have the elongated bars interrupted by a drainage gap between 20 and 30 mm wide; and
d) have a luminance contrast in accordance with Clause 4.3.5.4.4 with the following:
i) ~~have a colour contrast~~ a luminance contrast of at least ~~70~~50% with the surrounding surface;
ii) where the required contrast is not achievable, have an adjoining continuous luminance contrasted band at least 100 mm wide installed adjacent to the indicator surface; and
iii) not be yellow.

4.3.5.4.4 Luminance contrast

A tactile direction indicator shall have a luminance-contrast of at least 50% with the surrounding surface. Where the required contrast is not achievable, the tactile direction indicator shall have an adjoining continuous luminance contrasted band at least 100 mm wide installed adjacent to the indicator surface. The tactile direction indicator shall not be yellow.

4.4 ~~Protusion hazards~~ Headroom and protruding objects

~~4.4.3~~ 4.4.1 *Headroom*

~~4.4.3.1~~ 4.4.1.1 *Height*

Except at doorways and in storage garages, in pedestrian areas the clear headroom shall be at least ~~2030~~2050 mm from the floor [see Figure 8 a) and c)]. In storage garages, the clear headroom shall be not less than 2000 mm.

~~4.4.3.2 Overhead hazards~~ 4.4.1.2 Headroom reductions

Where the headroom in a pedestrian area is reduced to less than ~~2030~~2050mm from the floor, a guardrail or other barrier shall be provided with its leading edge at or below ~~680~~685 mm from the floor (see Figure ~~8~~9).

~~4.4.1~~ 4.4.2 Protruding objects

4.4.2.1 General

Protruding objects shall not create a hazard or reduce accessibility in the pedestrian area.

4.4.2.2 Headroom maintenance

In pedestrian areas,
a) objects attached to or suspended from a ceiling shall have their undersides at a height of at least 2050 mm from the floor; and
b) objects protruding more than 100 mm from walls, columns, or free-standing supports shall either
i) be cane-detectable at or below ~~680~~685685 mm from the floor; or
ii) have their undersides at a height of at least ~~2030~~2050mm from the floor [see Figure ~~7~~8 a), b), c), and d)].

4.6 Additional considerations

4.6.1 General

This Clause deals with additional factors in the built environment that can affect the usability of that environment for certain populations. This Clause is written in recommendatory language because in many cases the proposed remedies to improve usability (e.g., more intuitive architecture to accommodate people with cognitive impairments) are not easily measured.

4.6.2 Functional and cognitive barriers

Functional or cognitive barriers can arise where

a) the overall architectural space is confusing or illogical;

b) the architectural features are overly repetitive;

c)excessive noise interferes with the enjoyment and use of the facility;

d) inadequate lighting hinders the safe use of the space;

e) the air quality is poor; or

f) the information provided is conflicting, or difficult to read or understand.

4.6.3 Environmental sensitivities

Construction, furnishing, or decorative materials should not give off gases that affect the quality of indoor air. Contaminants such as gases, dust, and volatile organic compounds should be minimized. Adequate ventilation (natural and mechanical) should be provided at the level needed to dilute any contaminants and to provide fresh air to the occupants.

4.6.4 Acoustics

Accessible environments should be designed for sound control, both to provide auditory cues where needed, and to minimize distracting or disorienting sounds such as echoes.

5 Interior circulation

5.1 Accessible routes

5.1.1 Width

The clear width of accessible routes shall be at least ~~920~~1000 mm with the following exceptions:

a) for short indentations up to 600 mm in length, it shall be at least ~~810~~850 mm [see Figure 14 a)];

b) for doorways, it shall be at least ~~810~~850mm, though additional maneuvering space is sometimes required (see Clause 5.2);

c) for U-turns around an obstacle less than 1200 mm wide, it shall be at least 1100 mm [see Figure ~~15~~ 16 a)];

d) for U-turns around an obstacle greater than 1200 mm wide, it shall be at least 1000 mm [see Figure 16 b)];

e) an accessible path of travel that is more than 30 m long shall have a maneuvering zone at least 1700 mm wide for a length of 1700 mm at intervals not exceeding 30 m; and

f) for checkout lanes, the minimum width should be 1000 mm (see Figure 15).

~~(d) in high traffic areas, it shall be at least 1500 mm [see Figure 13(b)].~~

5.1.3 Lineup guides

Lineup guides shall

a) be separated by a clear width of at least 1000 mm (see Figure ~~16~~17);

b) have a clear floor area of at least ~~1500~~1700 × ~~1500~~1700 mm where lineups change direction and where they begin and end;

c) be cane-detectable at or below ~~680~~685 mm from the floor;

d) be stable and not move easily;

e) be colour-contrasted with their surroundings; and

f) have a glare-free finish.

5.1.4 Safety

Accessible routes including accessible egress routes shall
a) have walking surfaces that comply with Clause 4.3;
b) comply with Clause 4.4 for headroom where protrusions exist;
c) comply with Clause 5.3 where handrails are provided; and
d) be kept unobstructed and comply with Clause 4.4.2.3.

5.2 Doors and doorways

5.2.1 Opening width

The clear opening width of a doorway shall be at least ~~810~~850 mm
a) for swinging doors, when measured between the face of the door or the panic hardware and the face of the stop with the door open 90° [see Figure ~~17~~18 a), b), and c)]; and
b) for sliding doors, when measured between the edge of the open door and the door frame [see Figure ~~17~~18 d)].

5.2.5 Two doors in series

The distance between two swinging doors in series shall be at least ~~1200~~1350 mm plus the width of any door swinging into the space [see Figure ~~19~~20 a) and b)].

5.2.7 Door hardware

5.2.7.1 Operating devices

Operating devices such as handles, pulls, latches, or locks shall
a) comply with Clause 4.2;
b) be mounted between ~~800~~900 and ~~1200~~1100 mm from the floor; and
c) on a sliding door, be exposed and usable from both sides.

5.2.9 Power-assisted doors

5.2.9.1 General

A power-assisted swinging door shall
a) take 3 s or more to move from a closed to a fully open position, except when a safety sensor is installed;
b) remain fully open for a minimum of 5 s;
c) require a force of not more than 66 N to stop door movement, except when the door is equipped with a safety sensor that automatically stops the door if there is an obstruction in the path of movement; and
d) where it opens into a route of travel, have cane-detectable guardrails or other barriers at right angles to the wall containing the door (see Figure ~~21~~22).

