

**4.1.6 WATER CLOSETS.**

- 4.1.6.1 GENERAL ACCESSIBLE WATER CLOSETS SHALL COMPLY WITH 4.1.6.
- 4.1.6.2 CLEAR FLOOR SPACE CLEAR FLOOR SPACE FOR WATER CLOSETS NOT IN STALLS SHALL COMPLY WITH 4.1.6. CLEAR FLOOR SPACE MAY BE ARRANGED TO ALLOW EITHER A LEFT-HANDED OR RIGHT-HANDED APPROACH.
- 4.1.6.3 HEIGHT THE HEIGHT OF WATER CLOSETS SHALL BE 17" TO 19" (430mm TO 483mm), MEASURED TO THE TOP OF THE TOILET SEAT. SEATS SHALL NOT BE SPRUNG TO RETURN TO A LIFTED POSITION (SEE FIG. 31).
- 4.1.6.4 GRAB BARS GRAB BARS FOR WATER CLOSETS NOT LOCATED IN STALLS SHALL COMPLY WITH 4.2.6 AND FIG. 31. THE GRAB BAR BEHIND THE WATER CLOSET SHALL BE 30" (762mm) MINIMUM.
- 4.1.6.5 FLUSH CONTROLS FLUSH CONTROLS SHALL BE HAND OPERATED OR AUTOMATIC AND SHALL COMPLY WITH 4.27.4. CONTROLS FOR FLUSH VALVES SHALL BE MOUNTED ON THE SIDE OF TOILET AREAS NO MORE THAN 44" (1120mm) ABOVE THE FLOOR.
- 4.1.6.6 DISPENSERS TOILET PAPER DISPENSERS SHALL BE INSTALLED WITHIN REACH AS SHOWN IN FIG. 31. DISPENSERS THAT CONTROL, DELIVER, OR THAT DO NOT PERMIT CONTINUOUS PAPER FLOW, SHALL NOT BE USED.

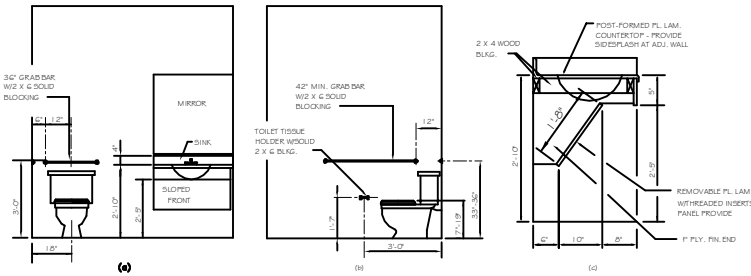


FIG. 31 LAVATORY & WATER CLOSET CLEARANCES  
N.T.S.

**4.1.7 TOILET STALLS.**

- 4.1.7.1 LOCATION ACCESSIBLE TOILET STALLS SHALL BE ON AN ACCESSIBLE ROUTE AND SHALL MEET THE REQUIREMENTS OF 4.1.7.
- 4.1.7.2 WATER CLOSETS WATER CLOSETS IN ACCESSIBLE STALLS SHALL COMPLY WITH 4.1.6.

- 4.1.7.3 SIZE AND ARRANGEMENT THE SIZE AND ARRANGEMENT OF THE STANDARD TOILET STALL SHALL COMPLY WITH 4.1.7. STANDARD TOILET STALLS WITH A MINIMUM DEPTH OF 50" (1270mm) SHALL HAVE WALL-MOUNTED WATER CLOSETS. IF THE DEPTH OF A STANDARD TOILET STALL IS INCREASED AT LEAST 3" (76mm), THEN A FLOOR-MOUNTED WATER CLOSET MAY BE USED. ARRANGEMENTS SHOWN FOR STANDARD TOILET STALLS MAY BE REQUIRED TO ALLOW EITHER A LEFT OR RIGHT-HAND APPROACH. ADDITIONAL STALLS SHALL BE PROVIDED IN CONFORMANCE WITH 4.2.2.
- EXCEPTION: IN INSTANCES OF ALTERATION WORK WHERE PROVISION OF A STANDARD STALL IS TECHNICALLY FEASIBLE OR WHERE PLUMBING CODE REQUIREMENTS PREVENT CONSIDERING EXISTING STALLS TO PROVIDE SPACE, EITHER ALTERNATE STALLS MAY BE PROVIDED IN LIEU OF THE STANDARD STALL.

- 4.1.7.4 TOE CLEARANCES IN STANDARD STALLS, THE FRONT PARTITION AND AT LEAST ONE SIDE PARTITION SHALL PROVIDE A TOE CLEARANCE OF AT LEAST 9" (229mm) ABOVE THE FLOOR. IF THE DEPTH OF THE STALL IS GREATER THAN 40" (1016mm), THEN THE TOE CLEARANCE IS NOT REQUIRED.

- 4.1.7.5 DOORS TOILET STALL DOORS, INCLUDING DOOR HARDWARE, SHALL COMPLY WITH 4.1.3. IF TOILET STALL APPROACH IS FROM THE LATCH SIDE OF THE STALL DOOR, CLEARANCE BETWEEN THE DOOR SIDE OF THE STALL AND ANY OBSTRUCTION MAY BE REDUCED TO A MINIMUM OF 42" (1067mm).

