



DEPARTMENT OF ADMINISTRATIVE SERVICES
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Accessibility Concerns, Including Bathroom Design

*Presented by
Harwood W. Loomis, BO, RA, Consulting Architect
for the*

*Office of Education and Data Management
Spring 2016 Career Development Series*



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Which way to Millinocket?



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“Come to think of it, you can’t get there from here.”

That’s what we want to avoid ...

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Accessibility is about getting people from here



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To here ...



5



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Or here ...



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Or here ...



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Or here ...



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History ...

- 1961 First edition of ANSI A117.1
- 1972 Connecticut adopts A117.1 in Building Code
- 1984 UFAS (Uniform Federal Accessibility Standards)
- 1990 ADA (Americans with Disabilities Act)
- 1991 ADAAG (Americans with Disabilities Act Architectural Guidelines)



The times, they are a changin' ...

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Federal Law:

1991 ADAAG → 2010 ADAAG

Connecticut:



A117.1-2003 → A117.1-2009

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Our Accessibility Code

- IBC 2003
- +
- ICC/ANSI A117.1-2003
- +
- 2005 CT Supplement
- +
- 2009 CT Supplement
- +
- 2011 CT Supplement



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Coming Soon (We hope):

IBC 2012
+
ICC/ANSI A117.1-2009
+
2016 CT Supplement



ADA?

or

A117.1?

What's the difference?



The ADA is federal civil rights legislation.

There are no ADA permits. It is enforced entirely by the U.S. Department of Justice through prosecution upon receipt of complaints.

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ICC/ANSI A117.1 is the technical standards that support the accessibility scoping requirements in the IBC.

Accessibility is a building code requirement. Enforcement is by local building officials, through plan review, permit issuance, and field inspections.

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Do we, as building officials, enforce the ADA?

- Yes**
- No**
- Maybe**
- Huh?**

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The OSBI says the answer is ...

No.

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But what about Section 107.2.1?

[A] 107.2.1 Information on construction documents. *Construction documents* shall be dimensioned and drawn upon suitable material. Electronic media documents are permitted to be submitted when *approved* by the *building official*. *Construction documents* shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of this code and relevant laws, ordinances, rules and regulations, as determined by the *building official*.

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The OSBI says the answer is ...

No.

**We enforce the IBC and
A117.1**

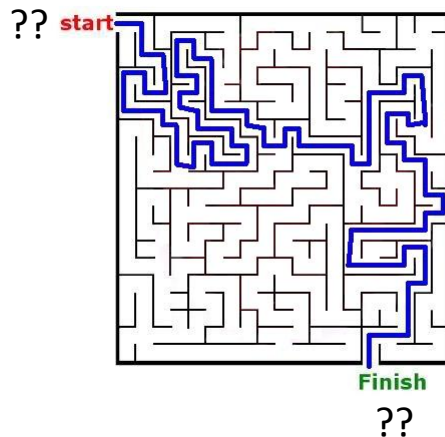
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Why do we want to stay out of enforcing the ADA?



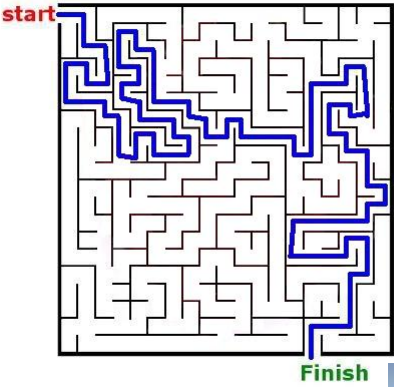

United States of America v. Ellerbe Becket, Inc. (1995)

United States of America v. Cinemark USA, Inc. (1999)



So, what's our code path?

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**CHAPTER 11
ACCESSIBILITY**

**SECTION 1101
GENERAL**

1101.1 Scope. The provisions of this chapter shall control the design and construction of facilities for accessibility to physically disabled persons.

1101.2 Design. Buildings and facilities shall be designed and constructed to be accessible in accordance with this code and ICC A117.1.

**SECTION 1102
DEFINITIONS**

1102.1 Definitions. The following terms are defined in Chapter 2:

- ACCESSIBLE.
- ACCESSIBLE ROUTE.
- ACCESSIBLE UNIT.
- CIRCULATION PATH.
- COMMON USE.
- DETECTABLE WARNING.
- EMPLOYEE WORK AREA.
- FACILITY.
- INTENDED TO BE OCCUPIED AS A RESIDENCE.
- MULTILEVEL ASSEMBLY SEATING.
- MULTISTORY UNIT.
- PUBLIC ENTRANCE.
- PUBLIC USE AREAS.
- RESTRICTED ENTRANCE.
- SELF-SERVICE STORAGE FACILITY.
- SERVICE ENTRANCE.
- SITE.
- TYPE A UNIT.
- TYPE B UNIT.
- WHITE CANE SIGNALING.

**SECTION 1103
SCOPING REQUIREMENTS**

1103.1 Where required. Sites, buildings, structures, facilities, elements and spaces, temporary or permanent, shall be accessible to persons with physical disabilities.

1103.2 General exceptions. Sites, buildings, structures, facilities, elements and spaces shall be exempt from this chapter to the extent specified in this section.

1103.2.1 Specific requirements. Accessibility is not required in buildings and facilities, or portions thereof, to the extent permitted by Sections 1104 through 1110.

1103.2.2 Existing buildings. Existing buildings shall comply with Section 3411.

1103.2.3 Employee work areas. Spaces and elements within employee work areas shall only be required to comply with Sections 507.5.1.2, 1007 and 1104.3.1 and shall be designed and constructed so that individuals with the abilities can approach, enter and exit the work area. Work areas, or portions of work areas, that are less than 300 square feet (30 m²) in area and located 7 inches (178 mm) or more above or below the ground or finish floor when the change in elevation is essential to the function of the space shall be exempt from all requirements.

1103.2.4 Detached dwellings. Detached one- and two-family dwellings and accessory structures, and their associated sites and facilities, are not required to be accessible.

1103.2.5 Utility buildings. Occupancies in Group U are exempt from the requirements of this chapter other than the following:

1. In agricultural buildings, access is required to paved work areas and areas open to the general public.
2. Private garages or carports that contain required accessible parking.

1103.2.6 Construction sites. Structures, sites and equipment directly associated with the actual process of construction including, but not limited to, scaffolding, bridging, materials hoists, materials storage or construction trailers are not required to be accessible.

1103.2.7 Raised areas. Raised areas used primarily for purposes of security, life safety or fire safety including, but not limited to, observation galleries, prison guard towers, fire towers or signal towers, are not required to be accessible or to be served by an accessible route.

1103.2.8 Limited access spaces. Nonoccupiable spaces accessed only by ladders, catwalks, crawl spaces, freight elevators or very narrow passageways are not required to be accessible.

1103.2.9 Equipment spaces. Spaces frequented only by personnel for maintenance, repair or monitoring of equipment are not required to be accessible. Such spaces include, but are not limited to, elevator pits, elevator power houses, mechanical, electrical or communications equipment.

2012 INTERNATIONAL BUILDING CODE® 201 24



Scoping for New Construction:

The default is that everything must be accessible.

1103.1 Where required. *Sites, buildings, structures, facilities, elements and spaces, temporary or permanent, shall be accessible to persons with physical disabilities.*

1103.2 General exceptions. *Sites, buildings, structures, facilities, elements and spaces shall be exempt from this chapter to the extent specified in this section.*

1103.2.1 Specific requirements. *Accessibility is not required in buildings and facilities, or portions thereof, to the extent permitted by Sections 1104 through 1110.*

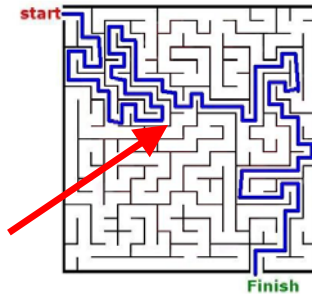
Also pay attention to 1103.2.2 through 1103.2.17* for specific exceptions and limitations on required accessibility. [1103.2.16 & 1103.2.17 are CT AMD]

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Scoping for Existing Buildings:

1103.2.2 Existing buildings. Existing buildings shall comply with Section 3411.



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EXISTING STRUCTURES

SECTION 3411
ACCESSIBILITY FOR EXISTING BUILDINGS

3411.1 Scope. The provisions of Sections 3411.1 through 3411.9 apply to maintenance, change of occupancy, additions and alterations to existing buildings, including those identified as historic buildings.

3411.2 Maintenance of facilities. A facility that is constructed or altered to be accessible shall be maintained accessible during occupancy.

3411.3 Extent of application. An alteration of an existing facility shall not impose a requirement for greater accessibility than that which would be required for new construction. Alterations shall not reduce or have the effect of reducing accessibility of a facility or portion of a facility.

3411.4 Change of occupancy. Existing buildings that undergo a change of group or occupancy shall comply with this section.

Exception: Type II dwelling units or adaptive units required by Section 1107 of this code are not required to be provided in existing buildings and facilities undergoing a change of occupancy in conjunction with alterations where the work area is 50 percent or less of the aggregate area of the building.

3411.4.1 Partial change in occupancy. Where a portion of the building is changed to a new occupancy classification, any alterations shall comply with Sections 3411.6, 3411.7 and 3411.8.

3411.4.2 Complete change of occupancy. Where an entire building undergoes a change of occupancy, it shall comply with Section 3411.4.1 and shall have all of the following accessible features:

1. At least one accessible building entrance.
2. At least one accessible route from an accessible building entrance to primary function areas.
3. Signage complying with Section 1108.
4. Accessible parking, where parking is being provided.
5. At least one accessible passenger loading zone, when building owners are provided.
6. At least one accessible route connecting accessible parking and accessible passenger loading zones to an accessible entrance.

When it is technically infeasible to comply with the new construction standards for any of these requirements for a change of group or occupancy, the above items shall conform to the requirements to the maximum extent technically feasible.

Exception: The accessible features listed in Items 1 through 6 are not required for an accessible route to Type II units.

3411.5 Additions. Provisions for new construction shall apply to additions. An addition that affects the accessibility

existing space and construction does not allow a reduction in pitch or slope.

108.4 Seismic. When a change of occupancy results in a structure being reclassified to a higher risk category, the structure shall conform to the seismic requirements for a new structure of the higher risk category.

Exception:

1. Specific seismic detailing requirements of Section 1015 for a new structure shall not be required to be met where the seismic performance is shown to be equivalent to that of a new structure. A dissemination of requirements shall consider the occupancy, cost, strength, redundancy and ductility of the structure.
2. When a change of use results in a structure being reclassified from Risk Category I or II to Risk Category III and the structure is located where the seismic coefficient, S_e , is less than 0.25, compliance with the seismic requirements of Section 1015 are not required.