5.2.9.2 Location of controls

For doors that are not automatically activated, controls to open power-assisted doors shall
a) be located along the route of travel;
b) be clearly visible before reaching the door; and
c) be adjacent to a clear floor area, ~~750~~800 x ~~1200~~1350 mm, that is clear of the door swing but is no further than 1500 mm from it.
~~(d) be clear of the door swing or any other fixture.~~

5.2.9.3 Controls

Controls for power-assisted doors shall be activation pads that
a) comply with Clause 4.2;
b) have a shape either
i) rectangular of at least 25 × 75 mm; or
ii) circular with a diameter of at least 100 mm;

c) are operable by touching or approaching in close proximity any part of the surface with a fist, arm, or foot;
d) are operable from a height between 150 and 300 mm as well as between ~~800~~900 and ~~1200~~1100 mm above the floor; and
e) are identified with the International Symbol of Access.

5.2.10 Glazed panels
A glazed panel in a door shall
a) be transparent;
b) have its lower edge not higher than 900 mm from the floor (see Figure 22); or
c) where the door or sidelight is fully glazed, be marked with a continuous opaque strip that
i) ~~contrasts in colour and brightness is~~ visually contrasting to the background of the door;
…….
5.2.12 Turnstiles and access gates
~~Where a turnstile is used, it shall~~
~~(a) have an adjacent gate with a clear width of at least 810 mm (see Figure 22); and~~
~~(b) comply with Clause 5.7.4 when a security system is incorporated.~~
Where entry/exit metering devices are used, at least one shall have a clear opening width of at least 850 mm. If the device does not accommodate this dimension (e.g., at turnstiles) there shall be an adjacent alternative entry with a clear width of at least 850 mm (see Figure 23). Security systems, if used, shall comply with Clause 5.7.4.

5.4 Stairs
5.4.1 Treads and risers
A flight of stairs shall
…….
f) be illuminated to at least ~~100~~50 lx at the tread; and
g) have a horizontal strip at the edge of the tread that
i) is 50 ± 10 mm deep;
ii) is colour-contrasted with the tread and riser; and
iii) extends the full width of the tread.
~~(iv) is slip-resistant.~~

5.4.3 Tactile attention indicator surfaces at stairs
5.4.3.1 General
A tactile attention indicator surface shall
a) comply with Clauses 4.3.5.2 and 4.3.5.3;
b) be located at the top of stairs;
c) ~~extend the full~~ be continuous across the width of the stair with a maximum gap of 75 mm to the stringer or end of tread; and
d) have a length between 600 and 650 mm, commencing one tread depth from the edge of the stair [see Figures 5 b) and 27 b)].

5.5 Ramps
5.5.1 Running slope and length
A ramp shall have
a) a running slope with the ratio between 1:12 (8.33%) and 1:20 (5%); and

b) a horizontal distance between level landings not greater than 9000 mm.

5.5.3 Width

The clear width on a ramp shall be at least ~~920~~1000 mm.

5.5.4 Landings

A level landing shall

…….

e) at doorways serving an accessible route, have an area of at least ~~1500~~1700 × ~~1500~~1700 mm;

f) include passing spaces with an area of at least 1700 x 1700 mm

i) at the connection points when more than two ramp segments are used to surmount a level change; and

ii) at the turning point when a turn separates two ramp segments; and

g) where it meets a slope change, have a 50 ± 10 mm wide colour-contrasted and slip-resistant strip equal to the width of the ramp.

5.5.6 Edge protection

On ramps and landings that are not at grade or adjacent to a wall, protection shall be provided on all edges in the form of either

a) a curb with a minimum height of ~~75~~100 mm [see Figure 34 a)]; or

b) a raised barrier or rail with its lower edge not more than ~~75~~100 mm from the ramp or landing surface [see Figure 34 b) and c)].

5.5.7 Illumination

Illumination at the surface level of a ramp and its landings shall be at least ~~100~~50 lx.

5.6.4.2 Treadway

The treadway on a moving walkway shall

a) move at a constant speed for the entire distance between stationary entry and exit points;

b) have a walking surface which does not accelerate (expand) or decelerate (contract) under foot;

c) not have any portion that is comprised of rollers or sequential belts moving at differing speeds; and

d) travel at a maximum speed of 2.25 km/h.

~~5.6.4.2~~5.6.4.3 Width

The width of the exposed treadway of moving walkways shall be at least ~~920~~1000 mm.

5.6.4.5 Handrail

The handrail of a moving walkway shall be luminance- contrasted with the surrounding surface.

5.7.2 Areas of refuge

5.7.2.1 General

An area of refuge shall

a) be of a size that provides for two spaces of at least 850 × ~~1200~~1350 mm each;

…….

e) be smoke-protected ~~in buildings of more than three stories~~; and

5.7.2.2 ~~Identification~~ Emergency signage

5.7.2.2.1 Area of refuge

…….

5.7.2.2.2 Accessible egress route

Where the evacuation route is different for people unable to evacuate independently, signs shall be posted indicating the accessible egress route (in accordance with the fire safety / evacuation plans) to

i)\the area of refuge as shown in Figure 37a);

ii) the final exit; or

iii) the accessible egress route to the firefighter's elevator or self-operated accessible evacuation elevator as shown in Figure 37 b).

Plans for signage indicating the accessible egress route shall be included in the fire safety / evacuation plan and procedure documents, and this signage shall also be clearly identified on all publicly displayed evacuation plans.

5.7.4 Access to secure areas

5.7.4.1 Security access systems

A security access system shall

a) be located along the accessible route;

b) be clearly visible before reaching the door;

c) be adjacent to a clear floor area, 800 x 1350 mm, that is clear of the door swing but is no further than 1500 mm from it;

d) where both activation pads and security access systems are used for the same door, comply with Clause 5.2.9.4;

e) comply with Clause 4.2; and

f) provide equitable alternative means to allow persons with disabilities through the security system.

6 Interior facilities

6.1 Drinking fountains

…….

6.1.3 Floor area

A drinking fountain shall have a clear floor area of at least ~~750~~800 × ~~1200~~1350 mm in front of the unit (see Figure ~~37~~38).

6.1.5 Cantilevered fountains

A cantilevered drinking fountain shall

a) be cane-detectable, recessed, or otherwise located out of the route of travel;

b) have a knee clearance between the bottom of the apron and the floor at least ~~750~~800mm wide × 200 mm deep × ~~680~~685 mm high (see Figure 39); and

c) have a toe space at least ~~750~~800 mm wide × 230 mm deep × 230 mm high.

