Accessibility Significant Changes

1

Instructor

Bill Clayton, CBO
- Designer/builder 15+ years
- Combination Inspector 34+ years
- Plans examiner 30+ years
- 2 ICBO/ICC/FEMA/State of Colorado & California certifications
- IEBC Committee 2009 & 2012
- IBC General Committee 2015
- 10+ years CBO
- 9+ years as Consultant and Instructor for CCC/Shums Coda Associates
- 7+ years ICC Instructor
- Author of Firestopping, Joint Systems and Dampers for ICC based on the 2021 codes

Today’s Schedule

- Discuss the major accessibility changes in the 2021 IBC, IEBC and ICC A117.1 2017
- Background behind the changes
- Application of the new requirements
1102
Accessibility Compliance/Design

Buildings and facilities shall be designed and constructed to be accessible in accordance with this code and ICC A117.1.

New 2017 Edition

1104.4
Multistory buildings and facilities
Accessible Route (added an exception)

Exception 1.
An accessible route is not required to stories, mezzanines and occupied roofs that have an aggregate area of not more than 3,000 square feet and are located above and below accessible levels. This exception shall not apply to:

1. Structures with four or more dwelling units.

1105.1.1
Automatic doors

In facilities with the occupancies and building occupant loads indicated in Table 1105.1.1, public entrances that are required to be accessible shall have one door be either a full power-operated door or a low-energy power-operated door.

Where the public entrance includes a vestibule, at least one door into and one door out of the vestibule shall meet the requirements of this section.
1106.8 - Parking meters and pay stations

Where parking meters and pay stations serve accessible parking spaces, such parking meters and pay stations shall be accessible.

1107.2 Electrical vehicle charging stations

Electrical vehicle charging stations shall comply with Sections 1107.2.1 and 1107.2.2.

Exception: Electrical vehicle charging stations provided to serve Group R-2, R-3 and R-4 occupancies are not required to comply with this section.

1107.2.1 Number of accessible vehicle spaces

Not less than 5 percent of vehicle spaces on the site served by electrical vehicle charging systems, but not fewer than one for each type of electric vehicle charging system, shall be accessible.
### 1107.2.2 Vehicle space size

Accessible vehicle spaces shall comply with the requirements for a van accessible parking space that is 132 inches minimum in width with an adjoining access aisle that is 60 inches minimum in width.

### 1107.3 Fuel dispensing systems shall be accessible

### 1108.5.1.1 Accessible units

In Group I, Condition 1, at least 4 percent, but not less than one, of the dwelling units and bedroom units shall be Accessible units. Accessible dwelling units and bedroom units shall be dispersed among the various classes of units.

**Exceptions:**

1. Water closets shall not be required to comply with ICC A117.1 where such water closets comply with Section 1110.2.2, in not more than 50 percent of the Accessible units.

2. Roll-in-type showers shall not be required to comply with ICC A117.1 where roll-in-type showers comply with Section 1110.2.3, in not more than 50 percent of the Accessible units.
1108.5.1.2 - Accessible units in Group I-1, Condition 2

In Group I-1, Condition 2, at least 10 percent, but not less than one, of the dwelling units and sleeping units shall be Accessible units. Accessible dwelling units and sleeping units shall be dispersed among the various classes of units.

Exceptions:
1. Water closets shall not be required to comply with ICC A117.1 where such water closets comply with Section 1110.2.2, in not more than 50 percent of the Accessible units.
2. Roll-in type showers shall not be required to comply with ICC A117.1 where roll-in type showers comply with Section 1110.2.3, in not more than 50 percent of the Accessible units.

1108.5.2.1 - Nursing Homes

Accessible units

At least 50 percent but not less than one of each type of the dwelling units and sleeping units shall be Accessible units.

Exceptions:
1. Water closets shall not be required to comply with ICC A117.1 where such water closets comply with Section 1110.2.2, in not more than 90 percent of the Accessible units.
2. Roll-in type showers shall not be required to comply with ICC A117.1 where roll-in type showers comply with Section 1110.2.3, in not more than 90 percent of the Accessible units.

1108.5.4 - Group I-2 rehabilitation facilities

In hospitals and rehabilitation facilities of Group I-2 occupancies that specialize in treating conditions that affect mobility, or units within either that specialize in treating conditions that affect mobility, 100 percent of the dwelling units and sleeping units shall be Accessible units.

Exceptions:
1. Water closets shall not be required to comply with ICC A117.1 where such water closets comply with Section 1110.2.2, in not more than 50 percent of the Accessible units.
2. Roll-in type showers shall not be required to comply with ICC A117.1 where roll-in type showers comply with Section 1110.2.3, in not more than 50 percent of the Accessible units.
Toilet and bathing facilities

- Each toilet room and bathing room shall be accessible.

New Exceptions:

7. Where permitted in Section 1108, in toilet rooms or bathrooms serving accessible units, water closets designed for assisted toileting shall comply with Section 1110.2.2.

8. Where permitted in Section 1108, in bathrooms serving Accessible units, showers designed for assisted bathing shall comply with Section 1110.2.3.

1110.2.2 Water closets designed for assisted toileting

Water closets designed for assisted toileting shall comply with Sections 1110.2.2.1 through 1110.2.2.6.

1110.2.2.1 Location

- The centerline of the water closet shall be not less than 24 inches and not greater than 26 inches from one side of the required clearance.
1110.2.2.2 Clearance

- Clearance around a water closet shall be not less than 46 inches in width, measured perpendicularly from the side of the clearance that is not less than 24 inches and not greater than 26 inches from the water closet centerline.
- Clearance around the water closet shall be not less than 78 inches in depth, measured perpendicularly from the rear wall.
- The required clearance around the water closet shall permit overlaps per ICC A117.1, Section 604.3.3.

1110.2.2.3 Height

- The height of the water closet seats shall comply with ICC A117.1, Section 604.4. (17” to 19” AFF to top of seat.)

1110.2.2.4 Swing-up grab bars

- Swing-up grab bars shall comply with ICC A117.1, Sections 609.2 and 609.8. Swing-up grab bars shall be provided on both sides of the water closet and shall comply with all of the following:
  - 1. The centerline of the grab bar shall be not less than 14 inches and not greater than 16 inches from the centerline of the water closet.
  - 2. The length of the grab bar is not less than 36 inches, measured from the rear wall to the end of the grab bar.
  - 3. The top of the grab bar is to be no less than 30 inches and no greater than 34 inches above the floor.
1110.2.2.5 Flush controls
-
- Flush controls shall comply with ICC A117.1, Section 604.6.
- "Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with Section 309. Flush controls shall be located on the open side of the water closet".

1110.2.2.6 Dispensers
- Toilet paper dispensers shall be mounted on at least one of the swing-up grab bars and the outlet of the dispenser shall be located not less than 24 inches and not greater than 36 inches from the rear wall.

1110.2.3 Standard roll-in-type shower compartment designed for assisted bathing
- Standard roll-in-type shower compartments designed for assisted bathing shall comply with Sections 1110.2.3.1 through 1110.2.3.9.
1110.2.3.1 Size

- Standard roll-in-type shower compartments shall have a clear inside dimension of not less than 60 inches in width and 30 inches in depth, measured at the center point of opposing sides. An entry not less than 60 inches in width shall be provided.

1110.2.3.2 Clearance

- A clearance of not less than 60 inches in length adjacent to the 60-inch width of the open face of the shower compartment, and not less than 30 inches in depth, shall be provided.

  Exceptions:
  1. A lavatory complying with ICC A117.1, Section 606 shall be permitted at one end of the clearance.
  2. Where the shower compartment exceeds minimum size, the clear floor space shall be placed adjacent to the grab bars and not less than 30 inches from the back wall.
1110.2.3.5 - Controls and hand showers

- In standard roll-in-type showers, the controls and hand shower shall be located not less than 38 inches and not greater than 48 inches above the shower floor.
- Controls shall be located to facilitate caregiver access.

1110.2.3.3 Grab bars

- Grab bars shall comply with ICC A117.1, Section 609 and shall be provided in accordance with Sections 1110.2.3.3.1 and 1110.2.3.3.2.
- In standard roll-in-type shower compartments, grab bars shall be provided on three walls.
- Where multiple grab bars are used, required horizontal grab bars shall be installed at the same height above the floor.
- Grab bars can be separate bars or one continuous bar.
1110.2.3 - Standard roll-in-type shower compartment designed for assisted bathing

- Wall-mounted folding seats shall not be installed.
- Hand showers shall comply with ICC A117.1, Section 608.5.
- Thresholds shall comply with ICC A117.1, Section 608.6.
- Shower compartment enclosures for shower compartments shall comply with ICC A117.1, Section 608.7.
- Water temperature shall comply with ICC A117.1, Section 608.8.