SECTION 3409
HISTORIC BUILDINGS

3409.1 Historic buildings. The provisions of this code relating to the construction, repair, alteration and maintenance and movement of structures, and change of occupancy shall not be mandatory for historic buildings where such buildings are judged by the building official to not constitute a distinct life safety hazard.

3409.2 Flood hazard areas. Within flood hazard areas designated in accordance with Section 102.3, where the work proposed constitutes substantial improvement as defined in Section 102.2, the building shall be brought into compliance with Section 1012.

Exception: Historic buildings that are:


1. Listed or preliminarily determined to be eligible for listing in the National Register of Historic Places;
2. Determined by the Secretary of the U.S. Department of Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined to qualify as an historic district; or
3. Designated as historic under a state or local historic preservation program that is approved by the Department of Interior.

SECTION 3410
MOVED STRUCTURES

3410.1 Conformance. Structures moved into or within the jurisdiction shall comply with the provisions of this code for new structures.

3018 INTERNATIONAL BUILDING CODE® 3019

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3411.1 Scope. The provisions of Sections 3411.1 through 3411.9 apply to maintenance, change of occupancy, additions and alterations to existing buildings, including those identified as historic buildings.

3411.2 Maintenance of facilities. A facility that is constructed or altered to be accessible shall be maintained accessible during occupancy.

3411.3 Extent of application. An alteration of an existing facility shall not impose a requirement for greater accessibility than that which would be required for new construction. Alterations shall not reduce or have the effect of reducing accessibility of a facility or portion of a facility.

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What about the *International Existing Building Code*?

It's an ALTERNATE route to compliance ...

3401.6 Alternative compliance. Work performed in accordance with the *International Existing Building Code* shall be deemed to comply with the provisions of this chapter.

Section 410 of the IEBC repeats the same requirements as Section 3411 of the IBC.

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(Amd) **3411.4.2 Complete change of occupancy.** Where an entire building undergoes a change of occupancy, it shall comply with Section 3411.4.1 and shall have all of the following accessible features:

1. At least one accessible building entrance.
2. At least one accessible route from an accessible building entrance to primary function areas.
3. Signage complying with Section 1110.
4. Accessible parking, where parking is being provided.
5. At least one accessible passenger loading zone, when passenger loading zones are provided.
6. At least one accessible route connecting accessible parking and accessible passenger loading zones to an accessible entrance.
7. At least one accessible toilet room or toilet and bathing facility complying with Section 1109.2.3.

[Con't]

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[Con't]

Where it is technically infeasible as defined in Section 3402.1 to comply with the new construction standards for any of these requirements for a change of group or occupancy, the above items shall conform to the maximum extent technically feasible.

Exception: The accessible features listed in Items 1 through 7 are not required for an accessible route to Type B units.



SECTION 3402 DEFINITIONS

3402.1 Definitions. The following terms are defined in Chapter 2:

DANGEROUS.

EXISTING STRUCTURE.

PRIMARY FUNCTION.

SUBSTANTIAL STRUCTURAL DAMAGE.

TECHNICALLY INFEASIBLE.



PRIMARY FUNCTION. A primary function is a major activity for which the *facility* is intended. Areas that contain a primary function include, but are not limited to, the customer service lobby of a bank, the dining area of a cafeteria, the meeting rooms in a conference center, as well as offices and other work areas in which the activities of the public accommodation or other private entity using the *facility* are carried out. Mechanical rooms, boiler rooms, supply storage rooms, employee lounges or locker rooms, janitorial closets, entrances, *corridors* and restrooms are not areas containing a primary function.

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(Amd) **TECHNICALLY INFEASIBLE.** An alteration of a building or a facility that has little likelihood of being accomplished because the existing structural conditions require the removal or alteration of a load-bearing member that is an essential part of the structural frame, or because other physical or site constraints prohibit modification or addition of elements, spaces or features that are in full and strict compliance with the minimum requirements for new construction and that are necessary to provide accessibility. **The determination of technical infeasibility is made jointly by the State Building Inspector and the Executive Director of the Office of Protection and Advocacy for Persons with Disabilities in accordance with the provisions of subsection (b) of section 29-269 of the Connecticut General Statutes.**

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Scoping for ADDITIONS:

3411.5 Additions. Provisions for new construction shall apply to additions. An *addition* that affects the accessibility to, or contains an area of, a *primary function* shall comply with the requirements in Section 3411.7.

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Scoping for ALTERATIONS:

3411.6 Alterations. A *facility* that is altered shall comply with the applicable provisions in Chapter 11 of this code, unless *technically infeasible*. Where compliance with this section is *technically infeasible*, the *alteration* shall provide access to the maximum extent technically feasible.

BUT ...

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Exceptions:

1. The altered element or space is not required to be on an *accessible* route, unless required by Section 3411.7.
2. *Accessible means of egress* required by Chapter 10 are not required to be provided in existing facilities.
3. The *alteration* to Type A individually owned dwelling units within a Group R-2 occupancy shall be permitted to meet the provision for a *Type B dwelling unit*.
4. *Type B dwelling* or *sleeping units* required by Section 1107 of this code are not required to be provided in existing buildings and facilities undergoing a change of occupancy in conjunction with alterations where the work area is 50 percent or less of the aggregate area of the building.

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Scoping for HISTORICAL BUILDINGS

(Hold onto your seats)

3411.1 Scope. The provisions of Sections 3411.1 through 3411.9 apply to maintenance, change of occupancy, *additions* and *alterations* to existing buildings, including those identified as *historic buildings*.

But ...

3409.1 Historic buildings. The provisions of this code relating to the construction, *repair*, *alteration*, *addition*, *restoration* and movement of structures, and change of occupancy shall **not** be mandatory for *historic buildings* where such buildings are judged by the *building official* to not constitute a distinct life safety hazard.

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Do we still have the “20-percent Rule”?

3411.7 Alterations affecting an area containing a primary function. Where an alteration affects the accessibility to, or contains an area of *primary function*, the route to the primary function area shall be *accessible*. The accessible route to the *primary function* area shall include toilet facilities or drinking fountains serving the area of primary function.

Exceptions:

1. The costs of providing the *accessible* route are not required to exceed 20 percent of the costs of the *alterations* affecting the area of *primary function*.
2. This provision does not apply to *alterations* limited solely to windows, hardware, operating controls, electrical outlets and signs.
3. This provision does not apply to *alterations* limited solely to mechanical systems, electrical systems, installation or alteration of fire protection systems and abatement of hazardous materials.
4. This provision does not apply to *alterations* undertaken for the primary purpose of increasing the accessibility of a *facility*.
5. This provision does not apply to altered areas limited to *Type B dwelling* and *sleeping units*.

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HIERARCHY for 20% rule:

If we can't do everything, what should we do first?

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The code does not give us any authority to tell an owner *how* they have to spend the 20 percent. But we do have a duty to verify that the owner spends at least 20 percent of the total project cost on accessibility features.

In general, we can look at the following as a *guideline* to establishing priorities for spending the 20 percent:

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The federal government recommends the following as an order of prioritizing accessibility improvements:

- **Providing access to the building from public sidewalks, parking areas, and public transportation;**
- **Providing access to the goods and services offered;**
- **Providing access to public restrooms; and**
- **Removing barriers to other amenities offered to the public, such as drinking fountains.**

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If they can achieve full accessibility compliance without spending 20 percent of the project cost ...

We're done.

The 20 percent rule does not require doing MORE than what the code requires for access in a new building. It's a limit, not a mandate.


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SCOPING SUMMARY:


- **NEW CONSTRUCTION – Full compliance**
- **ADDITIONS – Full compliance for added portions**
- **ALTERATIONS – Compliance up to 20 percent of project cost.**


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WHAT HAS CHANGED?















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PARKING

No change for Connecticut. Requirements for accessible parking spaces are in statute.

(Amd) **502.2 Vehicle space size.** Parking spaces designated for persons with disabilities shall be as near as possible to a building entrance or walkway. Accessible automobile parking spaces shall be 15 feet in width including 5 feet of cross hatch. Accessible van spaces shall be 16 feet in width including 8 feet of cross hatch. Cross hatched portions shall not be shared between spaces.

BUT ...

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This is a change from both the ADA and A117.1.

Both the old and the new versions of the ADAAG and A117.1 allow the cross-hatched access aisle to be shared between two accessible parking spaces. *Watch out for out-of-state architects who may not pick up on this.*



ACCESSIBLE PARKING SIGNS

No change for Connecticut. Requirements for accessible parking signs are in statute.

C.G.S. 14-253a(h) Parking spaces designated for persons who are blind and persons with disabilities on or after October 1, 1979, and prior to October 1, 2004, shall be as near as possible to a building entrance or walkway and shall be fifteen feet wide including three feet of cross hatch, or parallel to a sidewalk on a public highway. On and after October 1, 2004, parking spaces for passenger motor vehicles designated for persons who are blind and persons with disabilities shall be as near as possible to a building entrance or walkway and shall be fifteen feet wide including five feet of cross hatch. On and after October 1, 2004, parking spaces for passenger vans designated for persons who are blind and persons with disabilities shall be as near as possible to a building entrance or walkway and shall be sixteen feet wide including eight feet of cross hatch. Such spaces shall be designated by above grade signs with white lettering against a blue background and shall bear the words "handicapped parking permit required" and "violators will be fined". Such sign shall also bear the international symbol of access. When such a sign is replaced, repaired or erected it shall indicate the minimum fine for a violation of subsection (f) of this section. Such indicator may be in the form of a notice affixed to such a sign.



C.G.S. 14-253a(h) ... Such spaces shall be designated by above grade signs with white lettering against a blue background and shall bear the words "handicapped parking permit required" and "violators will be fined". Such sign shall also bear the international symbol of access. When such a sign is replaced, repaired or erected it shall indicate the minimum fine for a violation of subsection (f) of this section. Such indicator may be in the form of a notice affixed to such a sign.



Does this ...



Comply with this?

Such spaces shall be designated by above grade signs with white lettering against a blue background and shall bear the words "handicapped parking permit required" and "violators will be fined". Such sign shall also bear the international symbol of access. When such a sign is replaced, repaired or erected it shall indicate the minimum fine for a violation of subsection (f) of this section. Such indicator may be in the form of a notice affixed to such a sign.



