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A collaborative program between the
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**The Session is Scheduled to begin at 2:30pm Eastern Time
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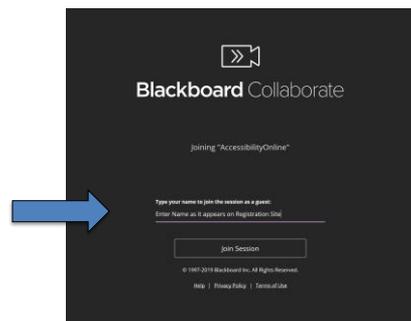


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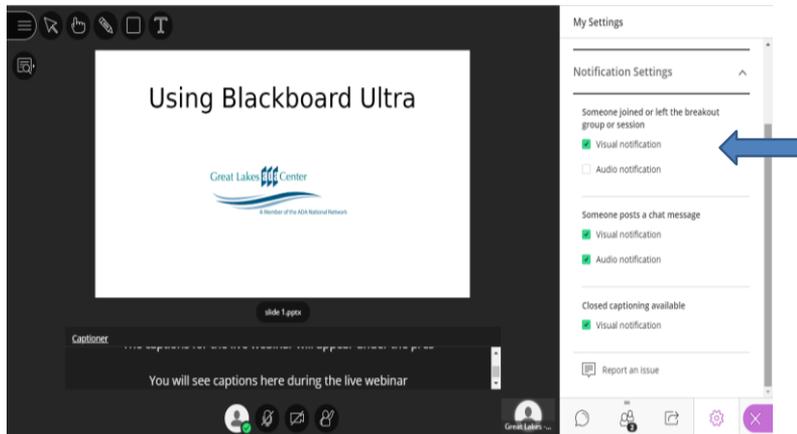


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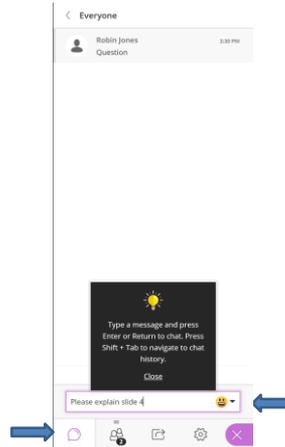
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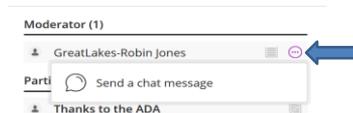
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Using the ADA & ABA Standards Series: Chapter 3 - Building Blocks

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Today's Presenters

U.S. Access Board



Juliet Shoultz, P.E

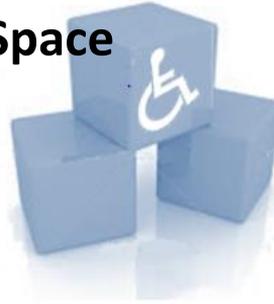


Bill Botten

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Session Agenda

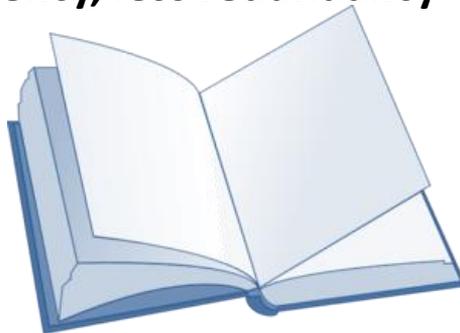
- **Floor & Ground Surfaces**
- **Changes in Level**
- **Turning Space**
- **Clear Floor or Ground Space**
- **Knee & Toe Clearance**
- **Protruding Objects**
- **Operable Parts**