1110.6 Bottle-filling stations

- Where bottle-filling stations are provided, they shall be accessible.
- Exception: Bottle-filling stations over drinking fountains for standing persons are not required to be accessible, provided that bottle-filling stations are also located over the drinking fountains for persons using wheelchairs.

1110.13.2 - Sales and service counters and windows

- Where counters or windows are provided for sale or distribution of goods or services, at least one of each type of counter and window provided shall be accessible.
- Where such counters or windows are dispersed throughout the building or facility, accessible counters or windows shall also be dispersed.
1110.15 - Controls, operating mechanisms and hardware

- Controls, operating mechanisms and hardware intended for operation by the occupant, including switches that control lighting, ventilation and selected convenience outlets, in accessible spaces, along accessible routes or as parts of accessible elements shall be accessible.
- Exceptions 2 to 6 deleted
- New Exception:
  - 3. Operable parts exempted in accordance with ICC A117.1 are not required to be accessible.

1111.4.15 - Shooting facilities with firing positions

- Where shooting facilities with firing positions are designed and constructed, at least 5 percent, but not less than one, of each type of firing position shall be accessible and be on an accessible route.
- Exception: Shooting facilities with firing positions on free-standing platforms that are elevated more than 12 feet above grade, provided that the aggregate area of the elevated firing positions is no more than 500 square feet, are not required to be accessible.

1112.2 - Signs identifying toilet or bathing rooms

- Signs required in Section 403.4 of the International Plumbing Code identifying toilet rooms and bathing rooms shall be visual characters, raised characters and braille complying with ICC A117.1.
- Where pictograms are provided as designations for toilet rooms and bathing rooms, the pictograms shall have visual characters, raised characters and braille complying with ICC A117.1.
1009.6.3
Area of Refuge Size

- Each area of refuge shall be sized to accommodate one wheelchair space of 30 inches by 52 inches for each 200 occupants or portion thereof, based on the occupant load of the area of refuge and areas served by the area of refuge.

1207 - Enhanced classroom acoustics

- Enhanced classroom acoustics, where required by this section, shall comply with Section 808 of ICC A117.1.
- In Group E occupancies, enhanced classroom acoustics shall be provided in all classrooms with a volume of 20,000 cubic feet or less.

3001.2
Emergency elevator communication systems for the deaf, hard of hearing and speech impaired

- An emergency two-way communication system shall be provided.
- The system shall provide visible text and audible modes that meet all of the following requirements:
  1. When operating in each mode, include a live interactive system that allows back and forth conversation between the elevator occupants and emergency personnel.
  2. Is operational when the elevator is operational.
  3. Allows elevator occupants to select the text based or audible mode depending on their communication needs to interact with emergency personnel.
306 - ACCESSIBILITY FOR EXISTING BUILDINGS

The provisions of Sections 306.1 through 306.7.16 apply to maintenance and repair, change of occupancy, additions and alterations to existing buildings, including those identified as historic buildings.

- Entire Section reformatted
- Removed redundant language with A117.1

306.3 Maintenance and repair

- A facility that is constructed or altered to be accessible shall be maintained accessible during occupancy.
- Required accessible means of egress shall be maintained during construction, demolition, remodeling or alteration, and additions to any occupied building.
- Exception: Existing means of egress need not be maintained where approved temporary means of access and accessible means of egress systems and facilities are provided.
306.7.2 Accessible means of egress

Accessible means of egress required by Chapter 10 of the International Building Code are not required to be added in existing facilities.

306.3.1 - Prohibited reduction in accessibility

An alteration that decreases or has the effect of decreasing accessibility of a building, facility or element, thereof, below the requirements for new construction at the time of the alteration is prohibited.

The number of accessible elements need not exceed that required for new construction at the time of alteration.

306.5 Change of occupancy

Existing buildings that undergo a change of group or occupancy shall comply with Section 306.7 (Alterations)

Deleted complete change of occupancies and list of accessible features.
306.7.6 Accessible route
- Exterior accessible routes, including curb ramps, shall be not less than 36 inches minimum in width.

306.7.9 - Stairways and escalators in existing buildings
- Where an escalator or stairway is added where none existed previously and major structural modifications are necessary for installation, an accessible route complying with Section 1104.4 of the International Building Code is required between levels served by such escalator or stairway.

306.7.11 Toilet rooms
- Where it is technically infeasible to alter existing toilet rooms to be accessible, one accessible single-user toilet room or one accessible family or assisted-use toilet room constructed in accordance with Section 1110.2.1 of the International Building Code is permitted.
306.7.12 Bathing rooms

- Where it is technically infeasible to alter existing bathing rooms to be accessible, one accessible single-user bathing room or one accessible family or assisted-use bathing room constructed in accordance with Section 1110.2.1 of the International Building Code is permitted.
- This accessible bathing room shall be located on the same floor and in the same area as the existing bathing rooms.

306.7.12 Bathing rooms

- At the inaccessible bathing rooms, directional signs indicating the location of the nearest such bathing room shall be provided.
- These directional signs shall include the International Symbol of Accessibility, and sign characters shall meet the visual character requirements in accordance with ICC A117.1.

306.7.16 Historic structures

- Where compliance with the requirements for accessible routes, entrances or toilet rooms would threaten or destroy the historic significance of a historic structure, as determined by the authority having jurisdiction, the alternative requirements of Sections 306.7.16.1 through 306.7.16.5 for that element shall be permitted.

Exceptions:
- 1. Accessible means of egress required by Chapter 10 of the International Building Code are not required to be provided on historic structures.
- 2. The altered element or space is not required to be an accessible route or entrance as required by Sections 306.7.16.1 or 306.7.16.2.
306.7.16.1 – Historic Buildings, Site arrival points

- Not fewer than one exterior accessible route, including curb ramps from a site arrival point to an accessible entrance, shall be provided and shall not be less than 36 inches minimum in width.

306.7.16.4 – Historic Buildings toilet facilities

- Where toilet rooms are provided, not fewer than one accessible single-user toilet room or one accessible family or assisted-use toilet room complying with Section 1110.2.1 of the International Building Code shall be provided.

306.7.16.5 – Historic buildings bathing facilities

- Where bathing rooms are provided, not fewer than one accessible single-user bathing room or one accessible family or assisted-use bathing rooms complying with Section 1110.2.1 of the International Building Code shall be provided.
105.2 Calculation of percentages

Where the determination of the required size or dimension of an element or facility involves ratios or percentages, rounding down for values less than one half shall be permitted.

105.3 Dimension tolerances

All dimensions are subject to conventional industry tolerances except where the requirement is a range with stated minimum and maximum end points.
107 Definitions

- Existing building:
  - A building erected prior to the date of adoption of this standard, or one for which a legal building permit has been issued.

- Existing facility:
  - A facility completed prior to the date of adoption of this standard, or one for which a legal permit has been issued.

304.3.1.1 Turning Space - New buildings and facilities

- In new buildings and facilities, the turning space shall be a circular space with a 67-inch minimum diameter.

304.3.1.1.1 Overlap

- Turning spaces shall be permitted to include knee and toe clearances complying with Section 306. Where the turning space includes knee and toe clearances under an obstruction, the overlap shall comply with all of the following:
  1. The depth of the overlap shall not be more than 10 inches, and
  2. The depth shall not exceed the depth of the knee and toe clearances provided, and
  3. The overlap shall be permitted only within the turning circle shown shaded in Figure 304.3.1.
304.3.1.2 Existing buildings and facilities

- In existing buildings and facilities, the turning space shall be a circular space with a 60-inch minimum diameter.