- 4.1.7.6 GRAB BARS GRAB BARS MAY BE MOUNTED WITH ANY DESIRED METHOD AS LONG AS THEY HAVE A GRIPPING SURFACE AT THE LOCATION SHOWN IN FIG. 31 AND DO NOT OBSTRUCT THE REQUIRED CLEAR FLOOR AREA. GRAB BARS SHALL COMPLY WITH 4.2.6.

**4.1.8 URINALS.**

- 4.1.8.1 GENERAL ACCESSIBLE URINALS SHALL COMPLY WITH 4.1.8.
- 4.1.8.2 HEIGHT URINALS SHALL BE STALL-TYPE OR WALL-TYPE WITH AN ELONGATED RIM AT A MAXIMUM OF 17" (430mm) ABOVE THE FINISH FLOOR.

- 4.1.8.3 CLEAR FLOOR SPACE A CLEAR FLOOR SPACE 30" BY 48" (762mm BY 1220mm) SHALL BE PROVIDED IN FRONT OF URINALS TO ALLOW FORWARD APPROACH. THIS CLEAR SPACE SHALL ADD ON OR OVERLAP AN ACCESSIBLE ROUTE AND SHALL COMPLY WITH 4.1.6. URINALS SHOULD NOT BE LOCATED BEYOND THE FRONT EDGE OF THE RIM MAY BE PROVIDED WITH 29" (735mm) CLEARANCE BETWEEN THEM.

- 4.1.8.4 FLUSH CONTROLS FLUSH CONTROLS SHALL BE HAND OPERATED OR AUTOMATIC, AND SHALL COMPLY WITH 4.27.4. AND SHALL BE MOUNTED NO MORE THAN 44" (1120mm) ABOVE THE FINISH FLOOR.

**4.1.9 LAVATORIES & MIRRORS.**

- 4.1.9.1 GENERAL THE REQUIREMENTS OF 4.1.9 SHALL APPLY TO LAVATORY FIXTURES, VANITIES, AND BUILT-IN LAVATORIES.
- 4.1.9.2 HEIGHT CLEARANCES LAVATORIES SHALL BE MOUNTED WITH THE RIM OR COUNTER SURFACE NO HIGHER THAN 34" (865mm) ABOVE THE FINISH FLOOR. PROVIDE A CLEARANCE OF AT LEAST 29" (735mm) ABOVE THE FINISH FLOOR TO THE BOTTOM OF THE APRON (SEE FIG. 31).

- 4.1.9.3 CLEAR FLOOR SPACE A CLEAR FLOOR SPACE 30" BY 48" (762mm BY 1220mm) COMPLYING WITH 4.2.4 SHALL BE PROVIDED IN FRONT OF A LAVATORY TO ALLOW FORWARD APPROACH. SUCH CLEAR FLOOR SPACE SHALL ADD ON OR OVERLAP AN ACCESSIBLE ROUTE AND SHALL EXTEND A MAXIMUM OF 19" (483mm) UNDERNEATH THE LAVATORY.

- 4.1.9.4 EXPOSED PIPES & SURFACES HOT WATER AND DRAIN PIPES UNDER LAVATORIES SHALL BE INSULATED OR OTHERWISE CONFIGURED TO PROTECT AGAINST CONTACT. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER LAVATORIES.

- 4.1.9.5 FAUCETS FAUCETS SHALL COMPLY WITH 4.27.4. LEVER-OPERATED, PUSH-TYPE, AND ELECTRICALLY CONTROLLED MECHANISMS ARE EXAMPLES OF ACCEPTABLE DESIGN. IF 20°-CLOSING VALVES ARE USED, THE FAUCET SHALL REMAIN OPEN FOR AT LEAST 10 SECONDS.

- 4.1.9.6 MIRRORS MIRRORS SHALL BE MOUNTED WITH THE BOTTOM EDGE OF THE REFLECTING SURFACE NO HIGHER THAN 40" (1016mm) ABOVE THE FINISH FLOOR (SEE FIG. 31).

**4.2.0 BATHUBS.**

- 4.2.0.1 GENERAL ACCESSIBLE BATHUBS SHALL COMPLY WITH 4.2.0.
- 4.2.0.2 FLOOR SPACE CLEAR FLOOR SPACE IN FRONT OF BATHUBS SHALL COMPLY WITH 4.2.0.

- 4.2.0.3 SEAT AN IN-TUB SEAT OR A SEAT AT THE HEAD END OF THE TUB SHALL BE PROVIDED AS SHOWN IN FIG. 34. THE STRUCTURAL STRENGTH OF SEATS AND THEIR ATTACHMENTS SHALL COMPLY WITH 4.26.3. SEATS SHALL BE MOUNTED SECURELY AND SHALL NOT OBTURUSURE USE.