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How about this gem? (From a recent McDonald's comprehensive remodeling project in Connecticut)



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Cross-slope of accessible parking spaces:

**A117.1-2009 still limits cross-slope of the space
AND the cross-hatched aisle to 1:48.**

The new Connecticut Supplement does **NOT
change this to 1:50.**

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ACCESSIBLE ENTRANCES

2003/2005

1105.1 Public entrances. In addition to accessible entrances required by Sections 1105.1.1 through 1105.1.6, at least 50 percent of all public entrances shall be accessible.

2012/2016

1105.1 Public entrances. In addition to *accessible* entrances required by Sections 1105.1.1 through 1105.1.6, at least 60 percent of all *public entrances* shall be *accessible*.

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EXAMPLE:

**Yale Bowl has 30 vomitories
(individual entrances)**

$$30 \times .50 = 15$$

$$30 \times .60 = 18$$

***THREE* additional accessible entrances
would be required.**

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RAMPS

When is a ramp not a ramp?

- **When it's a sidewalk.**

When is a sidewalk not a sidewalk?

- **When it's a ramp.**

What's the difference?

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DEFINITION:

RAMP. A walking surface that has a running slope steeper than one unit vertical in 20 units horizontal (5-percent slope).

(Source: IBC 2012, Section 202)

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Can a ramp be steeper than 1:12?

Sometimes ...

3411.8.5 Ramps. Where slopes steeper than allowed by Section 1010.2 are necessitated by space limitations, the slope of ramps in or providing access to existing facilities shall comply with Table 3411.8.5.

**TABLE 311.8.5
RAMPS**

SLOPE	MAXIMUM RISE
Steeper than 1:10 but not steeper than 1:8	3 Inches
Steeper than 1:12 but not steeper than 1:10	6 Inches

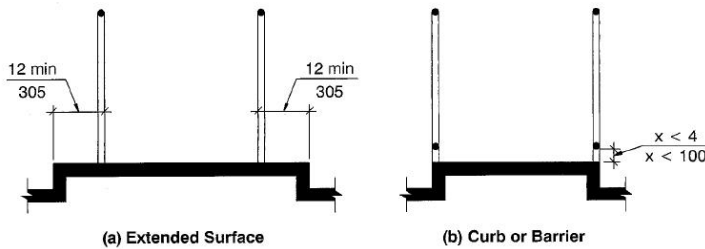
57



RAMP EDGE PROTECTION

No change for Connecticut. **But ...**

Previous partial conflict with ADAAG has been eliminated.



**Fig. 405.9
Ramp Edge Protection**

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STAIRS

No **functional** change for Connecticut. **But ...**

There is a change in emphasis. The following now has its own paragraph:

504.5.1 Visual contrast. The leading 2 inches (51 mm) of the tread shall have visual contrast of dark-on-light or light-on-dark from the remainder of the tread.

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STAIRS (Continued)

No other changes for Connecticut.

- **Risers still 4" min. and 7" max.**
- **Treads still 11" minimum**
- **Open risers still not permitted**
- **Nosings still 1½" max. & 30° max. from vertical**
- **Slope of treads still 1:45 max.**

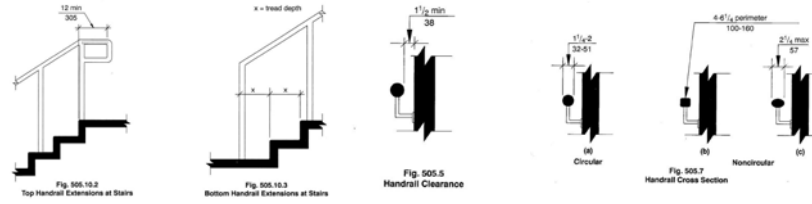
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HANDRAILS

No **functional** change for Connecticut.
(Some language changes for clarification.)

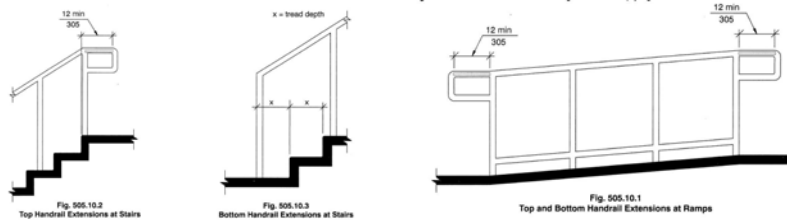
Same diagrams:



HANDRAIL EXTENSIONS

No change for Connecticut.

Same diagrams.





HANDRAIL EXTENSIONS (Continued)

505.10 Handrail Extensions. Handrails shall extend beyond and in the same direction of stair flights and ramp runs in accordance with Section 505.10.

EXCEPTIONS:

1. Continuous handrails at the inside turn of stairs and ramps.
2. Handrail extensions are not required in aisles serving seating where the handrails are discontinuous to provide access to seating ~~and to permit crossovers within the aisle.~~
3. In alterations, full extensions of handrails shall not be required where such extensions would be hazardous due to plan configuration.

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BUT ...

307 Protruding Objects

307.1 General. Protruding objects on circulation paths shall comply with Section 307.

307.2 Protrusion Limits. Objects with leading edges more than 27 inches (685 mm) and not more than 80 inches (2030 mm) above the floor shall protrude 4 inches (100 mm) maximum horizontally into the circulation path.

EXCEPTION: Handrails shall be permitted to protrude 4½ inches (115 mm) maximum.

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DOORS


No change for Connecticut.
 Same diagrams.

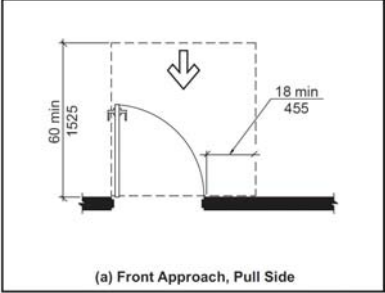
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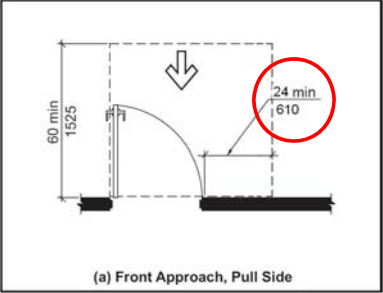
TABLE 404.2.3.2—MANEUVERING CLEARANCES AT MANUAL SWINGING DOORS

TYPE OF USE		MANEUVERING CLEARANCES AT DOOR	
Approach Direction	Door Side	Perpendicular to Doorway	Parallel to Doorway
From front	Pull	60 inches (1525 mm)	18 inches (455 mm)
From front	Push	48 inches (1220 mm)	0 inches (0 mm) ³
From hinge side	Pull	60 inches (1525 mm)	36 inches (915 mm)
From hinge side	Push	54 inches (1370 mm)	42 inches (1065 mm)
From hinge side	Push	42 inches (1065 mm) ¹	22 inches (560 mm) ^{3 & 4}
From latch side	Pull	48 inches (1220 mm) ¹	24 inches (610 mm)
From latch side	Push	42 inches (1065 mm) ²	24 inches (610 mm)

¹Add 6 inches (150 mm) if closer and latch provided.
²Add 6 inches (150 mm) if closer provided.
³Add 12 inches (305 mm) beyond latch if closer and latch provided.
⁴Beyond hinge side.

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(a) Front Approach, Pull Side


(a) Front Approach, Pull Side

A117.1 - 2009 Connecticut Amendment

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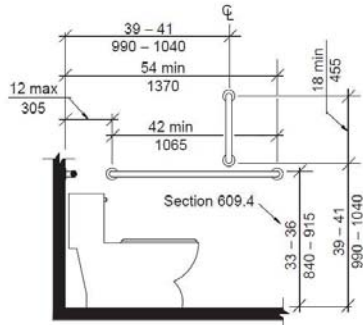


68

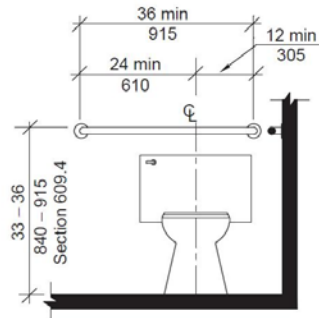


TOILET ROOMS AND BATHROOMS

Grab bar requirements for water closets remain the same:



Note: For children's dimensions see Fig. 609.4.2
FIG. 604.5.1
SIDE WALL GRAB BAR FOR WATER CLOSET



Note: For children's dimensions see Fig. 609.4.2
FIG. 604.5.2
REAR WALL GRAB BAR FOR WATER CLOSET

69



Connecticut still requires the additional swing-up (or swing-away) grab bar:

(Add) 1109.2.4 Additional grab bar. In addition to grab bars required by ICC/ANSI A117.1, a separate, additional swing grab bar shall be provided at a minimum of one accessible toilet location for each gender per floor within any non-exempt building. Such additional grab bar shall be located the same distance from the water closet centerline to the side grab bar, parallel to, opposite from, and at the same height as the side grab bar. The additional grab bar shall be floor mounted or wall mounted, and shall fix or latch firmly in place when in use. The mounting height of the required rear bar may be varied to coordinate with the swing grab bar. The swing grab bar shall be not less than 24 inches nor more than 36 inches in length, and shall be capable of swinging and storing against a wall or partition when not required.

Exception: Areas in Groups E, R-1, R-2, R-3 and I-3 not serving public and administrative functions.

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Is this okay?



71



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TOILET ROOMS AND BATHROOMS

- Public Toilet Rooms
- Public Locker Rooms and Showers
- Public Bathrooms (Hotels & Motels)
- Private Bathrooms (Dwelling Units)

72



PUBLIC TOILET ROOMS

603 Toilet and Bathing Rooms

603.1 General. Accessible toilet and bathing rooms shall comply with Section 603.

603.2 Clearances.

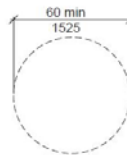
603.2.1 Turning Space. A turning space complying with Section 304 shall be provided within the room. The required turning space shall not be provided within a toilet compartment.

603.2.2 Door Swing. Doors shall not swing into the clear floor space or clearance for any fixture.



WHAT'S A TURNING SPACE IN SECTION 304?

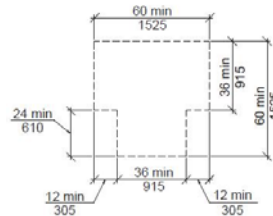
A 5-foot diameter turning circle:



(a) Circular

or

A T-shaped space:



(b) T-shaped

FIG. 304.3
SIZE OF TURNING SPACE



EACH FIXTURE HAS A REQUIRED CLEAR SPACE

305 Clear Floor Space

305.1 General. A clear floor space shall comply with Section 305.

305.2 Floor Surfaces. Floor surfaces of a clear floor space shall comply with Section 302. Changes in level are not permitted within the clear floor space.