304.3.2.1 - New buildings and facilities

- In new buildings and facilities, the turning space shall be a T-shaped space complying with one of the following:
  1. A T-shaped space, clear of obstruction, that fits within an area 68 inches wide and 60 inches deep, with two arms and one base that are all 36 inches minimum in width.
  - Each arm shall extend 16 inches minimum from each side of the base located opposite the other, and the base shall extend 24 inches minimum from the arms.
  - At the intersection of each arm and the base, the interior corners shall be chamfered for 8 inches minimum along both the arm and along the base.
  2. A T-shaped space, clear of obstruction, that fits within an area 64 inches wide and 60 inches deep, with two arms 38 inches minimum in width and a base 42 inches minimum in width.
  - Each arm shall extend 11 inches minimum from each side of the base, located opposite the other, and the base shall extend 22 inches minimum from each arm.
304.3.2.1 - New buildings and facilities

- A T-shaped space, clear of obstruction, 64 inches wide and 60 inches deep, with two arms and one base 40 inches minimum in width.
- Each arm shall extend 12 inches minimum from each side of the base and the base shall extend 20 inches minimum from each arm.

304.3.2.1.1 Overlap

- Turning spaces shall be permitted to include knee and toe clearance complying with Section 306 of either the base or one arm.
- For Option 1, the base or arm is the portion beyond the chamfer.

304.3.2.2 - Existing buildings and facilities

- In existing buildings and facilities, the turning space shall be a T-shaped space within a 60 inch minimum square, with arms and base 36 inches minimum in width.
- Each arm of the T shall be clear of obstructions 12 inches minimum in each direction, and the base shall be clear of obstructions 24 inches minimum.
305.3.1 – Clear floor space in new buildings and facilities

- In new buildings and facilities, the clear floor space shall be 52 inches minimum in length and 30 inches minimum in width.

305.3.2 - Existing buildings and facilities

- In existing buildings and facilities, the clear floor space shall be 48 inches minimum in length and 30 inches minimum in width.

308.2.2 Obstructed high reach

- Where a high forward reach is over an obstruction, the clear floor space complying with Section 305 shall have and toe clearance complying with Section 306 shall extend beneath the element for a distance not less than the required reach depth over the obstruction.
- The high forward reach shall be 48 inches maximum above the floor where the reach depth over the obstruction is 20 inches maximum. The high forward reach shall be 44 inches maximum above the floor where the reach depth over the obstruction is greater than 20 inches and not more than 25 inches maximum.
308.3.1 Unobstructed side reach

Where a clear floor space complying with Section 305 allows a parallel approach to an element and the edge of the clear floor space is 10 inches maximum from the element, the high side reach shall be 48 inches maximum and the low side reach shall be 15 inches minimum above the floor.

New Exception:

3. Operable parts on fuel dispensers installed on existing curbs shall be permitted at 54 inches maximum above the floor.

309.1 Operable parts

Operable parts shall comply with Section 309.

Exceptions:

1. Receptacle outlets serving a dedicated use.

2. Where two or more receptacle outlets are provided in a kitchen above a length of countertop that is uninterrupted by a sink or appliance, one receptacle outlet shall not be required to comply with this section.

3. In a kitchen, where a clear floor space for a parallel approach cannot be located at a countertop in a corner between appliances, receptacle outlets over the countertop shall not be required to comply with this section provided that the countertop area does not exceed 9 square feet maximum.

4. Floor receptacle outlets.

5. HVAC diffusers.

6. Controls mounted on ceiling fans.

7. Where redundant controls other than light switches are provided for a single element, one control in each space shall not be required to comply with this section.

8. Reset buttons and shut-offs serving appliances, piping and plumbing fixtures.

9. Electrical panelboards shall not be required to comply with Section 309.4.

10. Emergency aid devices, such as fire department hose connections, valve controls, gauges, police call boxes and annunciator panels shall not be required to comply with this section provided that they are used only for emergencies by emergency personnel acting in their official capacity.
403.5.1 Accessible clear width

- The clear width of an interior accessible route shall be 36 inches minimum.
- The clear width of an exterior accessible route shall be 48 inches minimum.

Exceptions:

1. In new buildings and facilities, the clear width shall be permitted to be reduced to 32 inches minimum for a length of 24 inches maximum provided the reduced width segments are separated by segments that are 52 inches minimum in length and 36 inches minimum in width.

2. In existing buildings and facilities, the clear width shall be permitted to be reduced to 32 inches minimum for a length of 24 inches maximum provided the reduced width segments are separated by segments that are 48 inches minimum in length and 36 inches minimum in width.
403.5.1 Accessible clear width

3. The clear width of an exterior accessible route located within seating areas shall be 36 inches minimum.

4. The clear width of an exterior ramp shall comply with Section 405.5.

403.5.2 - Clear width at 180-degree turn
New buildings and facilities

In new building and facilities, where an accessible route makes a 180 degree turn around an object that is equal to or greater than 52 inches in width, the clear widths in the turn shall comply with Section 403.5.3.1.

Where an accessible route makes a 180 degree turn around an object that is less than 52 inches in width, the clear widths approaching the turn, during the turn and leaving the turn, shall be one of the following sets of dimensions:

1. Approaching width is 36 inches minimum, during width is 60 inches minimum, and leaving width is 36 inches minimum.
2. Approaching width is 42 inches minimum, during width is 48 inches minimum, and leaving width is 42 inches minimum.

3. Approaching width is 43 inches minimum, during width is 43 inches minimum, and leaving width is 43 inches minimum.

In existing buildings and facilities, where an accessible route makes a 180-degree turn around an object that is less than 48 inches in width, clear widths shall be 42 inches minimum approaching the turn, 48 inches minimum during the turn, and 42 inches minimum leaving the turn.

Exception: This section shall not apply where the clear width during the turn is 60 inches minimum.
403.5.3.1 - Clear width at 90-degree turn
New buildings and facilities.

- In new buildings and facilities, where an accessible route makes a 90-degree turn, the clear width approaching the turn and leaving the turn shall be one of the following sets of dimensions:

1. Both legs of the turn shall be 40 inches minimum in width. The width of each leg of the turn shall be maintained for 28 inches minimum from the inner corner.

- Where the interior corners of the turn are chamfered for 8 inches minimum along both walls, both legs of the turn shall be 36 inches minimum in width.

- Where one leg of the turn is 42 inches minimum in width, the other shall be permitted to be 38 inches minimum in width.
403.5.3.1 - Clear width at 90-degree turn New buildings and facilities.

- 4. Where one leg of the turn is 44 inches minimum in width, the other shall be permitted to be 36 inches minimum in width.

Exceptions:

- 1. Where an accessible route makes a 90-degree turn at doors, doorways and gates complying with Section 404.2.3, the route shall not be required to comply with this section.

- 2. Where an accessible route makes a 90-degree turn at an elevator or platform lift complying with Sections 407 through 410, the accessible route shall not be required to comply with this section.

403.5.3.2 - Existing buildings and facilities

In existing buildings and facilities, where an accessible route makes a 90-degree turn the clear widths approaching the turn and leaving the turn shall be 36 inches minimum.
403.5.4.1 Passing space
New buildings and facilities

In new buildings and facilities, an accessible route with a clear width less than 60 inches shall provide passing spaces at intervals of 200 feet maximum.

Passing spaces shall be either a 60-inch minimum by 60-inch minimum space, or an intersection of two walking surfaces that provide a T-shaped turning space complying with Section 304.3.2.1, provided the base and arms of the T-shaped space extend 52 inches minimum beyond the intersection.

403.5.4.2 - Existing buildings and facilities

In existing buildings and facilities, an accessible route with a clear width less than 60 inches shall provide passing spaces at intervals of 200 feet maximum.

Passing spaces shall be either a 60-inch minimum by 60-inch minimum space, or an intersection of two walking surfaces that provide a T-shaped turning space complying with Section 304.3.2, provided the base and arms of the T-shaped space extend 48 inches minimum beyond the intersection.

404.2 - Manual doors, doorways and manual gates

Manual doors, doorways and manual gates intended for user passage shall comply with Section 404.2.
404.2.6 Door and gate hardware

- Handles, pulls, latches, locks, and other operable parts on doors and gates shall have a shape that is easy to grasp with one hand and does not require tight grasping, pinching or twisting of the wrist to operate.

The operational force to retract latches or disengage devices that hold the door or gate in a closed position shall be as follows:

1. Hardware operation by a forward, pushing or pulling motion: 15 pounds maximum.
2. Hardware operation by a rotational motion: 28 inch-pounds maximum.

404.2.6.1 Hardware height

Operable parts of such hardware shall be 34 inches minimum and 48 inches maximum above the floor.