- 4.2.0.4 GRAB BARS GRAB BARS COMPLYING WITH 4.2.6 SHALL BE PROVIDED AS SHOWN IN FIG. 34.
- 4.2.0.5 CONTROLS FAUCETS AND OTHER CONTROLS COMPLYING WITH 4.27.4 SHALL BE LOCATED AS SHOWN IN FIG. 34.

- 4.2.0.6 SHOWER UNIT A SHOWER SPRAY UNIT WITH A NOSE AT LEAST 62" (1575mm) LONG THAT CAN BE USED AS A FIXED SHOWER HEAD OR AS A HAND-HELD SHOWER SHALL BE PROVIDED.
- 4.2.0.7 BATH TUB ENCLOSURES IF PROVIDED, ENCLOSURES FOR BATH TUBS SHALL NOT OBSTRUCT CONTROLS OR TRANSFER FROM WHEELCHAIRS ONTO BATH TUBS OR INTO TUBS. ENCLOSURES ON BATH TUBS SHALL NOT HAVE TRACKS MOUNTED ON THEM.

**4.2.1 SHOWER STALLS.**

- 4.2.1.1 GENERAL ACCESSIBLE SHOWER STALLS SHALL COMPLY WITH 4.2.1.
- 4.2.1.2 SIZE & CLEARANCE EXCEPT AS SPECIFIED IN 9.1.2, SHOWER STALL SIZE AND CLEAR FLOOR DOOR ON THE STALL SHALL COMPLY WITH FIG. 34(a) OR (b). THE SHOWER STALL IN FIG. 34(a) SHALL BE 30" (762mm) BY 30" (762mm) BY 9' (9'15mm). THE SHOWER STALL IN FIG. 34(b) SHALL FIT INTO THE SPACE REQUIRED FOR A BATH TUB.

- 4.2.1.3 SEAT A SEAT SHALL BE PROVIDED IN SHOWER STALLS 30" BY 30" (762mm BY 762mm) OR 30" (762mm) BY 48" (1220mm) FROM THE BATHROOM FLOOR AND SHALL EXTEND THE FULL DEPTH OF THE STALL. IN A 30" BY 30" SHOWER STALL, THE SEAT SHALL BE ON THE WALL OPPOSITE THE CONTROLS. WHERE A TUB SEAT IS PROVIDED IN A 30" BY 60" (762mm) SHOWER STALL, IT SHALL BE A FOLDING TYPE AND SHALL BE MOUNTED ON THE WALL ADJACENT TO THE CONTROLS. THE STRUCTURAL STRENGTH OF SEATS AND THEIR ATTACHMENTS SHALL COMPLY WITH 4.26.3.

- 4.2.1.4 GRAB BARS GRAB BARS COMPLYING WITH 4.2.6 SHALL BE PROVIDED AS SHOWN IN FIG. 34.
- 4.2.1.5 CONTROLS FAUCETS AND OTHER CONTROLS COMPLYING WITH 4.27.4 SHALL BE LOCATED AS SHOWN IN FIG. 34 IN SHOWER STALLS 30" BY 30" (762mm BY 762mm) OR 30" (762mm) BY 48" (1220mm). CONTROLS, FAUCETS, AND THE SHOWER UNIT SHALL BE MOUNTED ON THE SIDE WALL OPPOSITE THE SEAT.

- 4.2.1.6 SHOWER UNIT A SHOWER SPRAY UNIT WITH A NOSE AT LEAST 62" (1575mm) LONG THAT CAN BE USED AS A FIXED SHOWER HEAD OR AS A HAND-HELD SHOWER SHALL BE PROVIDED.
- EXCEPTION: IN UNMONITORED FACILITIES WHERE VANDALISM IS A CONSIDERATION, A FIXED SHOWER HEAD MOUNTED AT 40" (1020mm) ABOVE THE SHOWER FLOOR MAY BE USED IN LIEU OF A HAND-HELD SHOWER HEAD.

- 4.2.1.7 CURBS IF PROVIDED, CURBS IN SHOWER STALLS 30" BY 30" (762mm BY 762mm) SHALL BE NO HIGHER THAN 1/2" (13mm). SHOWER STALLS THAT ARE 30" BY 60" (762mm BY 1525mm) SHALL NOT HAVE CURBS.

- 4.2.1.8 SHOWER ENCLOSURES IF PROVIDED, ENCLOSURES FOR SHOWER STALLS SHALL NOT OBSTRUCT CONTROLS OR OBSTRUCT TRANSFER FROM WHEELCHAIRS ONTO SHOWER SEATS.

**4.2.2 TOILET ROOMS.**

- 4.2.2.1 MINIMUM NUMBER TOILET FACILITIES REQUIRED TO BE ACCESSIBLE BY 4.1 SHALL COMPLY WITH 4.2.2. ACCESSIBLE TOILET ROOMS SHALL BE ON AN ACCESSIBLE ROUTE.
- 4.2.2.2 DOORS ALL DOORS TO ACCESSIBLE TOILET ROOMS SHALL COMPLY WITH 4.1.3. DOORS SHALL NOT SWING INTO THE CLEAR FLOOR SPACE REQUIRED FOR ANY FIXTURE.