EXCEPTION: Slopes not steeper than 1:48 shall be permitted.

305.3 Size. The clear floor space shall be 48 inches (1220 mm) minimum in length and 30 inches (760 mm) minimum in width.



Water closets are the exception.

Standard clear floor space:

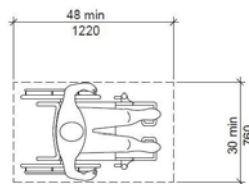


FIG. 305.3
SIZE OF CLEAR FLOOR SPACE

Water closet clear space:

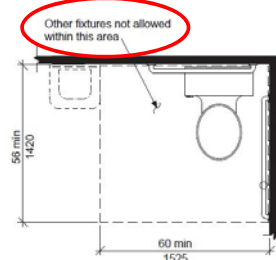


FIG. 604.3
SIZE OF CLEARANCE FOR WATER CLOSET



URINALS - The 2012 IPC requires privacy walls or screens between urinals:

(Amd) 405.3.5 Urinal partitions. Each urinal utilized by the public or employees shall occupy a separate area with walls or partitions to provide privacy. The walls shall begin at a height not greater the 12 inches (305 mm) from and extend not less than 60 inches (1524 mm) above the finished floor surface. The walls or partitions shall extend from the wall surface at each side of the urinal not less than 18 inches (457 mm) or to a point not less than 6 inches (152 mm) beyond the outermost front lip of the urinal measured from the finished backwall surface, whichever is greater.

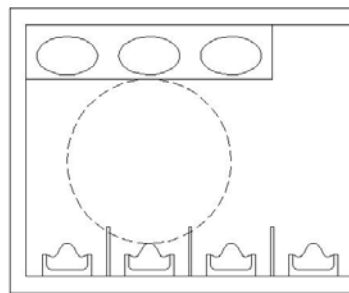
Exceptions:

1. Urinal partitions shall not be required in a single occupant or family/assisted-use toilet room with a lockable door.
2. Toilet rooms located in Educational Group E Kindergarten and day care occupancies, and in Institutional Group I-4 child day care and containing two or more urinals shall be permitted to have one urinal without partitions provided the toilet room is accessed through a door or other configuration to provide privacy.

77



This may affect the clear turning space within the toilet room.



78



SPACING MATCHES ACCESSIBLE CLEAR WIDTH:

[IPC] 405.3.1 Water closets, urinals, lavatories and bidets.

A water closet, urinal, lavatory or bidet shall not be set closer than 15 inches (381 mm) from its center to any side wall, partition, vanity or other obstruction, or closer than 30 inches (762 mm) center to center between adjacent fixtures. There shall be not less than a 21-inch (533 mm) clearance in front of the water closet, urinal, lavatory or bidet to any wall, fixture or door. Water closet compartments shall be not less than 30 inches (762 mm) in width and not less than 60 inches (1524 mm) in depth for floor-mounted water closets and not less than 30 inches (762 mm) in width and 56 inches (1422 mm) in depth for wall-hung water closets.

79



604.9 Wheelchair Accessible Compartments.

604.9.1 General. Wheelchair accessible compartments shall comply with Section 604.9.

604.9.2 Size. Toilet compartments shall comply with Section 604.9.2.1 or 604.9.2.2 as applicable.

604.9.2.1 Minimum area. The minimum area of a Wheelchair accessible compartment shall be 60 inches (1525 mm) minimum in width measured perpendicular to the side wall, and 56 inches (1420 mm) minimum in depth for wall hung water closets, and 59 inches (1500 mm) minimum in depth for floor mounted water closets measured perpendicular to the rear wall.

80



604.9.3 Doors. Toilet compartment doors, including door hardware, shall comply with Section 404, except if the approach is to the latch side of the compartment door clearance between the door side of the stall and any obstruction shall be 42 inches (1065 mm) minimum. 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. Toilet compartment doors shall not swing into the required minimum area of the compartment.

81

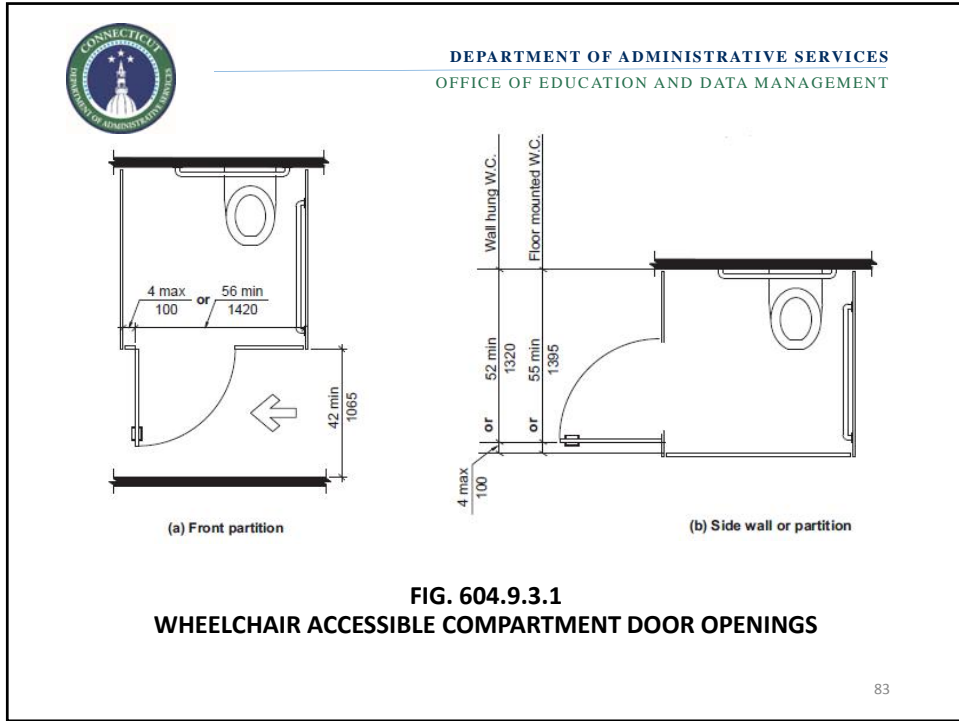



The following was taken out of the paragraph on doors and given its own sub-paragraph:

604.9.3.1 Door Opening Location. The farthest edge of toilet compartment door opening shall be located in the front wall or partition or in the side wall or partition as required by Table 604.9.3.1.

A117.1-2009 removed the text requirement for compartment door locations and referred us to diagrams

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AMBULATORY ACCESSIBLE COMPARTMENTS

1109.2.2 Water closet compartment. Where water closet compartments are provided in a toilet room or bathing room, at least one wheelchair-accessible compartment shall be provided. **Where the combined total water closet compartments and urinals provided in a toilet room or bathing room is six or more, at least one ambulatory accessible water closet compartment shall be provided in addition to the wheelchair-accessible compartment.**

(Source: IBC 2012)

84



604.10.1 General.
Ambulatory accessible compartments shall comply with Section 604.10.

604.10.2 Size. The minimum area of an ambulatory accessible compartment shall be 60 inches (1525 mm) minimum in depth and 36 inches (915 mm) in width.

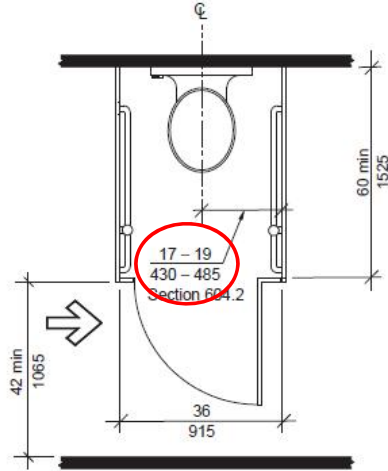


FIG. 604.10
AMBULATORY ACCESSIBLE COMPARTMENT

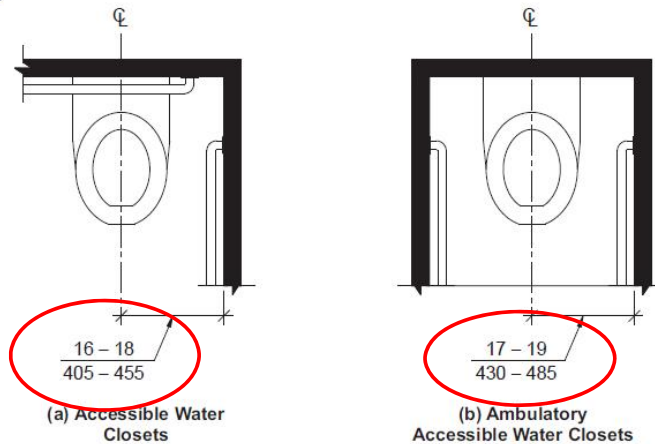
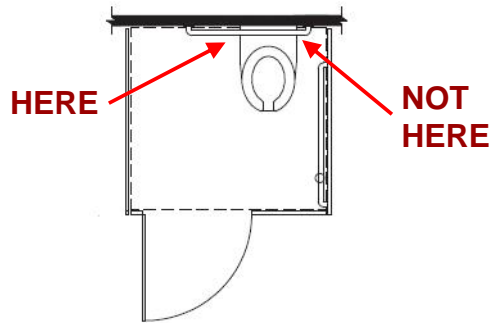


FIG. 604.2
WATER CLOSET LOCATION




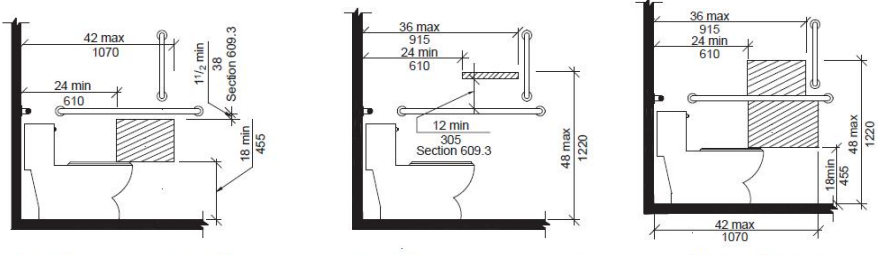
604.6 Flush Controls. Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with Section 309. **Flush controls shall be located on the open side of the water closet.**



TOILET PAPER DISPENSERS


604.7 Dispensers. Toilet paper dispensers shall comply with Section 309.4. Where the dispenser is located above the grab bar, the outlet of the dispenser shall be located within an area 24 inches (610 mm) minimum and 36 inches (915 mm) maximum from the rear wall. Where the dispenser is located below the grab bar, the outlet of the dispenser shall be located within an area 24 inches (610 mm) minimum and 42 inches (1065 mm) maximum from the rear wall. The outlet of the dispenser shall be located 18 inches (455 mm) minimum and 48 inches (1220 mm) maximum above the floor. Dispensers shall comply with Section 609.3. **Dispensers shall not be of a type that control delivery, or do not allow continuous paper flow.**

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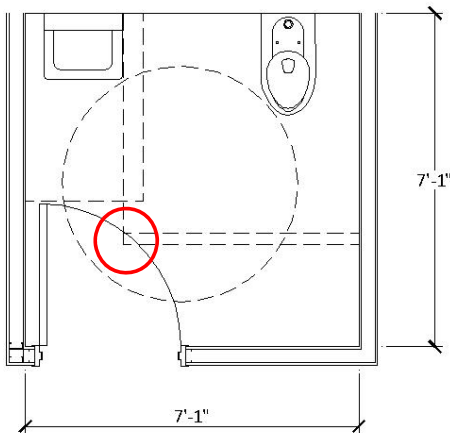


(a) Protruding Dispenser Below Grab Bar (b) Protruding Dispenser Above Grab Bar (c) Recessed Dispenser

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WHAT TYPE OF WATER CLOSET? (It matters)



7'-1"

7'-1"

90



In single-fixture or unisex toilet *rooms* ...