Where sliding doors are in the fully open position, operating hardware shall be exposed and usable from both sides.
404.3 - Automatic and power-assisted doors and gates

- Automatic doors and gates shall comply with Section 404.3.
- Full powered automatic doors and gates shall comply with ANSI/BHMA A156.10 listed in Section 106.2.7.
- Power-assist doors and gates and low-energy automatic doors and gates shall comply with ANSI/BHMA A156.19 listed in Section 104.2.6.

404.3.1 Public entrances

- Where an automatic door or gate is required at a building or facility public entrance, it shall be a full powered automatic or a low-energy automatic door or gate.

404.3.2 Vestibules

- Where an entrance includes a vestibule, at least one exterior door or gate and one interior door or gate in the vestibule shall have the same type of automatic door or gate opener.
404.3.4 Maneuvering clearances

- Maneuvering clearances at power-assisted doors and gates shall comply with Section 404.2.3.
- Maneuvering clearances complying with Section 404.2.3 shall be provided on the egress side of low-energy automatic and full power automatic doors and gates that serve as part of an accessible means of egress.

Exceptions:

- 1. Low-energy automatic and full power automatic doors and gates that have standby power or battery back-up that are not required to comply with this section.
- 2. Low-energy automatic and full power automatic doors and gates that remain open in the power-off condition shall not be required to comply with this section.
- 3. Full power automatic sliding doors and gates that include a break-away feature shall not be required to comply with this section.

404.3.6 Two doors or gates in series

- Doors or gates in series shall comply with Section 404.2.5.
- Exceptions: Where both doors or gates in a series are low-energy automatic or full power automatic doors or gates, the two doors or gates in a series shall not be required to provide a turning space between the doors or gates.

404.3.8 Door and gate hardware

- Handles, pulls, latches, locks and other operable parts shall comply with Section 404.2.6.
- (tight grasping, pinching or twisting of the wrist to operate)
**404.3.9 Break out opening**

- Where full power automatic sliding doors and gates are equipped with a break out feature, the clear break out opening shall be 32 inches minimum when operated in emergency mode.

**405.5 Ramp clear width**

- The clear width of a ramp run shall be 36 inches minimum.
- Handrails and handrail supports that are provided on the ramp run shall not project into the required clear width of the ramp run.
- Exception: Within employee work areas, the required clear width of ramps that are part of common use circulation paths shall be permitted to be decreased by work area equipment provided that the decreased clear width assists in the function of the work being performed.

**405.7.4 Change in direction**

- Ramps that change direction between runs at landings shall have a clear landing 60 inches minimum by 60 inches minimum.
Curb ramps and blended transitions shall comply with Section 406.

Perpendicular curb ramps shall comply with Sections 406.2 and 406.5.

Parallel curb ramps shall comply with Sections 406.3 and 406.5.

Blended transitions shall comply with Sections 406.4 and 406.5.

406.2.1 - Perpendicular curb ramp landings

- A landing 48 inches minimum by 48 inches minimum shall be provided at the top of a curb ramp.
- The landing shall be permitted to overlap pedestrian routes and clear spaces.
- Where the landing is constrained at the back of sidewalk, the landing shall be 48 inches minimum by 40 inches minimum. The 40-inch dimension shall be provided in the direction of the curb ramp run.
- The slope of landings shall be 1:48 maximum in all directions.

406.2.2 Running slope

- The running slope of a curb ramp shall cut through or shall be built up to the curb at right angles or shall meet the gutter grade break at right angles where the curb is curved.
- The running slope of a curb ramp shall be 1:20 minimum and 1:12 maximum. The curb ramp run length shall not be required to exceed 15 feet.
406.2.3 Flared sides

- Where a pedestrian circulation path crosses a curb ramp, flared sides shall be provided and shall be sloped 10 percent maximum.

406.3.1 – Parallel curb ramp landing

- A landing 48 inches minimum by 48 inches minimum shall be provided at the bottom of a curb ramp.
- The landing shall be permitted to overlap pedestrian routes and clear spaces.
- Where the landing is constrained on two or more sides, the landing shall be 48 inches minimum by 60 inches minimum.
- The 60 inches dimension shall be provided in the direction of the pedestrian street crossing.
- The slope of landings shall be 1:48 maximum in all directions.

406.3.2 Running slope

- The running slope of a curb ramp shall be in line with the direction of sidewalk travel.
- The running slope of a curb ramp shall be 1:20 minimum and 1:12 maximum.
- The curb ramp run lengths shall not be required to exceed 15 feet.
406.4.1 – Blended transitions running slope

The running slope of blended transitions shall be 1:20 maximum.

406.5 Common requirements

Curb ramps and blended transitions shall comply with Section 406.5.

406.5.1 Width

The clear width of curb ramp runs (excluding any flared sides) and blended transitions shall be 48 inches minimum.
406.5.2 Grade breaks

- Grade breaks at the top and bottom of curb ramp runs shall be perpendicular to the direction of the curb ramp run.
- Grade breaks shall not be permitted on the surface of curb ramp runs and landings.
- Surface slopes that meet at grade breaks shall be flush.

406.5.3 Cross slope

- The cross slope of curb ramps and blended transitions shall be 1:48 maximum.
- At pedestrian street crossings without yield or stop control and at mid-block pedestrian street crossings, the cross slope shall be permitted to equal the street or highway grade.

406.5.4 Counter slope

- The counter slope of the gutter or street at the foot of curb ramp runs, blended transitions and landings shall be 1:20 maximum.
406.5.5 Clear space

- Beyond the bottom grade break, a clear space 48 inches minimum by 48 inches minimum shall be provided within the width of the pedestrian street crossing and wholly outside the parallel vehicle travel lane.

406.6 Detectable warnings

- Where detectable warning surfaces are provided, they shall comply with Section 705.

406.6.2 - Locations for detectable warning surfaces

- Detectable warning surfaces shall be provided at the following locations on pedestrian access routes and at transit stops:
  - 1. Curb ramps and blended transitions of pedestrian street crossings.
  - 2. Pedestrian refuge islands.
    - Exception: Detectable warning surfaces shall not be required at pedestrian refuge islands that are cut-through at street level and less than 6 feet (1830 mm) in length in the direction of pedestrian travel.
  - 3. Pedestrian at-grade rail crossings not located within a street or highway.
  - 4. Boarding platforms of transit stops for buses and rail vehicles where the edges of the boarding platform are not protected by screens or guards and
  - 5. Boarding and alighting areas of sidewalk or street-level transit stops for rail vehicles where the side of the boarding and alighting areas facing the rail vehicles is not protected by screens or guards.
Revised Footnote 2. Other car configurations that provide a 36-inch door clear opening width and a 60-inch diameter space with the door closed are permitted.

TABLE 407.4.1 - MINIMUM DIMENSIONS OF ELEVATOR CARS

<table>
<thead>
<tr>
<th>Car Location</th>
<th>Door Clear Opening Width</th>
<th>Inside Car Depth to Back</th>
<th>Inside Car Base Height or Front Return</th>
<th>Inside Car Back Seat to Inside Frame</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIFTH FLOOR</td>
<td>36 INCH (914 MM)</td>
<td>60 INCH (1524 MM)</td>
<td>89 INCH (2260 MM)</td>
<td>99 INCH (2514 MM)</td>
</tr>
<tr>
<td>6TH FLOOR</td>
<td>36 INCH (914 MM)</td>
<td>60 INCH (1524 MM)</td>
<td>89 INCH (2260 MM)</td>
<td>99 INCH (2514 MM)</td>
</tr>
<tr>
<td>7TH FLOOR</td>
<td>36 INCH (914 MM)</td>
<td>60 INCH (1524 MM)</td>
<td>89 INCH (2260 MM)</td>
<td>99 INCH (2514 MM)</td>
</tr>
<tr>
<td>8TH FLOOR</td>
<td>36 INCH (914 MM)</td>
<td>60 INCH (1524 MM)</td>
<td>89 INCH (2260 MM)</td>
<td>99 INCH (2514 MM)</td>
</tr>
</tbody>
</table>

407.4.7.1 – Elevator control buttons

- Car control buttons shall comply with Section 407.4.7.1.