6.2 Washroom facilities

6.2.1 Identification

Signs at washroom entrances shall

a) comply with Clause 4.5;

b) not be mounted on a door;

c) if there is no door, be mounted on the outside walls, on both sides of the entrance opening; and

d) if the washroom is not accessible, indicate the location of the nearest accessible washroom.

6.2.2 Floor area

A clear floor area for maneuvering shall be provided

a) at the door, if there is one, that complies with Clause 5.2.2; and

b) in the interior, at least ~~1500~~1700× ~~1500~~1700 mm in front of the accessible stall (see Figure ~~39~~40).

6.2.3 Lavatories

6.2.3.1 General

A lavatory shall

a) be mounted with the centreline at least 460 mm from a side wall;

b) have the top located between 810 and 860 mm from the floor;

c) have a knee clearance centred on the lavatory at least ~~750~~800mm wide × 200 mm deep × ~~680~~685 mm high with an additional toe clearance at least ~~750~~800mm wide × 230 mm deep × 230 mm high;

d) have a clear floor area centred on the lavatory at least ~~750~~800 × ~~1200~~1350 mm, of which not more than 480 mm may be under the lavatory; and

e) have hot water and drain pipes offset to the rear [see Figure 41 a) and b)].

6.2.3.2 Lavatory counters

A lavatory counter with a front apron shall have a knee clearance centred on the lavatory at least ~~750~~800 mm wide × ~~720~~685 mm high [see Figure ~~40~~41 a) and b)].

6.2.3.3 Faucets

Faucets and other controls shall

a) comply with Clause 4.2;

b) not require the application of continuous force to maintain water flow; and

c) where metered, provide at least 10 s of flow.

~~(d) where handles are used, have Lever-type handles that are operable with a closed fist (see Figure 41).~~

6.2.6 Toilets

6.2.6.1 Toilet fixtures

A toilet fixture shall have

a) the top of the seat between ~~400~~430 and ~~460~~485 mm from the floor (see Figure 43);

…….

6.2.6.3 Controls

Flush controls shall

a) be automatically activated; or

b) be hand-operated by a device that

i) complies with Clauses 4.2.1, 4.2.3, 4.2.4, 4.2.5, and 4.2.8; and

ii) is ~~located at~~ not more than 350 mm from the transfer space side of the toilet.

6.2.6.4 Grab bars

Grab bars that comply with Clause 6.2.5 shall be ~~mounted horizontally at a height between 750 and 850 mm from the floor,~~ provided as follows:

~~(a) one on the wall adjacent to the toilet~~

~~(i) beginning not more than 300 mm from the rear wall; and~~

~~(ii) extending at least 450 mm in front of the toilet seat; and~~

~~(b) on the rear wall, either~~

~~(i) one, centred with the toilet and at Least 600 mm long (see Figures 43 and 44); or~~

~~(ii) two, each at least 300 mm long positioned on either side of the flush valve, located not further than 150 mm from the flush valve.~~

a) There shall be one L-shaped grab bar that is

i) mounted on the side wall closest to the toilet; and

ii) has horizontal and vertical components that are at least 760 mm long, such that

1) the horizontal component is 760 to 850 mm above the floor; and

2) the vertical component is 150 mm in front of the toilet.

b) There shall be a horizontal grab bar that is

i) mounted on the rear wall (see Figure 43);

ii) centred over the toilet (see Figure 43);
iii) not less than 600 mm long (see Figure 43); and
iv) mounted at the same height as the grab bar on the side wall, except where the toilet has an attached water tank, in which case the grab bar shall be mounted 100 mm above the top of the tank.

6.2.6.5 Toilet paper dispensers
A toilet paper dispenser shall be located
a) such that the closest edge of the dispenser is 300 mm from the front of the toilet; and at a height between 600 and ~~700~~800 mm from the floor.

~~6.2.7.1.2~~6.2.7.2 Toilet stall doors
Toilet stall doors shall
a) provide a clear opening of at least ~~810~~850 mm with the door in the open position;
b) be aligned with the transfer space adjacent to the toilet, ~~(c) swing outward, unless additional space is provided within the stall for the door swing;~~ unless the internal dimensions of the toilet stall exceed the minimum values specified in Clause 6.2.7.1 a), such that there is additional manoeuvring area between the door and the transfer space (see Figures 40 and 44);
…….
g) have a clear area at least ~~1500~~1700× ~~1500~~1700mm in front of the stall that complies with Clause 5.2.2 (see Figure ~~39~~40).

6.2.8 Urinals
6.2.8.1 General
A urinal shall
…….
b)have a clear floor area in front of the urinal that is
i) adjacent to an accessible route;
ii) centred on the urinal;
iii) at least ~~750~~800mm wide x ~~1200~~1350 mm deep; and
…….
6.2.8.2 Grab bars
Grab bars that comply with Clause 6.2.5 shall be
a) at least 600 mm long;
b) mounted vertically on the back wall
i) at each side of the urinal;
ii) not more than 380 mm from the centre of the urinal; and
iii) with the ~~lower end between 600 and 650 mm~~ centre line 1000 mm from the floor; and
c) colour-contrasted with the back wall (see Figure 46).

6.3 Universal washrooms
6.3.1 General
6.3.1.1
Where a universal washroom containing a single toilet and lavatory is provided, it shall
~~(a) have a clear floor area not less than 3.5 m2;~~
~~(b) provide a distance between opposite walls of at least 1700 mm;~~
a) provide a clear area of at least 1500~~1700~~ × 1500~~1700~~ mm;
…….

6.3.2 Washroom door

A door to a universal washroom shall

a) comply with Clause 5.2;

b) have a locking mechanism on the inside that complies with Clause 4.2.4;

c) have a power-assisted door opener; and

d) be capable of being unlocked from the outside in an emergency situation.

6.3.4 Adult change table

6.3.4.1

An adult change table, where provided, shall

a) be located on an accessible route;

b) be at least 760 mm wide × 1830 mm long;

c) have a surface height above the finished floor that can be adjusted from between 450 and 500 mm at the low range to between 850 and 900 mm at the high range;

d) have its surfaces free of sharp edges, corners, or abrasive materials;

e) be easy to clean;

f) be designed to support a weight of at least 250 kg; and

g) have a horizontal grab bar that

i) complies with Clause 6.2.5 ;

ii) is centred on the long dimension of the bench;

iii) is at least 1200 mm long; and

iv) is mounted so that it can be used regardless of the bench height adjustment.