- 4.2.2.3 CLEAR FLOOR SPACE THE ACCESSIBLE FIXTURES AND CONTROLS REQUIRED IN 4.2.2.4, 4.2.2.5, 4.2.2.6, AND 4.2.2.7 SHALL BE ON AN ACCESSIBLE ROUTE. AN UNOBSTRUCTED TURNING SPACE COMPLYING WITH 4.2.3 SHALL BE PROVIDED WITHIN AN ACCESSIBLE TOILET ROOM. THE CLEAR FLOOR SPACE AT FIXTURES AND CONTROLS, THE ACCESSIBLE ROUTE, AND THE TURNING SPACE MAY OVERLAP.

- EXCEPTION: IN TOILET ROOMS WITH ONLY ONE WATER CLOSET AND ONE LAVATORY, A CLEAR FLOOR SPACE 30" BY 60" (762mm BY 1525mm) MAY BE USED IN LIEU OF THE UNOBSTRUCTED TURNING SPACE.

- 4.2.2.4 WATER CLOSETS IF TOILET STALLS ARE PROVIDED, THEN AT LEAST ONE SHALL COMPLY WITH 4.1.7.1. WATER CLOSET SHALL COMPLY WITH 4.1.6. IF WATER CLOSETS ARE NOT IN STALLS, THEN AT LEAST ONE SHALL COMPLY WITH 4.1.6.
- 4.2.2.5 URINALS IF URINALS ARE PROVIDED, THEN AT LEAST ONE SHALL COMPLY WITH 4.1.8.

- 4.2.2.6 LAVATORIES AND MIRRORS IF LAVATORIES AND MIRRORS ARE PROVIDED, THEN AT LEAST ONE OF EACH SHALL COMPLY WITH 4.1.9.
- 4.2.2.7 CONTROLS AND DISPENSERS IF CONTROLS, DISPENSERS, RECEPTACLES, OR OTHER EQUIPMENT IS PROVIDED, THEN AT LEAST ONE OF EACH SHALL BE ON AN ACCESSIBLE ROUTE AND SHALL COMPLY WITH 4.27.

**4.2.3 BATHROOM, BATHING FACILITIES, AND SHOWER ROOMS.**

- 4.2.3.1 MINIMUM NUMBER BATHROOMS, BATHING FACILITIES, OR SHOWER ROOMS REQUIRED TO BE ACCESSIBLE BY 4.1 SHALL COMPLY WITH 4.2.3 AND SHALL BE ON AN ACCESSIBLE ROUTE. FOR ADAPTABLE BATHROOMS IN ACCESSIBLE DWELLING UNITS, SEE 4.3.4.5.
- 4.2.3.2 DOORS DOORS TO ACCESSIBLE BATHROOMS SHALL COMPLY WITH 4.1.3. DOORS SHALL NOT SWING INTO THE CLEAR FLOOR SPACE.

- 4.2.3.3 CLEAR FLOOR SPACE THE ACCESSIBLE FIXTURES AND CONTROLS REQUIRED IN 4.2.3.4, 4.2.3.5, 4.2.3.6, 4.2.3.7, 4.2.3.8, AND 4.2.3.9 SHALL BE ON AN ACCESSIBLE ROUTE. AN UNOBSTRUCTED TURNING SPACE COMPLYING WITH 4.2.3 SHALL BE PROVIDED WITHIN AN ACCESSIBLE BATHROOM. THE CLEAR FLOOR SPACE AT FIXTURES AND CONTROLS, THE ACCESSIBLE ROUTE AND THE TURNING SPACE MAY OVERLAP.

- EXCEPTION: IN BATHROOMS WITH ONLY ONE WATER CLOSET, ONE LAVATORY, AND ONE BATH TUB OR SHOWER, A CLEAR FLOOR SPACE OF 30" BY 60" (762mm BY 1525mm) MAY BE USED IN LIEU OF THE UNOBSTRUCTED TURNING SPACE.

- 4.2.3.4 WATER CLOSETS IF TOILET STALLS ARE PROVIDED, THEN AT LEAST ONE SHALL COMPLY WITH 4.1.7.1. WATER CLOSET SHALL COMPLY WITH 4.1.6. IF WATER CLOSETS ARE NOT IN STALLS, THEN AT LEAST ONE SHALL COMPLY WITH 4.1.6.
- 4.2.3.5 URINALS IF URINALS ARE PROVIDED, THEN AT LEAST ONE SHALL COMPLY WITH 4.1.8.

- 4.2.3.6 LAVATORIES AND MIRRORS IF LAVATORIES AND MIRRORS ARE PROVIDED, THEN AT LEAST ONE OF EACH SHALL COMPLY WITH 4.1.9.
- 4.2.3.7 CONTROLS AND DISPENSERS IF CONTROLS, DISPENSERS, RECEPTACLES, OR OTHER EQUIPMENT IS PROVIDED, THEN AT LEAST ONE OF EACH SHALL BE ON AN ACCESSIBLE ROUTE AND SHALL COMPLY WITH 4.27.