Section reformatted

407.4.7.1.2 Designation

- Floors shall be designated 4, 3, 2, 1, 0, 1, 2, 3, 4, etcetera, with floors below the main entry floor designated with minus numbers.
- Numbers shall be permitted to be omitted, provided the remaining numbers are in sequence.
- Where a telephone keypad arrangement is used, the number key ("#") shall be utilized to enter the minus symbol ("-").
407.4.7.1.2 Designation

- Ancillary letters shall be permitted to be used in conjunction with the numbers, provided the letters are located to the right of the numbers and not more than two letters are used for each floor designation.

407.4.9.1.1 – Car position indicator size

- Characters shall be ¾ inch minimum in height.
- Increased from ½ inch

408.4.1 - LULA Inside dimensions

- Elevator car shall provide a clear floor width of 42 inches minimum.
- The clear floor area shall not be less than 15.75 square feet.
- The operator car shall provide a clear floor width of 36 inches minimum.
- New Exception:
  - For installations in existing buildings, existing parts shall not be raised to the new height. Installation of new equipment in existing open shaft shall be provided in an open framework with the same clear dimensions, and shall be finished.
409.4.1 – Residential elevators inside dimensions

- In new buildings, elevator cars shall provide a clear floor area 36 inches minimum in width and 52 inches minimum in depth.
- In existing buildings, elevator cars shall provide a clear floor area 36 inches minimum in width and 48 inches minimum in depth.

410.5.1.1 – Platform lifts, new buildings

- In new buildings, platform lifts with a single door or doors on opposite ends shall provide a clear floor width of 36 inches minimum and a clear floor depth of 52 inches minimum.
- Exception: Incline platform lifts with passenger restraining arms, shall be permitted to provide a clear floor width of 36 inches minimum and a clear floor depth of 48 inches minimum.

410.5.1.2 – Platform lifts, existing buildings

- In existing buildings, platform lifts with a single door or with doors on opposite ends shall provide a clear floor width of 36 inches minimum and a clear floor depth of 48 inches minimum.
502 Parking spaces

- Car and van parking spaces in parking lots shall comply with Sections 502.2 through 502.8.
- Car and van parking spaces provided as part of on-street parking shall comply with Sections 502.9 and 502.10.
- Where an electrical vehicle charging station is provided at a parking space, it shall comply with Section 502.11.

502.10 - Parking meters and parking pay stations

- Parking meters and parking pay stations that serve parking spaces shall comply with Section 309 (Operable parts).
- At parallel parking spaces, parking meters shall be located at the head or foot of the parking space.
- Displays and information shall be visible from a point located 40 inches maximum above the center of the clear space in front of the parking meter or parking pay station.

502.11 - Electrical vehicle charging stations

- An electrical vehicle charging station serving a parking space shall comply with Section 502.11.
- Operable parts on the charging station intended for operation by the user, including card readers, shall comply with Section 309.
502.11.2  
**Accessible route**

- An accessible route shall be provided from the accessible adjacent to the parking space to the clear floor space complying with Section 502.11.1 adjacent to the vehicle charging station.
- When the vehicle is being charged, the accessible route shall not be obstructed by the cable between the car and charging station.

502.11.3  
**Obstructions**

- Protection bollards, curbs or wheel stops shall be located so that they do not obstruct the clear floor space required by Section 502.11.1 or the accessible route required by Section 502.11.2.

504.11  
**Tactile signage at exits**

- A sign stating EXIT in raised characters and Braille and complying with Sections 703.3 and 703.4 shall be provided adjacent to each door to an area of refuge providing direct access to a stairway, an exterior area for assisted rescue, an exit stairway, an exit ramp, an exit passageway and the exit discharge.
506 Windows

- Where operable windows are provided in an accessible room or space, at least one shall comply with Section 506.
- Where operable windows are required to provide natural ventilation or operable windows are required to provide an emergency escape and rescue opening, that window shall be the operable window that complies with Section 506.

Exceptions:

1. Operable windows that are operated only by employees shall not be required to comply with this section.
2. Operable windows in Type A units that comply with Section 1103.13.
3. Operable skylights shall not be required to comply with this section.

506.2 Operating force

- The operating force for windows includes forces for opening, closing, locking or latching, and unlatching or unlocking and shall be determined in accordance with AAMA 513 listed in Section 106.2.11.
- Operable parts for locking or latching and unlatching or unlocking shall comply with Section 309.

- The operating force for opening and closing operable windows shall be as follows:
  1. 8.5 pounds maximum for vertical or horizontal sliding windows.
  2. 5 pounds maximum for all other types of operating windows.
1102.13 Accessible Unit windows
- Operable windows shall comply with Section 508.1.
- Exceptions:
  1. Windows in kitchens shall not be required to comply with Section 1102.13.
  2. Windows in bathrooms shall not be required to comply with Section 1102.13.

1103.13 Type A unit windows
- Operable windows shall comply with Section 1103.13.
- Exceptions:
  1. Windows in kitchens shall not be required to comply with Section 1103.13.
  2. Windows in bathrooms shall not be required to comply with Section 1103.13.

507 - Accessible routes through parking
- Where accessible routes pass through parking facilities, they shall be physically separated from vehicular traffic.
- Exceptions:
  1. Accessible routes crossing drive aisles shall not be required to comply with this section.
  2. Accessible routes only from parking spaces complying with Section 502 and passenger boarding areas complying with Section 503 to accessible entrances shall not be required to comply with this section.
602 - Drinking fountains and bottle filling stations

- Drinking fountains for persons using wheelchairs shall comply with Sections 602.2 and 307.
- Drinking fountains for persons who are standing shall comply with Section 602.3 and 307.

602.2.1 – Wheelchair fountain, clear floor space

- A clear floor space positioned for a forward approach to the drinking fountain shall be provided. Knee and toe space complying with Section 306 shall be provided. The clear floor space shall be centered on the drinking fountain.

  Exception: Drinking fountains primarily for children’s use shall be permitted where a clear floor space provides a parallel approach and is centered on the drinking fountain.

602.2.4 – Wheelchair fountain, spout location

- The spout shall be located 15 inches minimum from the vertical support and 5 inches maximum from the front edge of the drinking fountain, including bumpers.

  Exception: At drinking fountains primarily for children’s use, the spout shall be located 15 inches maximum from the front edge of the drinking fountain, including bumpers.
602.3 - Drinking fountains for persons who are standing

Drinking fountains for persons who are standing shall comply with Sections 602.3.1 through 602.3.4.

602.3.1 Operable parts

Operable parts shall comply with Sections 309.3 (Height within reach ranges) and 309.4 (Operation).

602.3.2 Spout outlet height

Spout outlets of drinking fountains shall be 38 inches minimum and 43 inches maximum above the floor.

Exception: Drinking fountains primarily for children's use shall be permitted where the spout outlet is 30 inches minimum and 43 inches maximum above the floor.
602.3.3 Spout location

- The spout shall be located 5 inches maximum from the front edge of the drinking fountain, including bumpers.

602.3.4 Water flow

- The spout shall provide a flow of water 4 inches minimum in height.
- The angle of the water stream from spouts within 3 inches of the front of the drinking fountain shall be 30 degrees maximum, and from spouts between 3 inches and 5 inches from the front of the drinking fountain shall be 15 degrees maximum, measured horizontally relative to the front face of the drinking fountain.

602.4 Bottle filling stations

- Bottle filling stations shall comply with Sections 602.4.1 and 602.4.2.
- Exception: Where bottle filling stations are part of the drinking fountain for persons who are standing, the bottle filling station is not required to comply with this section provided a bottle filling station is located at the drinking fountain for persons using wheelchairs.
602.4.1 Clear floor space

A clear floor space positioned for a forward or side approach shall be provided.

602.4.2 Controls

Controls for bottle filling stations shall be hand operated or automatic. Hand operated controls shall comply with Section 309.

604.5.1 – Water closets fixed side-wall grab bars

Fixed side-wall grab bars shall include a horizontal bar complying with Section 604.5.1.1 and a vertical grab bar complying with Section 604.5.1.2.

The vertical grab bar at water closets primarily for children's use shall comply with Section 609.4.2.
604.5.1.1 Horizontal grab bar

- A horizontal grab bar 42 inches minimum in length shall be located 12 inches maximum from the rear wall and extend 54 inches minimum from the rear wall.

604.5.2 Rear-wall grab bars

- The fixed rear-wall grab bar shall:
  1. Be 36 inches minimum in length,
  2. Be located 6 inches maximum from the side wall, and
  3. Extend 42 inches minimum from the side wall.