6.3.4.2

A transfer space of 900 x 1500 mm adjacent to the adult change table shall be provided.

6.3.4.3

An adult change table, whether of the fixed or fold-down type, shall be installed so that it does not encroach into the clear transfer space when it is positioned for use. Controls for the table, if present, shall be no higher than 1200 mm.

6.3.4.4

Personal lifting devices, if provided, shall comply with CAN/CSA-Z10535.1, and shall be installed in accordance with CSA Z10535.2.

6.5.2 Showerheads

A showerhead shall

a) be of the handheld type;

b) be provided with a hose at least ~~1500~~1800 mm long;

…….

e) be protected with a valve in compliance with ASSE 1016/ASME A112.1016/CSA B125.16.

6.5.5 Roll-in shower stalls

6.5.5.1 Shower area

Roll-in shower stalls shall have an interior clear area of at least ~~750~~900 × 1500 mm.

…….

6.5.5.6 Seat

In roll-in shower stalls, if a seat is provided it shall be

a) on the side wall with the vertical grab bar;

b) at least 400 mm wide extending the full depth of the stall, less a space allowed for the shower curtain;

c) with its top between 430 and 485 mm from the floor; and

d) with a smooth non-slip surface without rough edges.

~~***6.5.6 Shower stalls with curb***~~

~~***6.5.6.1 Shower Area***~~

~~*A shower stall with a curb shall have an interior clear area of at least 900 x 900 mm.*~~

~~***6.5.6.2 Access area***~~

~~*The clear floor area in front of the shower entrance shall be at least 900 x 1200 mm, with the 1200 mm dimension parallel to the shower entrance, starting from the stall wall opposite the seat (see Figure 5O).*~~

~~***6.5.6.3 Seat***~~

~~*In shower stalls with a curb, a seat shall be provided*~~

~~*(a) on the wall opposite the controls;*~~

~~*(b) at Least 400 mm wide extending the full depth of the stall, Less a space allowed for the shower curtain;*~~

~~*(c) with its top between 430 and 480 mm from the floor; and*~~

~~*(d) with a smooth non-slip surface without rough edges.*~~

~~***6.5.6.4 Grab bars***~~

~~*Two grab bars that comply with Clause 6.2.5 shall be mounted as follows:*~~

~~*(a) one horizontally, on the back wall, that is*~~

~~*(i) between 750 and 850 mm from the shower floor; and*~~

~~*(ii) at Least 750 mm in Length; and*~~

~~*(b) one vertically, on the same wall as the controls, that is*~~

~~*(i) between 80 and 120 mm from the adjacent clear floor area;*~~

~~*(ii) with the Lower end between 600 and 650 mm from the floor; and*~~

~~*(iii) at Least 1000 mm in Length (see Figure 50).*~~

~~***6.5.6.5 Controls***~~

~~*Faucets and controls shall*~~

~~*(a) comply with Clause 6.2.3.3;*~~

~~*(b) be mounted within reach of the seat;*~~

~~*(c) be mounted not more than 1200 mm from the floor; and*~~

~~*(d) be accessible from outside the stall.*~~

~~***6.5.6.6 Shower curbs***~~

~~*A curb shall be*~~

~~*(a) not higher than 100 mm; and*~~

~~*(b) not wider than 100 mm.*~~

~~6.5.7~~6.5.6 Bathtubs

***~~6.5.7.1~~6.5.6.1** Access area*

A clear floor area at least ~~750~~ 800 mm wide shall be provided in front of the bathtub, along its whole length (see Figure ~~51~~50).

…….

***~~6.5.7.4~~6.5.6.4** Enclosures*

Enclosures employing sliding doors or tracks on the rim shall not be provided on bathtubs.

6.6 Communications

…….

6.6.2.6 Telephones for seated persons

At the telephone, a clear floor area shall

a) be at least ~~750~~800 mm wide × ~~1200~~1350 mm deep, which shall extend not more than 480 mm under the shelf; and

b) have a knee clearance between ~~680~~685 to 730 mm high [see Figure ~~53~~52 a)].

6.7 Seating

6.7.1 Spaces at tables and counters

6.7.1.1 Floor area

A seating space for persons using a wheeled mobility device, such as that provided at counters, tables, or work surfaces, shall have

a) a clear floor area not less than ~~750~~800 × ~~1200~~1350 mm [see Figure ~~55~~54 a) and b)]; and

b) adequate manoeuvring space to approach it.

6.7.1.3 Knee clearance

Where a forward approach is used, the knee clearance shall be at least ~~750~~800 mm wide × 480 mm deep × ~~680~~685 mm high, which may overlap the clear floor area by not more than 480 mm [see Figure ~~55~~54 a)].

6.7.2 Rest area seating

6.7.2.1 Bench or seat area

A bench or seat area shall

a) be located adjacent to an accessible route;

b) have a level and firm surface; and

c) have an adjacent level and firm area at least 850 × ~~1200~~1350 mm that is not part of the route of travel.

6.7.2.2 Benches or seats

A bench or a seat shall

a) be stable;

b) have a seat height between ~~450~~430 and ~~500~~485 mm from the floor; and

c) where there is more than one, provide a mix of options, i.e., some with back rests, some with arm rests, and some with both.

6.7.3 Viewing spaces in assembly areas

6.7.3.1 Floor area

A viewing space for a person using a wheeled mobility device shall have a clear floor area that is

a) at least 850 × ~~1200~~1350 mm; and

b) on a clear and level surface.

6.7.3.4 Adaptable seating

Fixed seats designated for adaptable seating shall be

a) located adjoining a barrier-free path of travel without infringing on egress from any row of seating or any aisle requirements;

b) equipped with a movable or removable armrest on the side of the seat adjoining the barrier-free path of travel; and

c) situated, as part of the designated seating plan, to provide a choice of viewing location and a clear view of the event taking place.

6.8 Dressing rooms, fitting rooms, and locker rooms

6.8.1

Accessible dressing rooms, fitting rooms, and locker rooms shall include

a) a change bench that complies with Clause 6.4, including access and transfer space requirements;

b) an emergency call system with appropriate signage, which will activate an indicator light and an audible signal both inside and outside the room, to summon non-emergency customer service assistance if needed (see Clause 6.3.1.2);

c) an accessible clothing hook

i) at a height not more than 1200 mm from the floor; and
ii) protruding not more than 40 mm from the wall;
d) a full length mirror; and
e) grab bars.