- 4.2.3.8 BATHING AND SHOWER FACILITIES IF TUBS, OR SHOWERS ARE PROVIDED, THEN AT LEAST ONE ACCESSIBLE TUB THAT COMPLIES WITH 4.2.0 OR AT LEAST ONE ACCESSIBLE SHOWER THAT COMPLIES WITH 4.2.1 SHALL BE PROVIDED.
- 4.2.3.9 MEDICINE CABINETS IF MEDICINE CABINETS ARE PROVIDED, THEN AT LEAST ONE SHALL BE LOCATED WITH A USABLE SHELF NO HIGHER THAN 44" (1120mm) ABOVE THE FLOOR SPACE. THE FLOOR SPACE SHALL COMPLY WITH 4.2.4.

- 4.2.3.9 BATHING AND SHOWER FACILITIES IF TUBS, OR SHOWERS ARE PROVIDED, THEN AT LEAST ONE ACCESSIBLE TUB THAT COMPLIES WITH 4.2.0 OR AT LEAST ONE ACCESSIBLE SHOWER THAT COMPLIES WITH 4.2.1 SHALL BE PROVIDED.

- 4.2.3.9 MEDICINE CABINETS IF MEDICINE CABINETS ARE PROVIDED, THEN AT LEAST ONE SHALL BE LOCATED WITH A USABLE SHELF NO HIGHER THAN 44" (1120mm) ABOVE THE FLOOR SPACE. THE FLOOR SPACE SHALL COMPLY WITH 4.2.4.

- 4.2.4 SINKS SINKS REQUIRED TO BE ACCESSIBLE BY 4.1 SHALL COMPLY WITH 4.2.4.
- 4.2.4.1 GENERAL SINKS REQUIRED TO BE ACCESSIBLE BY 4.1 SHALL COMPLY WITH 4.2.4. SINKS IN KITCHENS OF ACCESSIBLE DWELLING UNITS SHALL COMPLY WITH 4.3.4.5.
- 4.2.4.2 HEIGHT SINKS SHALL BE MOUNTED WITH THE COUNTER OR RIM NO HIGHER THAN 34" (865mm) FROM THE FINISHED FLOOR (SEE FIG. 31).
- 4.2.4.3 KNEE CLEARANCE KNEE CLEARANCE THAT IS AT LEAST 27" (686mm) HIGH, 30" (762mm) WIDE, AND 19" (483mm) DEEP SHALL BE PROVIDED UNDER THE SINK.
- 4.2.4.4 DEPTH EACH SINK SHALL BE A MAXIMUM OF 6" (152mm) DEEP.

- 1.2.20(h) COMPLYING WITH 4.2.4 SHALL BE PROVIDED IN FRONT OF A SINK TO ALLOW FORWARD APPROACH. THE CLEAR FLOOR SPACE SHALL BE ON AN ACCESSIBLE ROUTE AND SHALL EXTEND A MAXIMUM OF 19" (483mm) UNDERNEATH THE SINK.

- 4.2.4.5 EXPOSED PIPES AND SURFACES NOT WATER AND DRAIN PIPES EXPOSED UNDER SINKS SHALL BE INSULATED OR OTHERWISE COVERED. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER SINKS.

- 4.2.3.7 FAUCETS FAUCETS SHALL COMPLY WITH 4.27.4. LEVER-OPERATED, PUSH-TYPE, TOUCH-TYPE, OR ELECTRICAL CONTROLLED MECHANISMS ARE ACCEPTABLE DESIGN.

**4.2.5 STORAGE.**

- 4.2.5.1 GENERAL FIXED STORAGE FACILITIES SUCH AS CABINETS, SHELVES, CLOSETS, AND DRAWERS REQUIRED TO BE ACCESSIBLE BY 4.1 SHALL COMPLY WITH 4.2.5.
- 4.2.5.2 CLEAR FLOOR SPACE A CLEAR FLOOR SPACE AT LEAST 30" BY 48" (762mm BY 1220mm) COMPLYING WITH 4.2.4 THAT ALLOWS EITHER A FORWARD OR PARALLEL APPROACH BY A PERSON USING A WHEELCHAIR SHALL BE PROVIDED AT ACCESSIBLE STORAGE FACILITIES.

- 4.2.5.3 HEIGHT ACCESSIBLE STORAGE SPACES SHALL BE WITHIN AT LEAST ONE OF THE REACH RANGES SPECIFIED IN 4.2.5.3.1 AND 4.2.5.3.2. COVERINGS SHALL BE A MAXIMUM OF 54" (1370mm) FROM THE FLOOR.

- 4.2.5.4 HARDWARE HARDWARE FOR ACCESSIBLE STORAGE FACILITIES SHALL COMPLY WITH 4.2.7.4 TOUCH LATCHES AND U-SHAPED KNOBS ARE ACCEPTABLE.