- Exceptions unchanged

604.7 Dispensers

- Toilet paper dispensers shall comply with Sections 309.4 and 409.3.
- Dispensers shall not be of a type that control delivery or do not allow continuous paper flow.

- Relocated from 604.7.1
604.7.1 Dispenser location

- New Exception: Toilet paper dispensers that accommodate a maximum of 2 toilet paper rolls of not more than 5-inch diameter each shall be permitted to be located 7 inches minimum and 9 inches maximum in front of the water closet measured to the centerline of the dispenser.
- The outlet of the dispenser shall be 14 inches minimum and 19 inches maximum above the floor.

604.11.7.1 Children’s dispenser location

- The outlet of toilet paper dispensers shall be located within an area 24 inches minimum and 42 inches maximum from the rear wall. The outlet of the dispenser shall be 14 inches minimum and 19 inches maximum above the floor.

- Exception: Toilet paper dispensers that accommodate a maximum of 2 toilet paper rolls of not more than 5-inch diameter each shall be permitted to be located 7 inches minimum and 9 inches maximum in front of the water closet measured to the centerline of the dispenser.
- The outlet of the dispenser shall be 14 inches minimum and 19 inches maximum above the floor.
604.9.2 - Wheelchair accessible toilet compartments size

- Wheelchair accessible toilet compartments shall comply with Section 604.9.2.1, 604.9.2.2 or 604.9.2.3 as applicable.
  - Normal compartment
  - Children’s compartment
  - Alternate compartment

604.9.2.3 - Alternate wheelchair accessible toilet compartments

- Where an alternate wheelchair accessible toilet compartment is provided, the minimum area of the compartment shall be 60 inches minimum in width, measured perpendicular to the side wall, and 84 inches minimum in depth, measured perpendicular to the rear wall.

604.9.3 - Doors

- Wheelchair accessible toilet compartment doors, including door hardware, shall comply with Section 404.
- The door shall be self-closing.
- A door pull complying with Section 404.2.6 shall be placed on both sides of the door near the latch.
- Wheelchair accessible toilet compartment doors shall not swing into the required minimum area of the compartment.

Exceptions
604.9.3 Doors

Exceptions:
1. Outside of the compartment, where the approach is to the latch side of the wheelchair accessible toilet compartment, door clearance between the door side of the compartment and any obstruction shall be 42 inches minimum.
2. Within the wheelchair accessible toilet compartment, maneuvering clearances at the door shall be permitted to comply with Section 404.
3. In an alternate wheelchair accessible toilet compartment, the door shall be permitted to swing into the stall where a clear floor space complying with Section 305.3 is provided within the stall beyond the arc of the door swing.

604.9.5.1 - Toe clearance at wheelchair accessible toilet compartments

The front partition and at least one side partition of the wheelchair accessible toilet compartments shall provide a toe clearance of 6 1/2 inches minimum above the floor and extending 8 inches beyond the compartment side face of the partition, exclusive of partition support members.

Exceptions:
1. Toe clearance at the front partition is not required in a wheelchair accessible toilet compartment greater than 44 inches in depth with a wall-hung water closet, or greater than 64 inches in depth with a floor-mounted water closet.
2. Toe clearance at the side partition is not required in a wheelchair accessible toilet compartment greater than 44 inches in width.
604.9.5.2 - Toe clearance at wheelchair accessible toilet compartments for children’s use

The front partition and at least one side partition of wheelchair accessible toilet compartments primarily for children’s use shall provide a toe clearance of 12 inches minimum above the floor and extending 6 inches beyond the wheelchair accessible toilet compartment side face of the partition, exclusive of partition support members.

Exceptions:
1. Toe clearance at the front partition is not required in a wheelchair accessible toilet compartment greater than 65 inches in depth.
2. Toe clearance at the side partition is not required in a wheelchair accessible toilet compartment greater than 68 inches in width.

606.2 Lavatory/sink clear floor space

Revised Exceptions:
1. A clear floor space providing a parallel approach complying with Section 305 and centered on the sink, shall be permitted to a kitchen sink in a space where a cook top or conventional range is not provided.
2. A clear floor space providing a parallel approach complying with Section 305 and centered on a sink, shall be permitted at lavatories and sinks used primarily by children ages 5 and younger.
3. A clear floor space providing a parallel approach complying with Section 305 and centered on a sink, shall be permitted at wet bars.
608.2.1.2.1 - New buildings and facilities

- In new buildings and facilities, a clearance of 52 inches minimum in length and 36 inches minimum in depth shall be provided adjacent to the open face of the compartment.
- The length of the clear floor space shall be measured perpendicular from either the control wall or from 4 inches behind the control wall.

608.2.1.2.2 - Existing buildings and facilities

- In existing buildings and facilities, a clearance of 48 inches minimum in length measured perpendicular from the control wall, and 36 inches minimum in depth shall be provided adjacent to the open face of the compartment.

608.3.2 – Standard roll-in-type showers

- Grab bars in standard roll-in showers shall comply with Sections 608.3.2.1 through 608.3.2.3.
608.3.2.1 Back-wall grab bar
- In standard roll-in type showers, a grab bar shall be provided on the back wall beginning at the edge of the seat. The grab bar shall not be provided above the seat.
- The back-wall grab bar shall extend the length of the wall and extend within 6 inches maximum from the adjacent side wall opposite the seat.
- Exception:
  1. The back wall grab bar shall not be required to exceed 48 inches in length.
  2. The back wall grab bar is not required to extend within 6 inches of the adjacent side wall opposite the seat if it would require the grab bar length to exceed 48 inches in length.

608.3.2.2 Side-wall grab bars
- Where a side wall is provided opposite the seat within 72 inches of the seat wall, a grab bar shall be provided on the side wall opposite the seat.
- The side wall grab bar shall extend the length of the wall and extend within 6 inches maximum from the adjacent back wall.
- Exception: The side wall grab bar shall not be required to exceed 30 inches in length.

608.3.2.3 Vertical grab bar
- Where a side wall is provided opposite the seat within 72 inches of the seat wall a vertical grab bar shall be provided.
- A vertical grab bar 18 inches minimum in length shall be provided on the end wall 3 inches minimum and 6 inches maximum above the horizontal grab bar, and 4 inches maximum reer from the front edge of the shower.
608.4.2 - Standard roll-in showers controls

- In standard roll-in showers, the controls and hand shower shall not be located above the seat.
- Controls and hand showers shall be located according to the following:
  1. On the back wall,
  2. At a height of 38 inches minimum and 48 inches maximum above the shower floor and
  3. 16 inches minimum and 27 inches maximum from the wall behind the seat.

608.4.3 - Alternate roll-in showers controls

- In alternate roll-in showers, the controls and hand shower shall be located:
  1. At a height of 38 inches minimum and 48 inches maximum above the shower floor, and
  2. Where the controls and hand shower are located on the end wall opposite the seat, the controls and hand shower shall be located within 15 inches maximum from the centerline of the seat toward the transfer space.

612.2 Sauna & Steam Room bench

- Where seating is provided in saunas and steam rooms, at least one bench shall comply with Section 903.
- Doors shall not swing into the clear floor space required by Section 903.2.
- Exception: Where the room is for individual use and a clear floor space complying with Section 903.2 is provided within the limits beyond the arc of the swinging door, the door shall not be required to comply with this section.
702 Alarms

702.1 General

Audible and visible alarms and notification appliances that are part of a building fire alarm system shall be installed in accordance with NFPA 72 listed in Section 106.2.4, be powered by a commercial light and power source, be permanently connected to the wiring of the premises electric system and be permanently installed.

Exception: Audible and visible notification appliances provided within dwelling or sleeping units shall comply with Sections 1106.2 through 1106.4.4.

703.2.10.1 – Visual Characters, Nonglare finish

The glare from coverings, the finish of characters and their background shall not exceed 19 gloss units (gu) as measured on a 60-degree gloss meter.

703.5.3.1 – Pictograms, Nonglare finish

The glare from coverings and the finish of pictograms and their fields shall not exceed 19 gloss units (gu) as measured on a 60-degree gloss meter.
703.5.3.2 – Pictograms, Character contrast

- Characters shall contrast with their background, with either light characters on a dark background or dark characters on a light background.

703.6.2.1 – Symbol of Accessibility, Nonglare finish

- The glare from coverings and the finish of symbols of accessibility and their backgrounds shall not exceed 19 gloss units (gu) as measured on a 60-degree gloss meter.