6.8.2

For an individual dressing room, fitting room, or locker room, the door shall either swing out, or if it swings in, there shall be a clear floor space of at least 800 x 1350 mm beyond the door swing inside the room. The clear floor space shall be positioned for parallel approach to the long side of the bench and have room for a 1700 mm diameter turning circle.

6.8.3

If the change bench is not affixed to a wall, then back support shall be provided. Back support shall be at least 1100 mm in length, and extend from a point 50 mm maximum above the seat to a point 450 mm minimum above the seat.

7.3 Visitable dwelling units

7.3.1 Exterior circulation

7.3.1.1 Exterior route

An exterior route to a visitable unit entrance shall have

a) a width of at least ~~920~~1000 mm;

…….

7.3.1.2 Entrance landing

From the accessible route, the visitable entrance landing shall have a level area at least 1500~~1700~~× 1500~~1700~~mm.

…….

7 .3.3 Interior circulation

7 .3.3.1 Corridors

On the visitable floor, corridors shall

(a) be at Least ~~920~~1000 mm wide; and

(b) have no Level changes requiring steps.

7.3.4 Washroom

On the visitable floor, a washroom shall be provided with

a) a door that swings outward or is sliding; and

b) a clear route to the toilet at least ~~920~~1000mm wide.

7.4 Accessible dwelling units

…….

7.4.1.3 Exterior route

An exterior route shall

a) comply with Clauses 4.3.2 and 7.3.1; and

b) have a clear width of at least ~~1200~~1600 mm.

…….

7.4.1.5 Entrances and doors

7.4.1.5.1 Entrance landings

An entrance landing shall

a) comply with Clause 7.3.1.2; and

b) be illuminated to a level of at least ~~100~~50 lx.

7.4.1.5.2 Entrance doors

An entrance door shall
a) comply with Clause 7.3.2;
b) have a manoeuvring area that complies with Clause 5.2.2;
c) ~~have a threshold that complies with Clause 5.2.6;~~ have door hardware that complies with Clause 5.2.7; and
d) have a door-opening force that complies with Clause 5.2.8;|

7.4.2 Interior circulation

7.4.2.1 Corridors

A corridor shall
a) have a clear width of at least ~~920~~1000 mm;
b) have no steps or changes in level; and
c) comply with Clauses 4.3.1, 4.3.2, and 4.3.3.

7.4.3 Bathrooms

7.4.3.2 Medicine cabinets

A medicine cabinet shall
a) be adjacent to a clear floor area of at least ~~750~~800 × ~~1200~~1350 mm (which may include the knee clearance at the lavatory);
…….

7.4.3.4 Towel bar

A towel bar shall
a) be installed not more than 1100 mm from the floor; and
b) have a clear floor area of ~~750~~800 × ~~1200~~1350 mm located within a horizontal reach of not more than 500 mm.

7.4.3.9 Bathtub

7.4.3.9.1 General

A bathtub shall have
a) length of at least 1500 mm;
b) ~~a clear floor area~~ unobstructed access along the full length of its open side from an adjacent clear floor area at least ~~750~~800 mm wide;
c) faucets and other controls that comply with Clause 6.5.6.3;
d) a showerhead that complies with Clause 6.5.2; and
e) water temperature that complies with Clause 6.5.1.
~~(f) no sliding door to enclose it.~~

7.4.3.10 Shower stall

7.4.3.10.1 General

With the exception of grab bar installation, a shower stall shall comply with Clauses 6.5.1 to 6.5~~.4~~5 and either with
~~(a) Clause 6.5.5 for roll-in shower stall; or~~
~~(b) Clause 6.5.6 for a shower stall with curb.~~

7.4.4 Kitchens

7.4.4.1 Floor area

A clear floor area of at least ~~750~~800 × ~~1200~~1350 mm shall be provided
a) directly in front of kitchen fixtures; and
b) to the one side where drawers or doors open (see Figure ~~60~~59).

7.4.4.2 Counters

At least one counter shall

a) be at least ~~750~~800mm wide × 600 mm deep;
b) be at a height between 730 and 860 mm;
c) have a clear floor area of at least ~~750~~800 × ~~1200~~1350 mm, which may extend up to 480 mm underneath the work surface;
d) have a ~~centred~~ knee clearance under the counter at least ~~750~~800 mm wide × ~~480~~200 mm deep × ~~680~~685 mm high with an additional toe clearance at least 800 mm wide × 230 mm deep × 230 mm high (see Figures 60 and 61);
e) have no sharp or abrasive surfaces under it; and
…….

7.4.4.4 Sinks

A sink shall
a) be located with the centreline at least 460 mm from a side wall;
b) have the rim height located between 810 and 860 mm from the floor;
c) have a knee clearance centred on the sink at least ~~750~~800 mm wide × 200 mm deep × ~~680~~685 mm high, with an additional toe space at least 800 mm wide × 230 mm deep × 230 mm high;
d) have a clear floor area at least ~~750~~800 x ~~1200~~1350 mm, which may extend up to 480 mm underneath the sink;
…….

7.4.4.6 Cooktops

7.4.4.6.1

A cooktop or range shall have
a) controls that
i) are located such that they do not require reaching across the heating surface to operate; and
ii) comply with Clause 4.2;
b) a cooking surface height located between 810 and 860 mm from the floor;
c) an adjacent work surface at least 400 mm wide at the same height as the cooking surface; and
d) a clear floor area at least ~~750~~800 x ~~1200~~1350 mm ~~which may extend up to 480 mm underneath the cooktop (see Figure 62)~~ centred on the cooking surface.

7.4.4.6.2

Stand-alone built in cook tops shall have
a) a knee clearance centred on the cooktop at least ~~750~~800 mm wide × 200 mm deep × ~~680~~685mm high, with an additional toe clearance at least ~~750~~800 mm wide × 230 mm deep × 230 mm high; and
b) insulation or other protection on the underside where the knee clearance is provided (see Figure 61).

7.4.4.8 Refrigerators

A refrigerator shall
a) be either
i) an over-and-under type, with the freezer shelf space not more than 1100 mm from the floor; or
ii) a vertical side-by-side type (see Figure 60);
b) have a self-defrosting freezer; and
c) have controls that comply with Clause 4.2.

7.4.5 Bedrooms

7.4.5.1

A bedroom shall have a clear floor area of at least ~~750~~800 x ~~1200~~1350 mm on at least two sides of the bed.

7.4.5.2

There shall be at least one electrical outlet provided at a convenient height in a location where access is not impeded by furniture.