**4.2.6 HANDRAILS, GRAB BARS, AND TUB AND SHOWER SEATS.**

- 4.2.6.1 GENERAL ALL HANDRAILS, GRAB BARS, AND TUB AND SHOWER SEATS REQUIRED TO BE ACCESSIBLE BY 4.1, 4.6, OR 4.9 SHALL COMPLY WITH 4.2.6.
- 4.2.6.2 SIZE AND SPACING OF GRAB BARS AND HANDRAILS THE DIAMETER OR WIDTH OF THE GRIPPING SURFACES OF A HANDRAIL OR GRAB BAR SHALL BE 1" (25.4mm) TO 1 1/2" (38.1mm) OR THE SHAPE SHALL PROVIDE AN EQUIVALENT GRIPPING SURFACE. IF HANDRAILS OR GRAB BARS ARE MOUNTED ADJACENT TO A WALL, THE SPACE BETWEEN THE WALL AND THE GRAB BAR SHALL BE 1" (25.4mm). HANDRAILS MAY BE LOCATED IN A RECESS IF THE RECESS IS A MAXIMUM OF 3" (76mm) DEEP AND EXTENDS AT LEAST 18" (457mm) ABOVE THE TOP OF THE RAIL.

- 4.2.6.3 STRUCTURAL STRENGTH THE STRUCTURAL STRENGTH OF GRAB BARS, TUB AND SHOWER SEATS, FASTENERS, AND MOUNTING DEVICES SHALL MEET THE FOLLOWING SPECIFICATIONS:
  - (1) BENDING STRESS IN A GRAB BAR OR SEAT BY THE APPLICATION OF 250LB (112kg) SHALL BE LESS THAN THE ALLOWABLE STRESS FOR THE MATERIAL OF THE GRAB BAR OR SEAT.
  - (2) SHEAR STRESS INDUCED IN A GRAB BAR OR SEAT BY THE APPLICATION OF 250LB (112kg) SHALL BE LESS THAN THE ALLOWABLE SHEAR STRESS FOR THE MATERIAL OF THE GRAB BAR OR SEAT.
  - (3) SHEAR FORCE INDUCED IN A FASTENER OR MOUNTING DEVICE FROM THE APPLICATION OF 250LB (112kg) SHALL BE NO LESS THAN THE ALLOWABLE LOADS OF THE FASTENER OR MOUNTING DEVICE OR THE SUPPORTING STRUCTURE WHICHEVER IS THE SMALLER ALLOWABLE LOAD.
  - (4) TENSILE FORCE INDUCED IN A FASTENER BY A DIRECT TENSION FORCE OF 250LB (112kg) SHALL BE NO LESS THAN THE ALLOWABLE TENSILE FORCE OF THE FASTENER.
  - (5) GRAB BARS SHALL NOT ROTATE WITHIN THEIR FITTINGS.

- 4.2.6.4 ELIMINATING HAZARDS A HANDRAIL OR GRAB BAR AND ANY WALL OR OTHER SURFACE ADJACENT TO IT SHALL BE FREE OF ANY SHARP OR ABRASIVE ELEMENTS. EDGES SHALL HAVE A MINIMUM RADIUS OF 1/8" (3.2mm).

- 4.2.6.5 GRAB BARS SHALL NOT ROTATE WITHIN THEIR FITTINGS.

- 4.2.6.6 ELIMINATING HAZARDS A HANDRAIL OR GRAB BAR AND ANY WALL OR OTHER SURFACE ADJACENT TO IT SHALL BE FREE OF ANY SHARP OR ABRASIVE ELEMENTS. EDGES SHALL HAVE A MINIMUM RADIUS OF 1/8" (3.2mm).

**4.2.7 CONTROLS AND OPERATING MECHANISMS.**

- 4.2.7.1 GENERAL CONTROLS AND OPERATING MECHANISMS REQUIRED TO BE ACCESSIBLE BY 4.1 SHALL COMPLY WITH 4.2.7.
- 4.2.7.2 CLEAR FLOOR SPACE CLEAR FLOOR SPACE COMPLYING WITH 4.2.4 THAT ALLOWS A FORWARD OR PARALLEL APPROACH BY A PERSON USING A WHEELCHAIR SHALL BE PROVIDED AT CONTROLS, DISPENSERS, RECEPTACLES, AND OTHER OPERABLE EQUIPMENT.

- 4.2.7.3 HEIGHT THE HIGHEST OPERABLE PART OF THE TELEPHONE, RECEPTACLES, CONTROLS, OR WORK SURFACES, CLEAR FLOOR SPACE COMPLYING WITH 4.2.4 SHALL BE PROVIDED. SUCH CLEAR FLOOR SPACE SHALL NOT OVERLAP KNEE SPACE BY MORE THAN 19" (483mm) WIDE AND 19" (483mm) DEEP SHALL BE PROVIDED.

- 4.2.7.4 OPERATION CONTROLS AND OPERATING MECHANISMS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PUSHING, OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL BE NO GREATER THAN 15LB (6.8kg).