Table 703.2.4

**Visual character height**

<table>
<thead>
<tr>
<th>Weight above floor to baseline (inch)</th>
<th>Character Height</th>
<th>Minimum character height</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 ft or less</td>
<td>36 in.</td>
<td>2 in.</td>
</tr>
<tr>
<td>6 ft 1 in. to 8 ft</td>
<td>30 in.</td>
<td>2 in.</td>
</tr>
<tr>
<td>8 ft 1 in. to 10 ft</td>
<td>24 in.</td>
<td>2 in.</td>
</tr>
<tr>
<td>10 ft or more</td>
<td>20 in.</td>
<td>2 in.</td>
</tr>
</tbody>
</table>

New Footnote 1. The vertical height is measured from the floor of the viewing position to the baseline of the highest line of characters.

Same for Table 703.7.4
705.6 - Depth and width of detectable warnings surfaces

1. Detectable warnings shall comply with the following:
   - 1. Detectable warning surfaces shall extend 24 inches minimum in the direction of pedestrian travel.
   - 2. At curb ramps and blended transitions, detectable warning surfaces shall extend the full width of the curb ramp run excluding any flared sides or blended transition.
   - 3. At pedestrian at-grade rail crossings not located within a street or highway, detectable warnings shall extend the full width of the crossing.
   - 4. At boarding platforms for bus and rail vehicles, detectable warning surfaces shall extend the full length of the public use areas of the platforms.
   - 5. At boarding and alighting areas at sidewalk or street level transit stops for rail vehicles, detectable warning surfaces shall extend the full length of the transit stop.

802.4.1 – Assembly Wheelchair space, new buildings and facilities

- In new buildings and facilities, where a wheelchair space is entered from the front or rear, the wheelchair space shall be 52 inches minimum in depth.
- Where a wheelchair space is only entered from the side, the wheelchair space shall be 60 inches minimum in depth.

802.4.2 – Assembly wheelchair space, existing buildings and facilities

- In existing buildings and facilities, where a wheelchair space is entered from the front or rear, the wheelchair space shall be 48 inches minimum in depth.
- Where a wheelchair space is only entered from the side, the wheelchair space shall be 60 inches minimum in depth.
802.5.1 Overlap

A wheelchair space shall not overlap the required width of an aisle.

Exception: In new buildings and facilities, the depth of a wheelchair space shall be permitted to overlap the required aisle width a maximum of 4 inches.

802.7.2 Companion seat alignment

In row seating, the companion seat shall be located to provide shoulder alignment with the wheelchair space occupant. The shoulder of the wheelchair space occupant shall be located 36 inches or more from the front and 12 inches or more from the rear of the wheelchair space.

The floor surface for the companion seat shall be at the same elevation as the wheelchair space floor surface.

Exception: Companion seat alignment shall not be required in tiered seating that includes dining surfaces or work surfaces.

802.10.4.2 Distance from the screen (movie screen)

Wheelchair space locations shall be located in accordance with one of the following:

1. Within the rear 60 percent of the screen provided for;

2. Located within the area of the auditorium in which the vertical viewing angles, as measured to the top of the screen, are from the 40th to the 100th percentile of vertical viewing angles for all seats or the distance to screen accounting for seats in the back row (you will need a section demonstrating this has been met).
804.2 Kitchen clearance

- Where a pass-through kitchen is provided, clearances shall comply with Section 804.2.1.
- Where a U-shaped kitchen is provided, clearances shall comply with Section 804.2.2.
- Kitchens where a cook top or conventional range is not provided shall comply with Section 804.2.3.
- Exception deleted

804.2.2 U-shaped kitchens

- In kitchens enclosed on three contiguous sides, clearance between all opposing base cabinets, countertops, appliances, or walls within kitchen work areas shall be 60 inches minimum.
- Exception: U-shaped kitchens with an island complying with Section 804.2.1.

804.2.3 - Spaces where a cook top or conventional range is not provided

- In a kitchen space where a cook top or conventional range is not provided, clearance between all opposing base cabinets, countertops, appliances and walls within kitchen work areas shall be 40-inch minimum.
1103.12.1.2 – Accessible Units U-shaped kitchens

- In kitchens with counters, appliances, or cabinets on three contiguous sides, clearance between all opposing base cabinets, countertops, appliances, or walls within kitchen work areas shall be 60 inches minimum.
- Exception: U-shaped kitchens with an island complying with Section 1103.12.1.1.

1104.12.1.2 Type B U-shaped kitchens

- In kitchens with counters, appliances or cabinets on three contiguous sides, clearance between all opposing base cabinets, countertops, appliances, or walls within kitchen work areas shall be 60 inches minimum.
- Exception: U-shaped kitchens with an island complying with Section 1104.12.1.1.

808 - Enhanced acoustics for classrooms

- Classrooms not exceeding 20,000 cubic feet and required to provide enhanced acoustics shall comply with Section 808.
- Classroom reverberation times shall comply with either Section 808.2.1 or Section 808.2.2, depending on the size of the room.
808.2.1 Performance method

For each of the octave frequency bands with center frequencies of 500, 1000, and 2000 Hz, the reverberation time (T60) shall not exceed the times specified below:

1. 0.6 seconds in classrooms with volumes up to and including 10,000 cubic feet.
2. 0.7 seconds in classrooms with volumes of more than 10,000 cubic feet, but less than 20,000 cubic feet.

Reverberation times shall apply to fully furnished, unoccupied classrooms. Reverberation times shall be field verified via measurements over a minimum 20 dB decay in each octave frequency band in accordance with ASTM E2235 listed in Section 106.2.13.

808.2.2 Prescriptive method

The Noise Reduction Coefficient (NRC) ratings for floor, wall and ceiling surface finishes shall conform to the following equations. For a classroom with a volume less than or equal to 10,000 cubic feet:

\[(\text{NRC}_{\text{Floor}} \times SF_{\text{Floor}}) + (\text{NRC}_{\text{Ceiling}} \times SC_{\text{Ceiling}}) + (\text{NRC}_{\text{Wall}} \times SW_{\text{Wall}}) \geq \frac{\text{Volume}}{12}\]

For a classroom with a volume between 10,000 cubic feet and 20,000 cubic feet:

\[(\text{NRC}_{\text{Floor}} \times SF_{\text{Floor}}) + (\text{NRC}_{\text{Ceiling}} \times SC_{\text{Ceiling}}) + (\text{NRC}_{\text{Wall}} \times SW_{\text{Wall}}) \geq \frac{\text{Volume}}{14}\]

Where:

- NRCFloor = NRC rating of the floor finish material
- SFloor = floor area in square feet
- NRCCeiling = NRC rating of the ceiling finish material
- SCeiling = ceiling area in square feet
- NRCWall = NRC rating of the wall acoustical treatment
- SWall = wall treatment area in square feet
- Volume = room volume in cubic feet

Where a floor, ceiling or wall has multiple surface finishes, the NRC x S product for each surface finish shall be added to the left side of the equation.

808.3 Ambient sound level

Classroom ambient sound levels shall comply with Sections 808.3.1 and 808.3.2. Ambient sound levels from sound sources outside and inside the classroom shall be evaluated individually.

The greatest one-hour averaged sound levels shall be evaluated at the loudest usable location in the room at a height of 36 inches to 42 inches above the floor and no closer than 36 inches from any wall, window or object.
808.3 Ambient sound level

- The ambient sound level limits shall apply to fully-furnished, unoccupied classrooms, and with only permanent HVAC, electrical and plumbing systems functioning.
- Classroom equipment, including, but not limited to, computers, printers, and fish tank pumps shall be turned off during these measurements.

808.3.1 - Sound sources outside of the classroom

- Classroom ambient sound levels shall not exceed 35 dBA and 55 dBC due to intruding noise from sound sources outside of the classroom, whether from the exterior or from other interior spaces.

808.3.2 - Sound sources inside the classroom

- Classroom ambient sound levels shall not exceed 35 dBA and 55 dBC for noise from sound sources inside the classroom.

Typical Sound Levels (dBA)

- Threshold of Hearing (0 dBA)
- Hum of Traffic (10-15 dBA)
- Whisper (20-25 dBA)
- Soft Whisper (20-25 dBA)
- Normal Conversation (50-55 dBA)
- Normal Traffic (35-40 dBA)
- Normal Speech (40-50 dBA)
- Street Traffic (60-65 dBA)
- Conversational (70-75 dBA)
- Radio Noise (80-85 dBA)
- Traffic Noise (90-95 dBA)
- Construction Noise (100-110 dBA)
903.2 Clear floor space

- A clear floor space positioned at the end of the bench seat and parallel to the short axis of the bench shall be provided.