Clearances are general

91



604.3.1 Clearance width. Clearance around a water closet shall be 60 inches (1525 mm) minimum in width, measured perpendicular from the sidewall.

604.3.2 Clearance Depth. Clearance around the water closet shall be 56 inches (1420 mm) minimum in depth, measured perpendicular from the rear wall.

604.3.3 Clearance Overlap. The required clearance around the water closet shall be permitted to overlap the water closet, associated grab bars, paper dispensers, sanitary napkin receptacles, coat hooks, shelves, accessible routes, clear floor space at other fixtures and the turning space. No other fixtures or obstructions shall be within the required water closet clearance.

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BUT ...

Toilet *compartments* are different ...

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604.9.1 General. Wheelchair accessible compartments shall comply with Section 604.9.

604.9.2 Size. Toilet compartments shall comply with Section 604.9.2.1 or 604.9.2.2 as applicable.


604.9.2.1 Minimum area. The minimum area of a wheelchair accessible compartment shall be 60 inches (1525 mm) minimum in width measured perpendicular to the side wall, and 56 inches (1420 mm) minimum in depth for wall hung water closets, and 59 inches (1500 mm) minimum in depth for floor mounted water closets measured perpendicular to the rear wall.

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DON'T FORGET THE T-SHAPED TURNING AREA

95

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WHAT TYPE OF LAVATORY? (It matters)

96



306 Knee and Toe Clearance

306.1 General. Where space beneath an element is included as part of clear floor space at an element, clearance at an element, or a turning space, the space shall comply with Section 306. Additional space shall not be prohibited beneath an element, but shall not be considered as part of the clear floor space or turning space.

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306.2 Toe Clearance.

306.2.1 General. Space beneath an element between the floor and 9 inches (230 mm) above the floor shall be considered toe clearance and shall comply with Section 306.2.

306.2.2 Maximum Depth. Toe clearance shall be permitted to extend 25 inches (635 mm) maximum under an element.

306.2.3 Minimum Depth. Where toe clearance is required at an element as part of a clear floor space complying with Section 305, the toe clearance shall extend 17 inches (430 mm) minimum beneath the element.

98



306.3 Knee Clearance.

306.3.1 General. Space beneath an element between 9 inches (230 mm) and 27 inches (685 mm) above the floor shall be considered knee clearance and shall comply with Section 306.3.

306.3.2 Maximum Depth. Knee clearance shall be permitted to extend 25 inches (635 mm) maximum under an element at 9 inches (230 mm) above the floor.

306.3.3 Minimum Depth. Where knee clearance is required beneath an element as part of a clear floor space complying with Section 305, the knee clearance shall be 11 inches (280 mm) minimum in depth at 9 inches (230 mm) above the floor, and 8 inches (205 mm) minimum in depth at 27 inches (685 mm) above the floor.

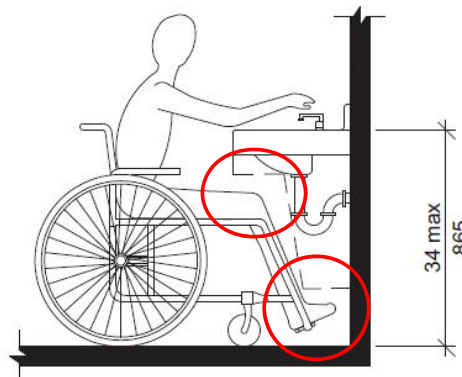


FIG. 606.3
HEIGHT OF LAVATORIES AND SINKS



SHOWERS

Two Types:

- **Transfer-type**
- **Roll-in**
 - **Standard**
 - **Alternate**

101



608.1 General. Accessible shower compartments shall comply with Section 608.

608.2 Size, clearance and seat. Shower compartments shall have sizes, clearances and seats complying with Section 608.2.

102



608.2.1 Transfer-type Shower Compartments.

Transfer-type shower compartments shall comply with Section 608.2.1.

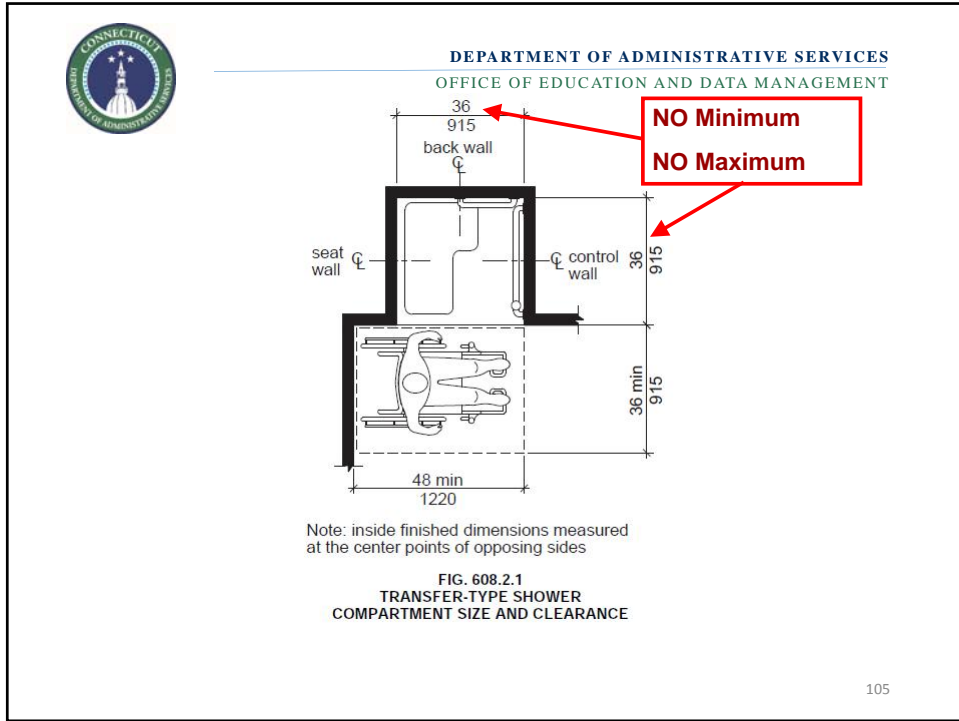
608.2.1.1 Size. Transfer-type shower compartments shall have a clear inside dimension of 36 inches (915 mm) in width and 36 inches (915 mm) in depth, measured at the center point of opposing sides. An entry 36 inches (915 mm) minimum in width shall be provided.

608.2.1.2 Clearance. A clearance of 48 inches (1220 mm) minimum in length measured perpendicular from the control wall, and 36 inches (915 mm) minimum in depth shall be provided adjacent to the open face of the compartment.



608.2.1.3 Seat. A folding or non-folding seat complying with Section 610 shall be provided on the wall opposite the control wall.

Exception: A seat is not required to be installed in a shower for a single occupant, accessed only through a private office and not for common use or public use, provided reinforcement has been installed in walls and located so as to permit the installation of a shower seat.



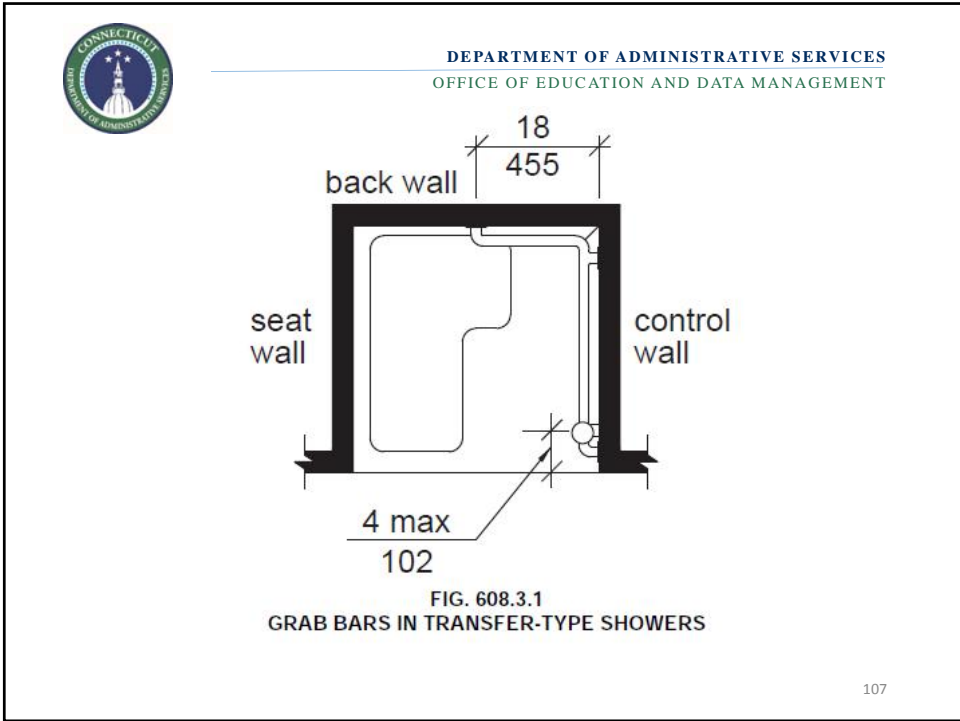
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608.3.1 Transfer-Type Showers. Grab bars for transfer type showers shall comply with Section 608.3.1.

608.3.1.1 Horizontal Grab Bars. Horizontal grab bars shall be provided across the control wall and on the back wall to a point 18 inches (455 mm) from the control wall.