**4.2.8 ALARMS.**

- 4.2.8.1 GENERAL ALARM SYSTEMS REQUIRED BY 4.1 SHALL COMPLY WITH 4.2.8.
- 4.2.8.2 AUDIBLE ALARMS IF PROVIDED, AUDIBLE EMERGENCY ALARMS SHALL PROVIDE A SOUND TO BE HEARD BY PERSONS WITH HEARING LOSS. THE SOUND SHALL BE HEARD AT LEAST 5 DECEIBELS, WHICHEVER IS LOUDER, SOUND LEVELS FOR ALARM SIGNALS SHALL NOT EXCEED 120 DECEIBELS.

- 4.2.8.3 VISUAL ALARMS IF PROVIDED, ELECTRICALLY POWERED INTERNALLY ILLUMINATED EMERGENCY EXIT SIGNS SHALL FLASH AS A VISUAL EMERGENCY ALARM IN CONJUNCTION WITH AUDIBLE EMERGENCY ALARMS. THE FLASHING FREQUENCY OF VISUAL ALARMS DEVICES SHALL BE LESS THAN 50% IF SUCH ALARMS ARE ELECTRICALLY POWERED AS A POWER SOURCE, THEN THEY SHALL BE NOT INSTALLED ON THE SAME SYSTEM AS THE AUDIBLE EMERGENCY ALARMS.

- EXCEPTIONS:
  - (1) VISUAL ALARM DEVICES THAT ARE MOUNTED ADJACENT TO EMERGENCY EXIT SIGNS MAY BE USED IN LIEU OF FLASHING EXIT SIGNS.
  - (2) SPECIALIZED SYSTEMS UTILIZING ADVANCED TECHNOLOGY MAY BE SUBSTITUTED FOR THE VISUAL SYSTEMS SPECIFIED ABOVE IF EQUIVALENT PROTECTION IS APPROPRIATELY INDICATED ON THE BUILDING OR FACILITY.

- 4.2.8.4 AUXILIARY ALARMS ACCESSIBLE SLEEPING ACCOMMODATIONS SHALL HAVE A VISUAL ALARM CONNECTED TO THE BUILDING EMERGENCY ALARM SYSTEM AND SHALL HAVE A BATTERY-POWERED 110-VOLT ELECTRICAL RECEPTACLE INTO WHICH SUCH AN ALARM COULD BE CONNECTED. INSTRUCTIONS FOR USE OF THE AUXILIARY ALARM OR CONNECTION SHALL BE PROVIDED.

**4.2.9 TACTILE WARNINGS.**

- 4.2.9.1 GENERAL TACTILE WARNINGS REQUIRED TO BE ACCESSIBLE BY 4.1 SHALL COMPLY WITH 4.2.9.
- 4.2.9.2 TACTILE WARNINGS ON WALKING SURFACES (RESERVED).
- 4.2.9.3 TACTILE WARNINGS ON DOORS TO HAZARDOUS AREAS (RESERVED).
- 4.2.9.4 TACTILE WARNINGS AT STAIRS (RESERVED).
- 4.2.9.5 TACTILE WARNINGS AT HAZARDOUS WHEELCHAIR AREAS (RESERVED).
- 4.2.9.6 TACTILE WARNINGS AT REFLECTING FLOORS (RESERVED).
- 4.2.9.7 STANDARDIZATION TACTURED SURFACES FOR TACTILE DOOR WARNINGS SHALL BE STANDARD WITHIN A BUILDING, FACILITY, SITE, OR COMPLEX OF BUILDINGS.

**4.3.0 SIGNAGE.**

- 4.3.0.1 GENERAL SIGNAGE REQUIRED TO BE ACCESSIBLE BY 4.1 SHALL COMPLY WITH 4.3.0.
- 4.3.0.2 CHARACTER PROPORTION LETTERS AND NUMBERS ON SIGNS SHALL HAVE A WIDTH TO HEIGHT RATIO BETWEEN 3.5 AND 1:1 AND A STROKE WIDTH-TO-HEIGHT RATIO BETWEEN 1.5 AND 1:1.0.
- 4.3.0.3 COLOR CONTRAST CHARACTERS AND SYMBOLS SHALL CONTRAST WITH THEIR BACKGROUND EITHER LIGHT CHARACTERS ON A DARK BACKGROUND OR DARK CHARACTERS ON A LIGHT BACKGROUND.
- 4.3.0.4 RAISED OR INDENTED CHARACTERS OR SYMBOLS LETTERS AND NUMBERS ON SIGNS SHALL BE RAISED 1/32" MINIMUM AND SHALL BE SAND-GRIP CHARACTERS. RAISED CHARACTERS OR SYMBOLS SHALL BE AT LEAST 5/8" (15.9mm) HIGH, BUT NO HIGHER THAN 2" (50.8mm). INDENTED CHARACTERS OR SYMBOLS SHALL HAVE A STROKE WIDTH OF AT LEAST 1/8" (3.2mm). SYMBOLS OR PHOTOGRAPHS ON SIGNS SHALL BE RAISED OR INDENTED 1/32" MINIMUM.
- 4.3.0.5 SYMBOLS OF ACCESSIBILITY ACCESSIBLE FACILITIES REQUIRED TO BE IDENTIFIED BY 4.1 SHALL USE THE INTERNATIONAL SYMBOLS OF ACCESSIBILITY. THE SYMBOLS SHALL BE DISPLAYED AS SHOWN IN FIG. 43.
- 4.3.0.6 MOUNTING LOCATION AND HEIGHT INTERIOR SIGNAGE SHALL BE LOCATED ALONGSIDE THE DOOR OR SLIDE DOOR. SLIDE SIGNAGE SHALL BE MOUNTED AT A HEIGHT OF BETWEEN 54" AND 62" (1370mm AND 1575mm) ABOVE THE FINISHED FLOOR.