7.4.5.3
At least one of every other outlet connection type for computer network and communications purposes should be provided at a convenient height and located where access is not impeded by furniture.

7.4.6.4 Clothes closets
A clothes closet shall have
a) a clear floor area of at least ~~750~~800 x ~~1200~~1350 mm in front of it;
b) a clothes rail 1200 to 1400 mm from the floor; and
c) where shelves are provided, at least three shelves between 400 and 1200 mm from the floor (see Figure ~~63~~ 62).
7.4.6.5 General storage
A general storage space shall
a) have a door that swings outward;
b) have an electric outlet on the inside, close to the door; and
c) be capable of being illuminated to a level of at least ~~100~~ 50 lx.
7.4.6.6 Miscellaneous services
Services such as laundry facilities, post boxes, garbage disposals, or hose bibs shall
a) be on an accessible route;
b) have a clear floor area at least ~~750~~800 x ~~1200~~1350 mm in front of each service; and
c) have controls and operating mechanisms that comply with Clause 4.2.
7.4.7 Outdoor living areas
An outdoor living area such as a patio, balcony, or deck shall
a) be adjacent to an accessible route;
b) have a surface that complies with Clause 4.3;
c) be at least ~~1500~~1700 × ~~1500~~1700 mm in area;
d) have a manoeuvring area at the door that complies with Clause 5.2.2;
e) have a no step, level threshold through patio doors or openings onto a patio, deck, or balcony; and
f) be capable of being illuminated to a level of at least ~~100~~ 50 lx at the floor level.

8.2 Accessible routes
8.2.1 General
An accessible exterior pedestrian route shall
…….
d) where traversing a vehicular area, comply with Clause 8.3; and
…….
8.2.2 Width
The clear width of an accessible pedestrian route shall be
a) at least ~~1500~~1600mm; or
b) where adjacent to a curb ramp, at least ~~1200~~1350 mm (see Clause 8.3.3.8 and Figure ~~64~~63).

8.2.5 Edge protection

~~*An edge protection at Least 75 mm high shall be provided where a drop-off between 75 and 250 mm deep is immediately adjacent to a pedestrian route. This requirement does not apply to a standard curb of 150 mm or Less.*~~

Where an accessible path is immediately adjacent to a vertical drop, edge protection or hand rails shall be provided as follows:

a) If the vertical drop is between 75 and 600 mm deep, there shall be edge protection with a minimum height of 100 mm.

b) If the vertical drop is greater than 600 mm, there shall be a hand rail complying with Clause 5.5.8.

c) Edge protection is not required for a standard road curb.

d) Edge protection is not required on the active side of a transit platform where the vertical drop is less than 250 mm. If the vertical drop at a transit platform is 250 mm or more, the edge shall be protected with a tactile attention indicator that complies with Clause 4.3.5.3.

8.2.8 Exterior stairs

Exterior stairs shall

a) comply with Clause 5.4;

b) where the distance between the handrails is greater than 2200 mm, have an intermediate handrail that is located between 920 and 1000 mm from one of the handrails;

c) be designed to avoid water accumulation; and

d) have landings designed to drain water from their surface [but not be steeper than the ratio of 1:50 (2%)].

8.2.9 Illumination for pedestrian routes

Illumination along a pedestrian route shall

a) be continuous and not create any dark or shadow areas;

b) have lighting standards located off the pedestrian route or space, but adjacent to it; and

c) illuminate components along a pedestrian route, such as stairs, ramps, or rest areas, to at least~~100~~ 50 lx at ground level.

8.3.3.2 Cross slope

The cross slope at a curb ramp or blended transition shall be

a) not steeper than a ratio of 1:50 (2%) at intersections; and

b)~~ not steeper than a ratio of 1:20 (5%) at mid-block crossings~~ permitted to match the street or highway gradient at mid- block pedestrian crossings.

8.3.3.3 Counter slope

~~*When the counter slope at a curb ramp is greater than 11%, a transition area shall be provided such that it*~~

~~*(a) extends the full width of the curb ramp;*~~

~~*(b) begins at the base of the curb ramp and extends to a Length of at Least 600 mm on the street; and (c) has a cross slope not steeper than in a ratio of 1:50 (2%).*~~

The running slope of a pedestrian crossing at the foot of curb ramp, blended transitions, and turning spaces shall

a) be 1:20 (5%) maximum; and

b) have the sum of the running slope and that of a curb ramp, blended transition, or turning space not exceed 11%.

8.3.3.4 Surface

8.3.3.4.1

The surface of a curb ramp or blended transition shall

a) be stable, firm, and slip-resistant;
b) have a level transition to adjacent surfaces; and
c) have a tactile attention indicator surface that
i) complies with Clause 4.3.5.3;
ii) extends the full width of the curb ramp or transition area; and
iii) has a length between 600 and 650 mm, starting between ~~150~~300 and ~~200~~350 mm from the road face of the curb.

8.3.3.4.2

There shall be a tactile attention indicator surface on a curb ramp before a level curb-to-gutter transition.

8.3.3.5 Width

The width of a curb ramp or blended transition, exclusive of flared sides, shall be
a) ~~between 1200 and~~ at least 1500 mm; or
b) where at a marked crosswalk, match that of the crosswalk.

8.3.3.6 Flared sides

Flared sides shall
…….
~~(d) be texture and colour-contrasted with the adjacent surfaces.~~

8.3.3.7 Curb ramp drainage

A curb ramp or blended transition shall
a) provide for appropriate drainage so that water does not accumulate on the pedestrian route; and
b) have no catch basin ~~gratings~~ covers within the pedestrian crossing unless they meet the requirement for gratings (see Clause 4.3.4).

8.3.3.8 Turning space

There shall be a turning space at least 1350 x 1350 mm at the top of a curb ramp level with the pedestrian route. This turning space may overlap other turning or clear spaces.

8.3.3.9 Parallel curb ramp

Where a curb ramp is located on an accessible narrow route, the sidewalk itself shall
a) be ramped down ~~to a landing at street Level,~~ in-line at a slope of ~~not more than in a ratio of~~ between 1:12 (8.33%) and 1:15 (6.66%) to a landing space to allow directional turning at street level;
b) ~~have the Landing the same width as the curb ramp; and~~ have the turning space at least 1350 x 1350 mm, but not less than the width of the ramp;
c) have the turning space running and cross slope not to exceed 1:50 (2%); and
d) have a tactile attention indicator surface that
i) complies with Clause 4.3.5.3;
~~(ii) starts between 150 mm and 200 mm from the face of the curb.~~

8.3.4 Crosswalks

8.3.4.1 Surface

A crosswalk shall
…….
c) have a cross slope
i) not exceeding a ratio of 1:50 (2%) for crossings with stop control;
ii) not exceeding a ratio of 1:20 (5%) for crossings without stop control; or
iii) in the case of mid-block pedestrian crossings, matching the street or highway grade; and
…….