608.3.1.2 Vertical Grab Bar. A vertical grab bar 18 inches (455 mm) minimum in length shall be provided on the control end wall 3 inches (75 mm) minimum and 6 inches (150 mm) maximum above the horizontal grab bar, and 4 inches (100 mm) maximum inward from the front edge of the shower.

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608.2.2 Standard Roll-in-type Shower

Compartments. Standard roll-in-type shower compartments shall comply with Section 608.2.2.

608.2.2.1 Size. Standard roll-in-type shower compartments shall have a clear inside dimension of 60 inches (1525 mm) minimum in width and 30 inches (760 mm) minimum in depth, measured at the center point of opposing sides. An entry 60 inches (1525 mm) minimum in width shall be provided.

108



608.2.2.2 Clearance. A clearance of 60 inches (1525 mm) minimum in length adjacent to the 60-inch (1525 mm) width of the open face of the shower compartment, and 30 inches (760 mm) minimum in depth, shall be provided.

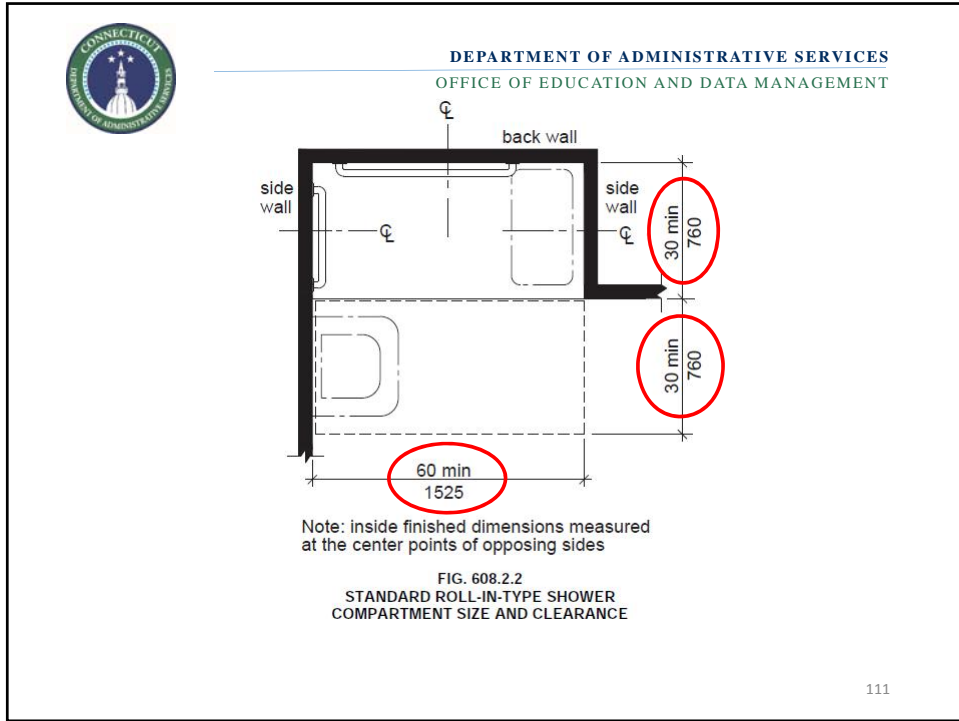
EXCEPTION: A lavatory complying with Section 606 shall be permitted at the end of the clearance opposite the seat.



608.2.2.3 Seat. A folding seat complying with Section 610 shall be provided on an end wall.

EXCEPTIONS:

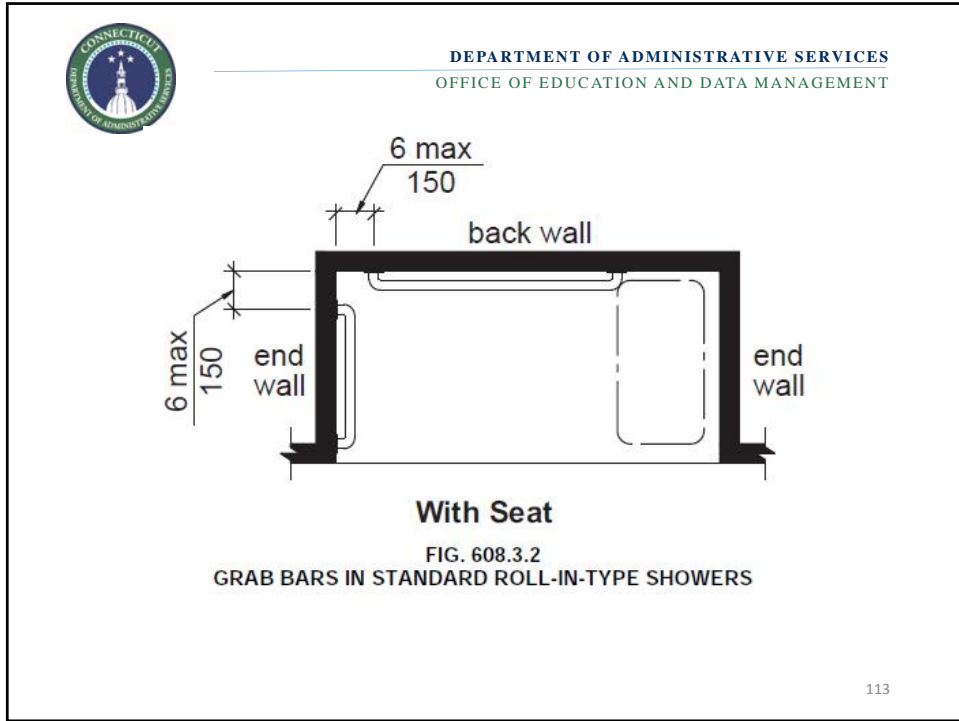
1. A seat is not required to be installed in a shower for a single occupant accessed only through a private office and not for common use or public use, provided reinforcement has been installed in walls and located so as to permit the installation of a shower seat.
2. A fixed seat shall be permitted where the seat does not overlap the minimum clear inside dimension required by Section 608.2.2.1.



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608.3.2 Standard Roll-in-Type Showers. 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 bars shall not be provided above the seat. The back wall grab bar shall extend the length of the wall but shall not be required to exceed 48 inches (1220 mm) in length. Where a side wall is provided opposite the seat within 72 inches (1830 mm) 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 but shall not be required to exceed 30 inches (760 mm) in length. Grab bars shall be 6 inches (150 mm) maximum from the adjacent wall.

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608.2.3 Alternate Roll-in-type Shower Compartments.
Alternate roll-in-type shower compartments shall comply with Section 608.2.3.

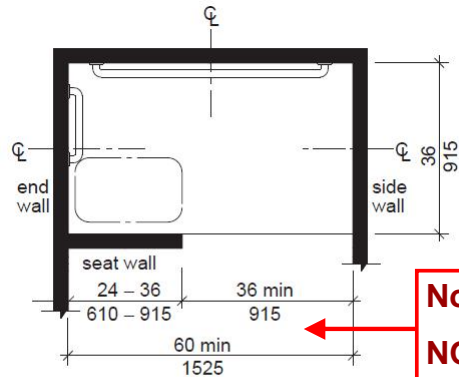
608.2.3.1 Size. Alternate roll-in shower compartments shall have a clear inside dimension of 60 inches (1525 mm) minimum in width, and 36 inches (915 mm) in depth, measured at the center point of opposing sides. An entry 36 inches (915 mm) minimum in width shall be provided at one end of the 60-inch (1525 mm) width of the compartment. A seat wall, 24 inches (610 mm) minimum and 36 inches (915 mm) maximum in length, shall be provided on the entry side of the compartment.

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608.2.3.2 Seat. A folding seat complying with Section 610 shall be provided on the seat wall opposite the back wall.

EXCEPTION: A seat is not required to be installed in a shower for a single occupant, accessed only through a private office and not for common use or public use, provided reinforcement has been installed in walls and located so as to permit the installation of a shower seat.



Note: inside finished dimensions measured at the center points of opposing sides

FIG. 608.2.3
ALTERNATE ROLL-IN-TYPE SHOWER
COMPARTMENT SIZE AND CLEARANCE

Note:
NO required clear space outside shower compartment



608.3.3 Alternate Roll-in-Type Showers. In alternate roll-in type showers, grab bars shall be provided on the back wall and the end wall adjacent to the seat. Grab bars shall not be provided above the seat. Grab bars shall be 6 inches (150 mm) maximum from the adjacent wall.

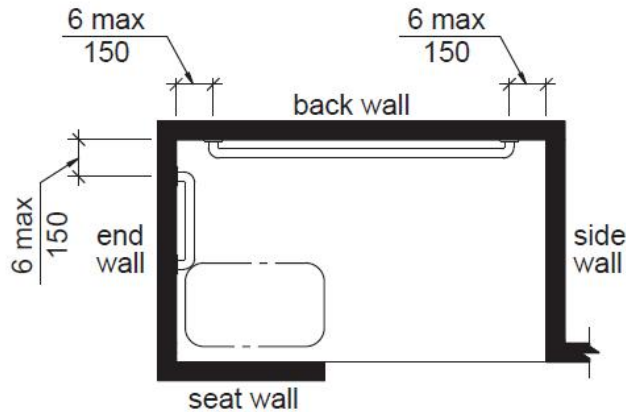


FIG. 608.3.3
GRAB BARS IN ALTERNATE ROLL-IN-TYPE SHOWERS



SHOWER CONTROLS

608.4 Controls and Hand Showers. Controls and hand showers shall comply with Sections 608.4 and 309.4.


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608.4.1 Transfer-Type Showers. In transfer-type showers, the controls and hand shower shall be located:

1. On the control wall opposite the seat.
2. At a height of 38 inches (965 mm) minimum and 48 inches (1220 mm) maximum above the shower floor, and
3. 15 inches (380 mm) maximum, from the centerline of the control wall toward the shower opening.

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IMPORTANT:

THIS WAS A CHANGE FROM A117.1-2003!