- NOTE: SIGNAGE SHALL COMPLY WITH SIGNAGE REQUIREMENTS.

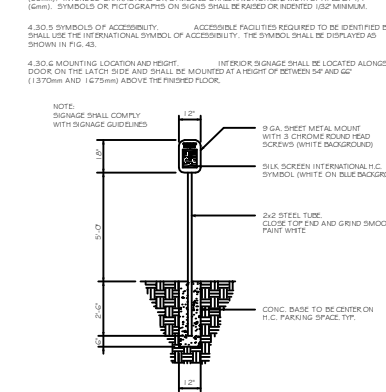


FIG. 43 INTERNATIONAL SYMBOL OF ACCESSIBILITY  
N.T.S.



FIG. 43(a) FORWARD OR REAR ACCESS



FIG. 43(b) SIDE ACCESS

FIG. 43 DISPLAY CONDITIONS

FIG. 43 PROPORTIONS

FIG. 43 N.T.S.

**INTERNATIONAL SYMBOL OF ACCESSIBILITY**

PUBLIC TELEPHONES REQUIRED TO BE ACCESSIBLE BY 4.1 SHALL COMPLY WITH 4.3.1.

**4.3.1 TELEPHONES.**

- 4.3.1.1 GENERAL
  - 4.3.1.1.1 CLEAR FLOOR OR GROUND SPACE A CLEAR FLOOR OR GROUND SPACE AT LEAST 30" BY 48" (762mm BY 1220mm) THAT ALLOWS EITHER A FORWARD OR PARALLEL APPROACH BY A PERSON USING A WHEELCHAIR SHALL BE PROVIDED AT TELEPHONES. THE CLEAR FLOOR OR GROUND SPACE SHALL COMPLY WITH 4.2.4. BASES, ENCLOSURES, AND FIXED SEATS SHALL NOT IMPDE APPROACH TO TELEPHONES BY PEOPLE WHO USE WHEELCHAIRS.
  - 4.3.1.1.2 MOUNTING HEIGHT THE HIGHEST OPERABLE PART OF THE TELEPHONE SHALL BE WITHIN THE REACH RANGES SPECIFIED IN 4.2.5.3.1 AND 4.2.5.3.2.
  - 4.3.1.1.3 PROFILING DEVICES TELEPHONES SHALL COMPLY WITH 4.4.
  - 4.3.1.1.4 EQUIPMENT FOR HEARING IMPAIRED PEOPLE TELEPHONES SHALL BE EQUIPPED WITH A RECEIVER THAT GENERATES A MAGNETIC FIELD IN THE AREA OF THE RECEIVER GAP. VOLUME CONTROLS SHALL BE PROVIDED IN ACCORDANCE WITH 4.1.1.
  - 4.3.1.1.5 CONTROLS TELEPHONES SHALL HAVE PUSHBUTTON CONTROLS WHERE SERVICE FOR SUCH EQUIPMENT IS AVAILABLE.
  - 4.3.1.1.6 TELEPHONE ROOMS TELEPHONE BOOKS, IF PROVIDED, SHALL BE LOCATED IN A POSITION THAT COMPLIES WITH THE REACH RANGES SPECIFIED IN 4.2.5.3.1 AND 4.2.5.3.2.
  - 4.3.1.1.7 CORD LENGTH THE CORD FROM THE TELEPHONE TO THE HANSET SHALL BE AT LEAST 29".

**4.3.2 SEATING, TABLES, AND WORK SURFACES.**

- 4.3.2.1 MINIMUM NUMBER FIXED OR BUILT IN SEATING, TABLES, OR WORK SURFACES REQUIRED TO BE ACCESSIBLE BY 4.1 SHALL COMPLY WITH 4.3.2.
- 4.3.2.2 SEATING IF SEATING SPACES FOR PEOPLE IN WHEELCHAIRS ARE PROVIDED AT TABLES, COUNTERS, OR WORK SURFACES, CLEAR FLOOR SPACE COMPLYING WITH 4.2.4 SHALL BE PROVIDED. SUCH CLEAR FLOOR SPACE SHALL NOT OVERLAP KNEE SPACE BY MORE THAN 19" (483mm) WIDE AND 19" (483mm) DEEP SHALL BE PROVIDED.
- 4.3.2.3 SEATING HEIGHT THE TOPS OF TABLES AND WORK SURFACES SHALL BE FROM 28" TO 34" (710mm TO 865mm) FROM THE FLOOR OR GROUND.

**4.3.3 ASSEMBLY AREAS.**

- 4.3.3.1 MINIMUM NUMBER ASSEMB

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