8.3.6 Medians and pedestrian refuge areas

8.3.6.1 General

Where the pedestrian route connects crosswalk segments across a median or island, the island segment shall

a) provide an area at least ~~1500~~1600 mm wide to allow for passing;

b) be at least ~~1800~~2100 mm long in the direction of pedestrian travel; and

c) where longer than 2100 mm or changing direction, be channelized to define the route to be taken; or

d) where signalized and the island segment is less than 2100 mm long, have the pedestrian clearance signal interval set long enough to allow a person to travel the entire length of the pedestrian crossing and comply with Clause 8.3.7.3.

8.3.6.3 Level medians and islands

Within a pedestrian crossing, an island level with the roadway shall

a) if less than ~~1800~~2100 mm long, not require a tactile attention indicator surface; or

b) if more than ~~1800~~2100 mm long,

i) have at each roadway edge a tactile attention indicator 600 mm deep, complying with Clause 4.3.5.3; and

ii) have a walkway at least 600 mm deep between the tactile attention indicator surfaces (see Figure 66).

8.3.6.4 Bulb-outs (curb extensions)

8.3.6.4.1

Where bulb outs are provided, they shall only be used on streets with a parking lane; extend along the curb for at least 2000 mm;

c) not have street furniture or utility equipment located between a pedestrians path and parallel traffic lanes or within 1000 mm of the curb line on the street being crossed; and

d) include a curb ramp complying with Clause 8.3.3.

8.3.6.4.2

If a bulb-out is used at a transit stop, it shall be

a) of sufficient length to accommodate all transit vehicle access doors;

b) if at a far-side stop, of sufficient length to have the transit vehicle remain at least 1200 mm clear of the pedestrian crosswalk; and

c) when used to create an accessible transit stop in a cycle lane comply with Clause 8.5.3.

8.3.7.2 Activation push buttons at pedestrian crossings

Where provided, a pedestrian crossing activation push button shall either

.....

iii) have a clear level area ~~760~~800 × ~~1200~~1350 mm adjacent to or overlapping the pedestrian route.

8.3.9 Bollards

Where bollards or curbs are located adjacent to a pedestrian route or space, they shall

a) be colour-contrasted with their surroundings; and

b) where access is intended between the bollards or curbs, provide a clear width ~~between 920 mm and 1000~~ of at least 1200 mm to allow the passage of wheeled mobility aids.

8.4.2.4 Roundabout intersections

A roundabout intersection having a pedestrian route of travel shall

.....

e) at roundabouts with multi-lane pedestrian street crossings

i) have entry and exit lanes of the roundabout separated by a splitter island;
ii) have on the splitter island a channelized pedestrian route to ensure pedestrians follow the intended route;
iii) have separate offset pedestrian crossings for entry and exit lanes of the roundabout; and
iv) have for each multi-lane segment of a pedestrian street crossing an accessible pedestrian signal (APS) complying with Clause 8.3.7.1. Signals shall clearly identify which pedestrian street crossing segment the signal serves.

8.4.2.5 Vehicular overpasses or underpasses

Where two vehicular rights-of-way meet at an overpass or underpass, the intersection shall
a) provide a pedestrian route that complies with Clause 8.2 for each route where pedestrians are allowed;
b) where marked pedestrian crossings are provided, comply with Clause 8.3; and
c) where an uncontrolled ramp intersects the pedestrian route, comply with Clause 8.4.2.1.

8.5.2 Identification

A transit stop shall
a) ~~be identified in a visual and tactile manner as distinct from other facilities or elements along an accessible route;~~ be identified with
i) a distinctive visual and tactile stop pole, where the tactile element can be accessed at or below 1200 mm from the ground; and
ii) a tactile direction indicator complying with Clause 4.3.5.4, at least 600 mm deep, extending the width of the pedestrian route [See Figure 7b)];

8.5.3 Boarding or alighting areas

A transit boarding or alighting area shall
…….
g) when located in a bicycle lane have
i) the bicycle lane raised to the level of the adjacent pedestrian path;
ii) tactile attention indicators at the top of bicycle ramps that connect the bicycle lane across the boarding area;
iii) a tactile attention indicator delineating the line between the pedestrian path and the bicycle lane;
iv) curb grade separation from the adjacent traffic lane; and
v) signage advising cyclists to stop before entering the boarding area when a transit vehicle is present for the purpose of boarding or alighting passengers.

8.5.4 Transit shelters

Where provided, a transit shelter shall
…….
e) have an unobstructed clear floor area at least ~~1500~~1700 mm directly inside the doorway;
f) where no door is provided, have a clear opening at least ~~920~~1000 mm wide; and
g) where a door is provided, comply with Clause 5.2.

8.6.2 Amenity zone

…….
f) where containing a transit stop, complies with Clause 8.5.

8.6.3.2 Picnic tables

Where a picnic table is provided, it shall be
a) on a level and firm surface that extends at least 2000 mm on all sides; and

b) equipped with a knee clearance under the table at least ~~750~~800 mm wide × ~~480~~430 mm deep × ~~680~~685 mm high (see Figure 67).

8.6.4 Public telephones

Where a public telephone is provided, it shall

a) comply with Clause 6.6.2;

~~(b) be located adjacent or connected to an accessible route;~~

…….

8.6.6 Permanent washrooms

Where a permanent ~~outdoor~~ washroom is provided, ~~at least one~~ it shall

a) be ~~located adjacent or~~ connected to an accessible route;

b) have level access from the washroom entry door to the accessible route;

c) where doors are provided, comply with Clause 5.2;

d) where applicable, comply with Clauses 6.2 and 6.3; and

e) have signage that complies with Clause 4.5.7.

8.6.7 Information kiosks

Where an information kiosk is provided, it shall

a) be located adjacent to or connected to an accessible route;

b) where applicable, comply with

i) ~~have the area requirments~~ Clause 4.1 for area allowances;

ii) Clause 4.2 for operating controls;

iii) ~~have the floor and ground surfaces~~ Clause 4.3 for ground surfaces; and

iv) Clause 4.5 for clearances;

c) where ~~provided, have the~~ counters are provided, comply with Clause 6.7.1; and

d) where a self-service interactive device is provided, comply with CAN/CSA-B651.2.