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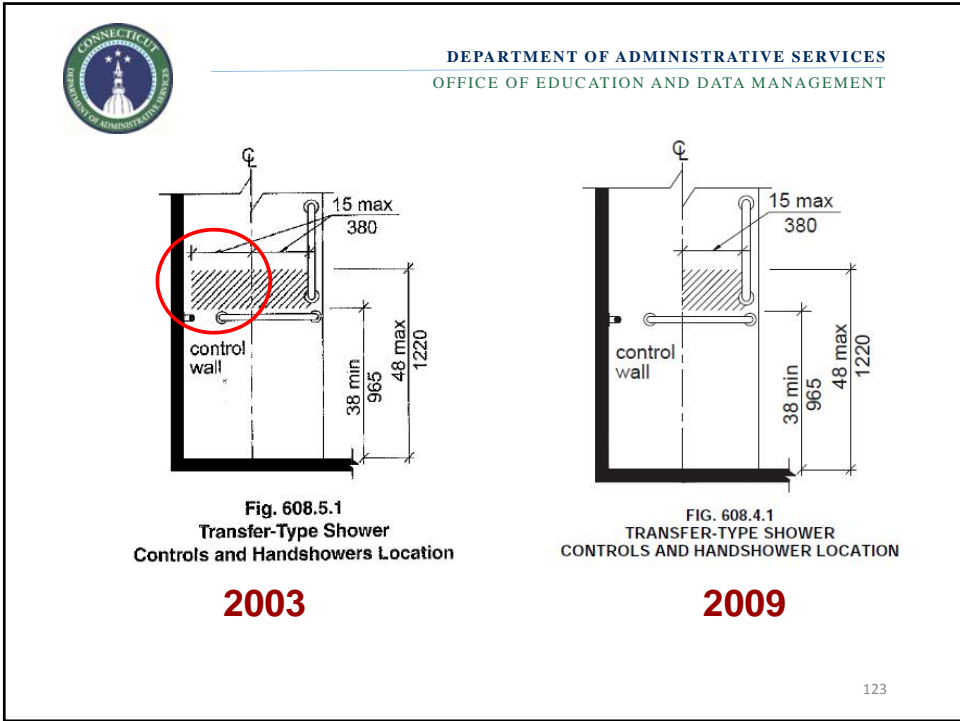



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OLD LANGUAGE:

608.5.1 Transfer-Type Showers. In transfer-type showers, the controls and hand shower shall be located on the control wall opposite the seat, 38 inches (965 mm) minimum and 48 inches (1220 mm) maximum above the shower floor, within 15 inches (380 mm), left or right, of the centerline of the seat.

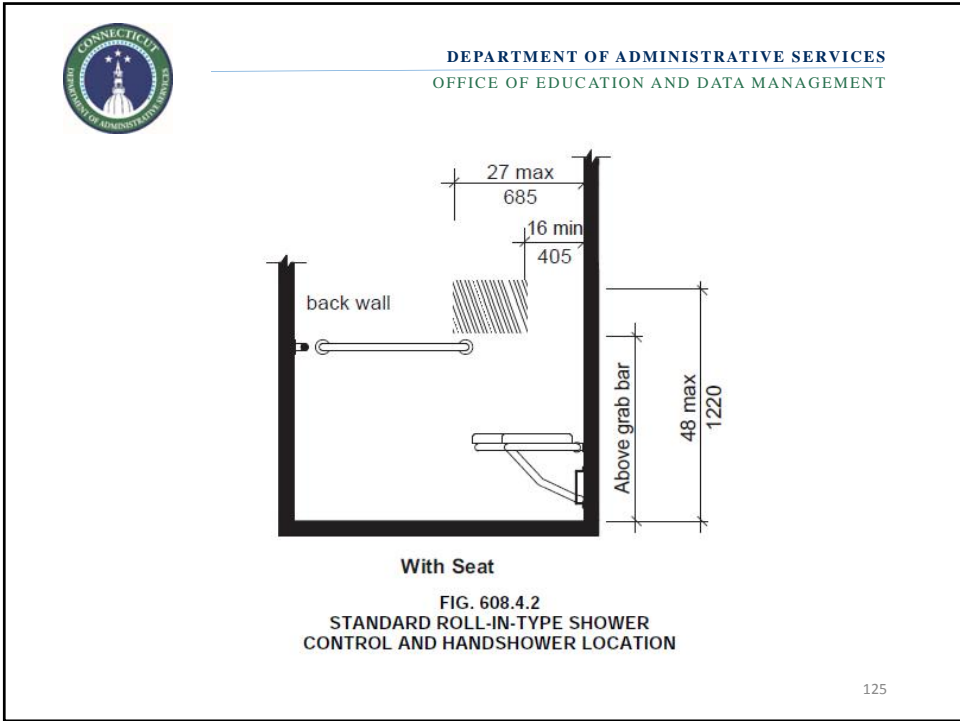
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608.4.2 Standard Roll-in Showers. In standard roll-in showers, the controls and hand shower shall be located on the back wall above the grab bar, 48 inches (1220 mm) maximum above the shower floor and 16 inches (405 mm) minimum and 27 inches (685 mm) maximum from the end wall behind the seat.

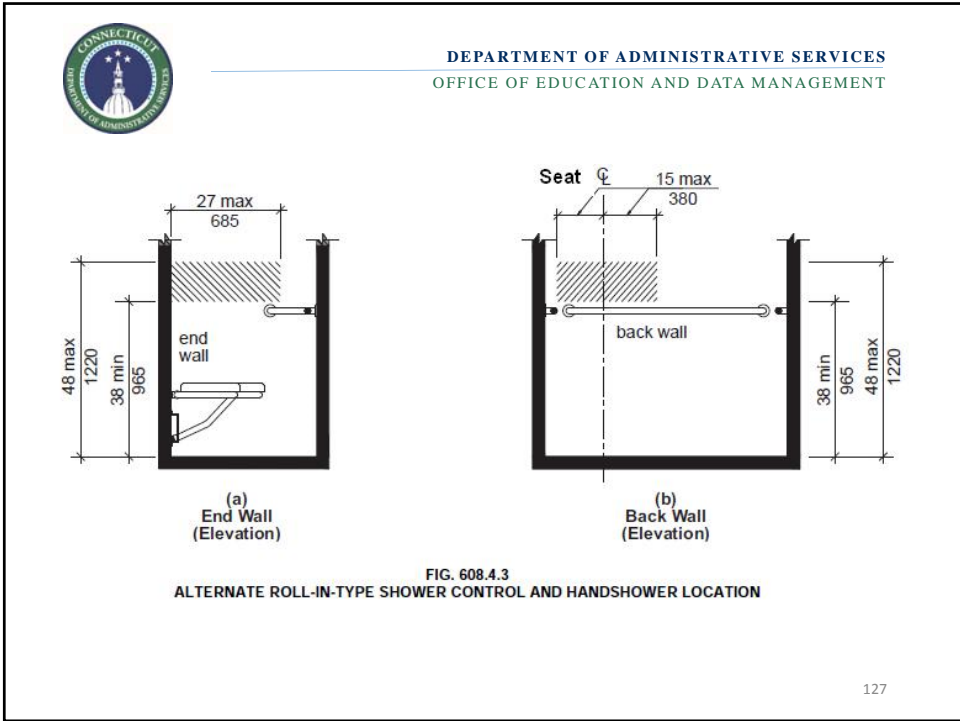
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608.4.3 Alternate Roll-in Showers. In alternate roll-in showers, the controls and hand shower shall be located 38 inches (965 mm) minimum and 48 inches (1220 mm) maximum above the shower floor. In alternate roll-in showers with controls and hand shower located on the end wall adjacent to the seat, the controls and hand shower shall be 27 inches (685 mm) maximum from the seat wall. In alternate roll-in showers with the controls and hand shower located on the back wall opposite the seat, the controls and hand shower shall be located within 15 inches (380 mm), left or right, of the centerline of the seat.

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BATHTUBS

Two Types:

- With permanent seats
- Without permanent seats

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607.1 General. Accessible bathtubs shall comply with Section 607.

607.2 Clearance. A clearance in front of bathtubs extending the length of the bathtub and 30 inches (760 mm) minimum in depth shall be provided. Where a permanent seat is provided at the head end of the bathtub, the clearance shall extend 12 inches (305 mm) minimum beyond the wall at the head end of the bathtub.

607.3 Seat. A permanent seat at the head end of the bathtub or a removable in-tub seat shall be provided. Seats shall comply with Section 610.

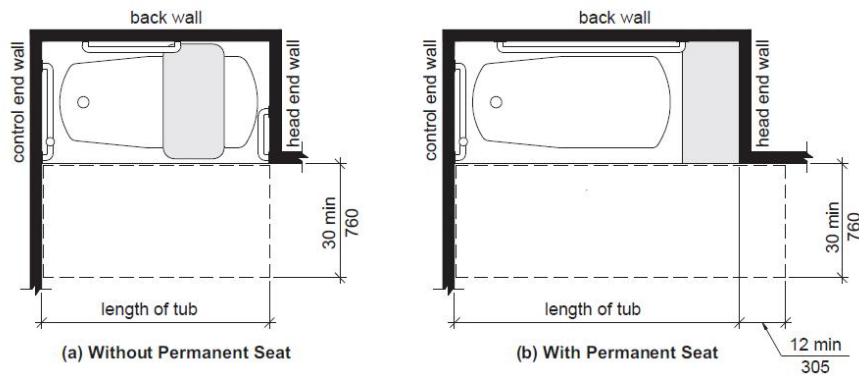


FIG. 607.2
CLEARANCE FOR BATHTUBS



607.4 Grab Bars. Grab bars shall comply with Section 609 and shall be provided in accordance with Section 607.4.1 or 607.4.2.

EXCEPTION: Grab bars shall not be required to be installed in a bathing facility for a single occupant accessed only through a private office and not for common use or public use, provided reinforcement has been installed in walls and located so as to permit the installation of grab bars complying with Section 607.4.



607.4.1 Bathtubs with Permanent Seats. For bathtubs with permanent seats, grab bars complying with Section 607.4.1 shall be provided.

607.4.1.1 Back Wall. Two horizontal grab bars shall be provided on the back wall, one complying with Section 609.4 and the other located 8 inches (205 mm) minimum and 10 inches (255 mm) maximum above the rim of the bathtub. Each grab bar shall be located 15 inches (380 mm) maximum from the head end wall and extend to 12 inches (305 mm) maximum from the control end wall.



607.4.1.2 Control End Wall. Control end wall grab bars shall comply with Section 607.4.1.2.

EXCEPTION: An L-shaped continuous grab bar of equivalent dimensions and positioning shall be permitted to serve the function of separate vertical and horizontal grab bars.