904.3 - Sales and service counters and windows

- Sales and service counters and windows shall comply with Section 904.3.1 and either Section 904.3.2 or Section 904.3.3.

Where counters are provided, the accessible portion of the counter shall extend the same depth as the public portion of the sales and service countertop provided for standing customers.

904.3 - Sales and service counters and windows

- Exception: In alterations, when the provision of a counter complying with this section would result in a reduction of the number of existing counters at workstations or a reduction of the number of existing mailboxes, the alteration shall be permitted to have a portion which is 24 inch minimum in length complying with Section 904.3.2 provided that the required clear floor space is centered on the accessible length of the counter.
904.3.1 Vertical barriers

- At service windows or service counters, any vertical barrier between service personnel and customers shall be at a height of 43 inches maximum above the floor.

- Exception: Transparent security glazing shall be permitted above the 43 inches maximum height.

904.3.2 Parallel approach

- A portion of the public-use side of the counter surface shall be 36 inches minimum in length and 26 inches minimum to 36 inches maximum in height above the floor shall be provided.

- A clear floor space positioned for a parallel approach adjacent to the accessible counter shall be provided.

- The space between the accessible counter surface and any projecting objects above the accessible counter shall be 12 inches minimum.

- Exception: Where the counter surface is less than 36 inches in length, the entire counter surface shall be 26 inches minimum to 36 inches maximum in height above the floor.
904.3.3 Forward approach

A portion of the public use side of the counter surface 30 inches minimum in length and 36 inches maximum in height above the floor shall be provided.

A clear floor space positioned for a forward approach to the accessible counter shall be provided.

Knee and toe clearance complying with Section 306 shall be provided under the accessible counter.

The space between the accessible counter surface and any projecting objects above the accessible counter shall be 12 inches minimum.

906 Charging stations

A charging station shall consist of a grounded duplex outlet.

A clear floor space shall be provided at the charging station.

Charging stations shall comply with at least one of the reach ranges specified in Section 308.

907 Gaming machines and tables

Gaming machines and tables shall have a clear floor space positioned for transfer or for use by an individual seated in a wheelchair.

Clear floor spaces required at gaming machines and tables shall be permitted to overlap.
1001.2.1 – Recreational general exceptions

The following shall not be required to comply with this standard or to be on an accessible route:

11. Shooting facilities with firing positions on freestanding platforms that are elevated above grade 12 feet minimum provided that the aggregate area of elevated firing positions is 500 square feet maximum.

1010.3 – Shooting Range Firing position counters

Where a firing position requires shooting over a counter or wall, the top of the counter or wall shall be 34 inches maximum in height above the floor surface.

If counter surfaces are provided at other firing positions of the same type, equivalent counter surfaces shall be provided at the firing position complying with Section 1010.2.

1102.5 – Accessible Unit doors and doorways

The primary entrance door to the unit, and all other doorways intended for user passage, shall comply with Section 404.

New Exception 7:

The maneuvering clearances required by Section 404 shall not be required within a closet or pantry complying with Exception 2 of Section 1102.3.2. (48" deep closet/pantry)
1103.5 – Type A Unit doors and doorways

- The primary entrance door to the unit, and all other doorways intended for user passage, shall comply with Section 404.
- New Exception 7: The maneuvering clearances required by Section 404 shall not be required within a closet or pantry complying with Exception 2 of Section 1103.3.2.

1102.15.3 – Accessible Unit bed height

- At least one bed shall measure 17 to 23 inches high from the floor to the top of the uncompressed mattress.

1102.15.4 – Accessible Unit wheelchair charging area

- The clear floor space required by Section 1102.15.1 shall also serve as a wheelchair charging area complying with Section 906.
1103.12.3 – Type A Unit work surface

- At least one section of counter shall provide an accessible work surface 30 inches minimum in length complying with Section 1103.12.3.
- New Exception: Spaces that do not provide a cooktop or conventional range shall not be required to provide an accessible work surface.

1103.12.4.1 – Type A Unit sink clear floor space

- A clear floor space, positioned for a forward approach to the sink, shall be provided.
- Knee and toe clearance complying with Section 306 shall be provided.
- New Exceptions:
  3. A clear floor space providing a parallel approach and centered on the sink shall be permitted at a kitchen sink in a space where a cooktop or conventional range is not provided.
  4. A clear floor space providing a parallel approach and centered on the sink shall be permitted at wet bars.

1104 Type B Units

- Section reformatted to organize better.
- No major technical changes.
1104.1.1 – Type B Unit clear floor space

- For Type B units, clear floor spaces shall be 48 inches minimum in length and 30 inches minimum in width.
- 52-inch space not required in Type B units.

1104.1.2 Mailboxes

- Mailboxes serving Type B units shall be permitted an unobstructed side reach range of 54 inches maximum above the floor.

1104.5.2 – Type B Unit user passage doorways

- Doorways intended for user passage shall comply with Section 1104.5.2.
- New Exception: Doors that are part of a shower door assembly shall not be required to comply with this section.
1104.9 – Type B Unit operable parts

- Lighting controls, electrical switches, and receptacle outlets, environmental controls, electrical panelboards, and user controls for security or intercom systems shall comply with Sections 309.3 and 1104.1.
- New Exception:
  - In a kitchen where a clear floor space for a parallel approach cannot be located between appliances, the countertop shall not be required to comply if the countertop area does not exceed 9 square feet maximum.

1104.10.1 – Type B Unit clear floor space

- A clear floor space shall be provided for each washing machine and clothes dryer.
- A parallel approach shall be provided for a top loading machine.
- A forward or parallel approach shall be provided for a front loading machine.
- 30" X 52" space not applicable

1104.11.3.1.3.3 – Type B Unit shower compartment

- If a shower compartment is the only bathing facility, the shower compartment shall have dimensions of 36 inches minimum in width and 36 inches minimum in depth.
- A clearance of 48 inches minimum in length, measured perpendicular from the control wall, and 30 inches minimum in depth, measured from the face of the shower compartment, shall be provided.
1104.11.3.1.3.3 – Type B Unit shower compartment

Exceptions:
1. A shower compartment with dimensions of 30 inches minimum in depth and 44 inches minimum in width shall be permitted.
2. A shower door assembly shall be permitted where the assembly can be removed without removal or replacement of the surrounding wall and floor to which it is affixed.

1104.12.2.5 – Type B Unit refrigerator/freezer

- A clear floor space positioned for a parallel or forward approach to the refrigerator/freezer shall be provided.
- Where the clear floor space is positioned for a forward approach, the centerline of the clear floor space shall be offset 15 inches maximum from the centerline of the appliance.
- Where the clear floor space is positioned for a parallel approach, the centerline of the clear floor space shall be offset 24 inches maximum from the centerline of the appliance.

1106.5.1 Notification

- A hard-wired electric doorbell shall be provided. A button or switch shall be provided on the public side of the unit primary entrance.
- Activation of the button or switch shall initiate an audible tone within the unit.
- Where visible doorbell signals located in sleeping areas, controls shall be provided to deactivate the signal.
"Shums Coda Associates" is a Registered Provider with The American Institute of Architects Continuing Education Systems (AIA/CES). Credit earned on completion of this program will be reported to AIA/CES for AIA members. Certificates of Completion for both AIA members and non-AIA members are available upon request.

This program is registered with AIA/CES for continuing professional education. As such, it does not include content that may be deemed or construed to be an approval or endorsement by the AIA of any material of construction or any method or manner of handling, using, distributing, or dealing in any material or product.

Questions related to specific materials, methods, and services will be addressed at the conclusion of this presentation.

Copyright Materials

This presentation is protected by US and International Copyright laws. Reproduction, distribution, display and use of the presentation without written permission of the speaker is prohibited.

© Shums Coda Associates, 2002

Bill Clayton
Shums Coda Associates, Inc.
4610 S Ulster, Suite 150
Denver, CO 80237
Ph: 303-400-6564
Fax 303-693-0630
www.shumscoda.com
Bill.clayton@shumscoda.com

© 2022 Shums Coda Associates, Inc