~~(e) have protruding objects comply with Clause 4.4;~~

~~(f) have its lower edge either~~

~~(i) not higher than 680 mm above the ground; or~~

~~(ii) where it is higher than 680 mm above the ground, not extend more than 100 mm beyond the supporting post(s);~~

~~and~~

~~(g) where provided, have operating controls comply with Clause 4.2.~~

~~8.6.8 Self-service interactive devices~~

~~Where a self-service interactive device is provided (e.g., a parking meter, ticket dispenser, etc.), it shall~~

~~(a) comply with CSA 8651.2; and~~

~~(b) be located adjacent to an accessible route.~~

~~8.6.9~~8.6.8 Exterior signage

Exterior signage shall

a) comply with Clause 4.5; and

(b) ~~have any protruding hazards~~ comply with Clause~~s 4.4.1 and~~ 4.4.2~~; and~~

~~(c) have any overhead obstructions comply with Clause 4.4.3.~~

~~8.6.10~~8.6.9Bicycle ~~stands~~ parking

Where a bicycle stand is provided, it shall

(a) be located such that bicycles do not protrude into the accessible pedestrian route~~; and~~

~~*(b) have the pavement surface around and under the bicycle stand textured and colour-contrasted to the surrounding surface.*~~

~~8.6.11~~8.6.10 Parking meters, newspaper dispensers, or mail or courier boxes

Where a parking meter/ticket dispenser, newspaper dispenser, mailbox (both street and community), or courier box is provided, it shall

a) be ~~located adjacent or~~ accessed from a clear ground area of at least 800 x 1350 mm that is connected to the accessible route;

b) be securely fixed to the ground, post, or wall;

c) have the ground surface firm, stable, and slip-resistant;

~~f~~d) be cane-detectable to the ground;

~~d~~e) have the operating mechanisms

i) located between 900 and 1200 mm above ground;

ii) comply with Clauses 4.2.2 ~~to~~ and 4.2.4 to 4.2.8

…….

8.6.11 Waste receptacles, recycling bins, or ashtrays

Where a waste receptacle, recycling bin, or ashtray is located along an accessible route, it shall

…….

d) have a clear ground area of at least ~~750~~800 × ~~1200~~1350 mm at the opening or lid;

…….

8.6.13 Miscellaneous items

Miscellaneous items installed in the public right-of-way, such as an intersection traffic control box, a hydro transformer, or a hydrant, shall

…….

c) in the case of guy wires

i) be clearly distinguished from their surroundings by colour contrasting materials; and

ii) where in a paved public area be vertical to a height of 2050 mm from the ground.

8.7.4 Guy wires

Guy wires located along an accessible pedestrian route shall

a) be contained so as not to obstruct pedestrian areas of travel;

…….

8.7.5 Grates around trees

Where provided, a grate around a tree shall

…….

c) have edge protection at the tree opening a minimum of 100 mm in height.

8.8.2 Scaffolding

Where scaffolding is erected on or above an accessible route, it shall

a) provide a walkway at least ~~1500~~1600 mm wide;

…….

8.8.3 Temporary outdoor toilets

Where a temporary outdoor toilet is provided, at least one shall

…….

ii) is at least ~~810~~850 mm wide;

e) have a clear interior space at least 1600 × 1500 mm; and

f) have a toilet that

i) has the top of the seat between ~~400~~430 and ~~460~~485 mm from the floor;

…….

9.3 Passenger pick-up areas

9.3.1 Access aisle

At a passenger pick-up area, a side access aisle shall be provided on the roadway that is

a) adjacent and parallel to the accessible route;

b) at least 1500 mm wide × ~~6000~~7000 mm long; and

…….

9.3.2 Height clearance

The clearance from the pavement to the underside of any ceiling structure or hanging object shall

a) be at least 3000 mm

i) at the passenger pick-up area; and

ii) along the vehicular route from the site entrance (see Figure ~~68~~69); and

b) be identified with a sign indicating clearance height.

9.4 Designated accessible parking

9.4.1 Designated spaces Area allowances

A designated parking space shall

a) be at least 2600 mm wide;

b) have an adjacent side access aisle at least 2000 mm wide (see Figure 71); and

c) have an adjacent rear access aisle at least 2000 mm long (see Figure 72).

9.4.2 Height allowances

The clearance from the pavement to the underside of any ceiling structure or hanging object shall be at least 2750 mm

a) along the vehicular route; and

b) at the designated accessible parking space(s) (see Figure 69).

9.4.3 Surface

A designated parking space and its adjacent side aisle shall

a) have a surface that is level, stable, firm, and slip-resistant;

b) on the side access aisle, have diagonal markings that resist fading or removal; and

c) where bollards or curbs separate the vehicular area from a pedestrian route, have them comply with Clause 8.3.9.

~~9.5 Designated parking~~

~~9.5.1 Surface~~

~~A designated parking space and its adjacent side aisle shall~~

~~(a) have a surface that is level, stable, firm, and slip-resistant;~~

~~(b) on the side access aisle, have diagonal markings that resist fading or removal; and~~

~~(c) where bollards or curbs separate the vehicular area from a pedestrian route, have them comply with Clause 8.3.9.~~

~~9.5.2 Designated spaces for cars~~

~~A designated parking space for a car shall~~

~~(a) be at Least 2400 mm wide;~~

~~(b) have an adjacent side access aisle at least 1500 mm wide (see Figures 71, 72, and 73); and~~

~~(c) for parallel parking, have an adjacent rear passage/aisle at least 900 mm wide.~~

~~9.5.4 Designated spaces for vans~~

~~*A designated parking space for a van shall*~~
~~*(a) be at Least 2600 mm wide;*~~
~~*(b) have an adjacent side access aisle at Least 2000 mm wide (see Figure 74); and*~~
~~*(c) have an adjacent rear access aisle at Least 2000 mm Long (see Figure 75).*~~

~~***9.5.5 Height clearance for vans***~~
~~*The clearance from the pavement to the underside of any ceiling structure or hanging object shall be at Least 2750 mm*~~
~~*(a) along the vehicular route; and*~~
~~*(b) at the designated van space(s) (see Figure 69).*~~

9.6 Ticketing dispensers or payment machines
A ticketing dispenser or payment machine for parking (at street side or in a parking facility) shall
a) have its self-service interactive device comply with ~~*Clause 8.6.8*~~ *CAN/CSA-B651.2; and*
…….