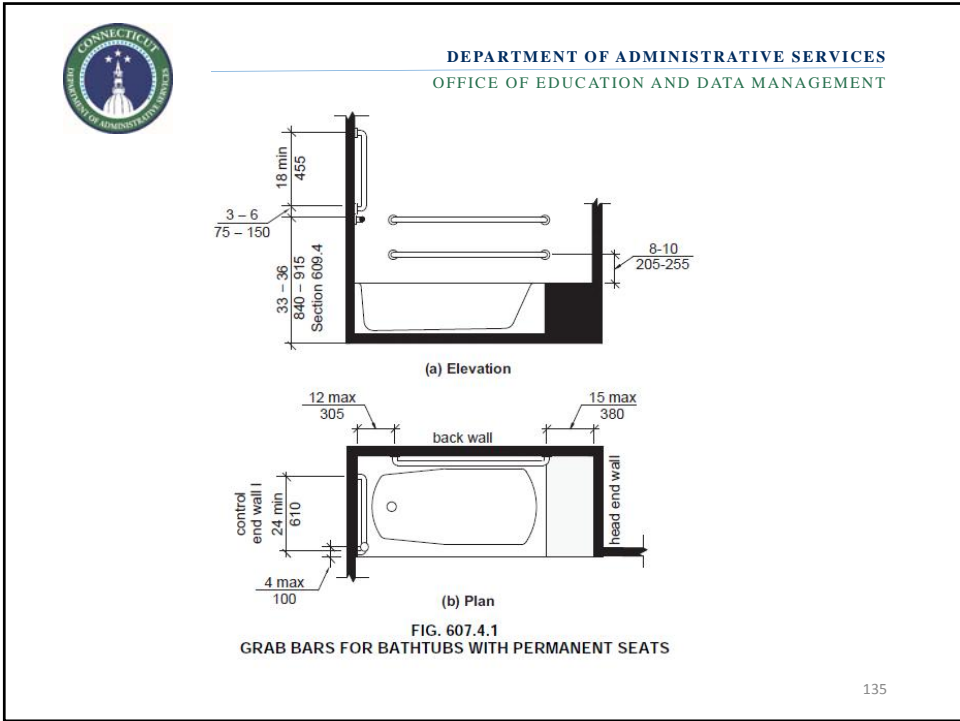
607.4.1.2.1 Horizontal Grab Bar. A horizontal grab bar 24 inches (610 mm) minimum in length shall be provided on the control end wall beginning near the front edge of the bathtub and extending toward the inside corner of the bathtub.

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607.4.1.2.2 Vertical Grab Bar. A vertical grab bar 18 inches (455 mm) minimum in length shall be provided on the control end wall 3 inches (75 mm) minimum and 6 inches (150 mm) maximum above the horizontal grab bar, and 4 inches (100 mm) maximum inward from the front edge of the bathtub.

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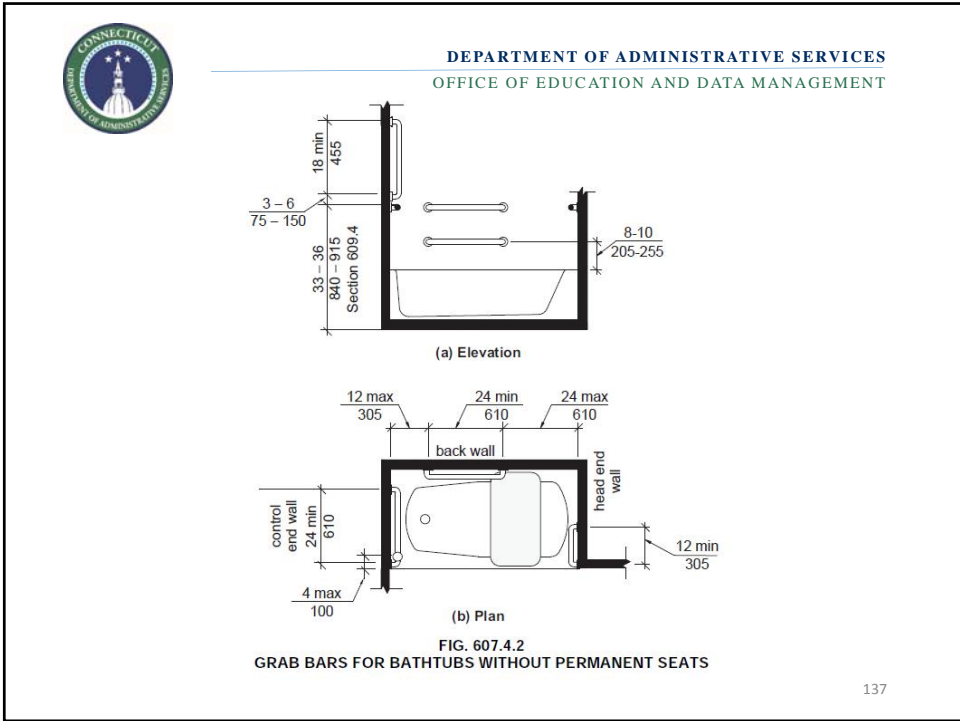
607.4.2 Bathtubs without Permanent Seats. For bathtubs without permanent seats, grab bars complying with Section 607.4.2 shall be provided.

607.4.2.1 Back Wall. Two horizontal grab bars shall be provided on the back wall, one complying with Section 609.4 and the other located 8 inches (205 mm) minimum and 10 inches (255 mm) maximum above the rim of the bathtub. Each grab bar shall be 24 inches (610 mm) minimum in length, located 24 inches (610 mm) maximum from the head end wall and extend to 12 inches (305 mm) maximum from the control end wall.

607.4.2.2 Control End Wall. Control end wall grab bars shall comply with Section 607.4.1.2.

607.4.2.3 Head End Wall. A horizontal grab bar 12 inches (305 mm) minimum in length shall be provided on the head end wall at the front edge of the bathtub

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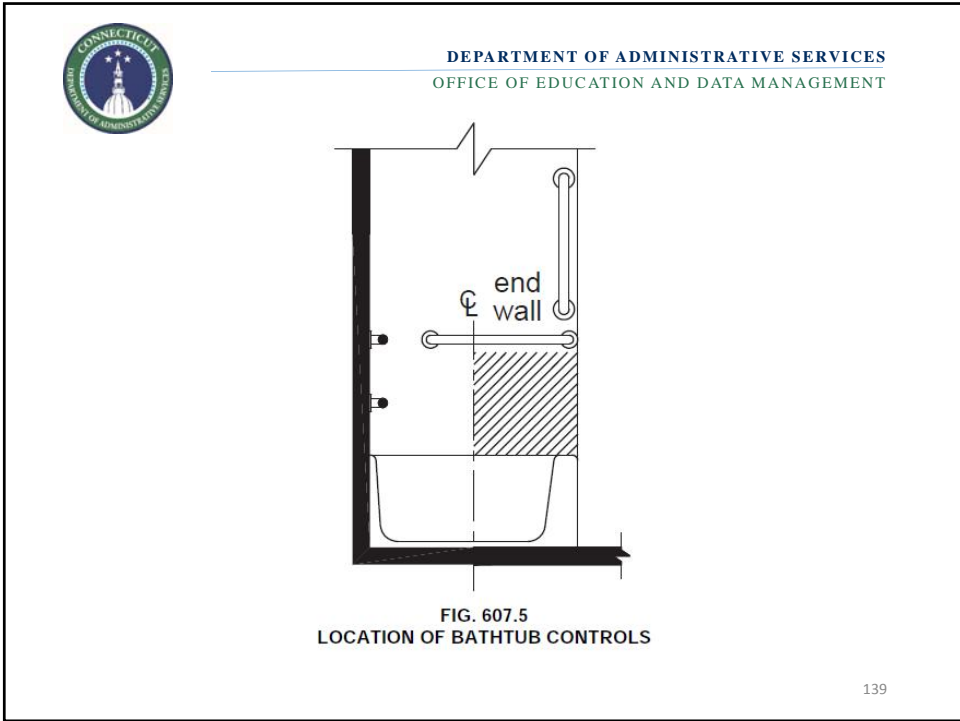
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BATHTUB CONTROLS

607.5 Controls. Controls, other than drain stoppers, shall be provided on an end wall, located between the bathtub rim and grab bar, and between the open side of the bathtub and the centerline of the width of the bathtub. Controls shall comply with Section 309.4.

607.6 Hand Shower. A hand shower with a hose 59 inches (1500 mm) minimum in length, that can be used as both a fixed shower head and as a hand shower, shall be provided. The hand shower shall have a control with a nonpositive shut-off feature. Where provided, an adjustable-height hand shower mounted on a vertical bar shall be installed so as to not obstruct the use of grab bars.

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NOTE:

A117.1 also includes alternate dimensions and grab bar mounting heights for toilet and bath rooms serving primarily children.

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HAD ENOUGH?

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FREE COMMENTARY

Not perfect, but better than nothing ...

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The 2010 ADA and ADAAG are available from the U.S. government free, on-line or for download to put on your own computer. The ADAAG portion includes sections of explanatory text.

<http://www.ada.gov/regs2010/2010ADAStandards/2010ADAStandards.pdf>



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TECHNICAL CHAPTER 6 PLUMBING ELEMENTS AND FACILITIES

604.5.2 Rear Wall. The rear wall grab bar shall be 36 inches (915 mm) long minimum and extend from the centerline of the water closet 12 inches (305 mm) minimum on one side and 24 inches (610 mm) minimum on the other side.

EXCEPTIONS: 1. The rear grab bar shall be permitted to be 24 inches (610 mm) long minimum, centered on the water closet, where wall space does not permit a length of 36 inches (915 mm) minimum due to the location of a recessed fixture adjacent to the water closet.
2. Where an administrative authority requires flush controls for flush valves to be located in a position that conflicts with the location of the rear grab bar, then the rear grab bar shall be permitted to be split or shifted to the open side of the toilet area.

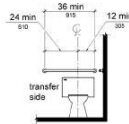


Figure 604.5.2
Rear Wall Grab Bar at Water Closets

604.6 Flush Controls. Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with 309. Flush controls shall be located on the open side of the water closet except in ambulatory accessible compartments complying with 604.8.2.

Advisory 604.6 Flush Controls. If plumbing valves are located directly behind the toilet seat, flush valves and related plumbing can cause injury or imbalance when a person leans back against them. To prevent causing injury or imbalance, the plumbing can be located behind walls or to the side of the toilet; or if approved by the local authority having jurisdiction, provide a toilet seat lid.

604.7 Dispensers. Toilet paper dispensers shall comply with 309.4 and shall be 7 inches (180 mm) minimum and 9 inches (230 mm) maximum in front of the water closet measured to the centerline of the dispenser. The outlet of the dispenser shall be 15 inches (380 mm) minimum and 48 inches (1220 mm) maximum above the finish floor and shall not be located behind grab bars. Dispensers shall not be of a type that controls delivery or that does not allow continuous paper flow.

Advisory 604.7 Dispensers. If toilet paper dispensers are installed above the side wall grab bar, the outlet of the toilet paper dispenser must be 48 inches (1220 mm) maximum above the finish floor and the top of the gripping surface of the grab bar must be 33 inches (840 mm) minimum and 36 inches (915 mm) maximum above the finish floor.



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