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Chapter 3: Building Blocks

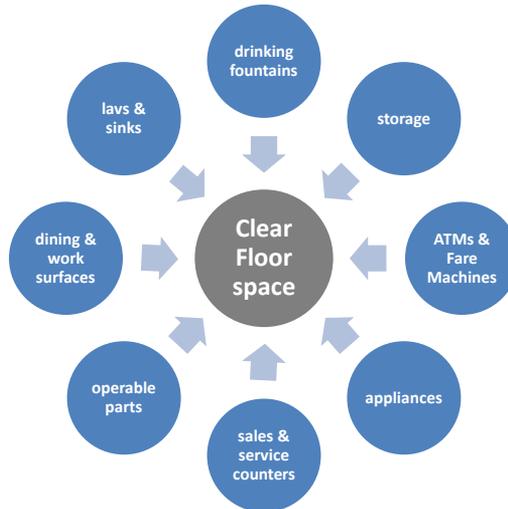
- **Basic specifications widely referenced throughout Standards**
- **Organized in one chapter for greater consistency, less redundancy**



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Chapter 3: Building Blocks

Example: clear floor space references



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Floor or Ground Surfaces §302

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Ground/ Floor Surfaces



Firm, stable, and “slip resistant”

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Slip Resistance

Slip resistance – minimum level (“coefficient of friction”) not specified



- **Standard practices for minimizing slipperiness often suffice**
- **Specify according to likely conditions (e.g. exposure to moisture)**

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Ground/ Floor Surfaces



Loose surface materials:

- Most do not comply unless properly treated (e.g., binders, consolidants, compaction, and grid forms)
- Repeated maintenance often required

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Surface Smoothness

**Surface smoothness –
changes in level**

**Recommendation: Avoid
rough surfaces composed
of cobblestones, Belgian
blocks, etc. = difficult/
painful to traverse**



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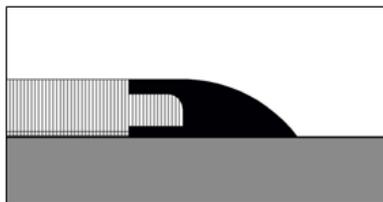
Carpet

- **1/2" max. pile height (measured to the backing, cushion, or pad)**
- **Texture: level or textured loop, level cut pile, or level cut/uncut pile**
- **Firm backing, cushions, pads**
(avoid cushions/ pads for greater firmness)
- **firm securement, edging**

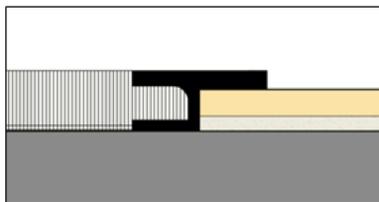
23

Carpet

Trim required along exposed edges – must be fastened to the floor to prevent curling and meet changes in level specifications.



**1/2" max height,
1:2 max beveled edge**



**1/4" max high - vertical
edge permitted**

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Carpet



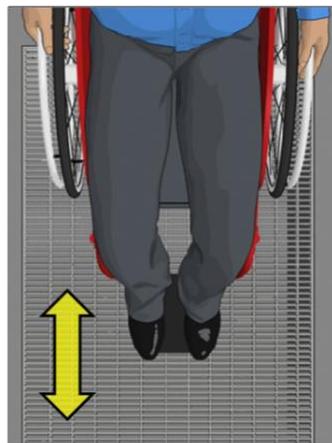
Securement/attachment to prevent rolling or buckling (which makes maneuvering difficult)

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Openings

½" max. in one dimension

**Long dimension =
perpendicular to travel
direction**



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Recreational/Play Area Surfaces

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Sports facilities

- **Area of sport activity** = That portion of a room or space where the play or practice of sport occurs
- **Accessible route to each area of sport activity**
- **Exempt from firm, stable, and slip resistant surface provision**



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Play area surface referenced standards



- **ASTM F 1487-01** - Standard Consumer Safety Performance Specification for Playground Equipment for Public Use.
- **ASTM F 1292- 99 or 04** - Standard Specification for Impact Attenuation of Surfacing Materials Within the Use Zone of Playground Equipment.
- **ASTM F 1951-99** - Standard Specification for Determination of Accessibility of Surface Systems Under and Around Playground Equipment
- Use of “Equivalent facilitation” for more recently published versions of these standards

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Longitudinal Study on Playground Surfaces

Surfacing the Accessible Playground

7 Things Every Playground Owner Should Know About the Accessibility of Their Playground Surfaces

2014 A publication of the U.S. Access Board and the National Center on Accessibility

- 1 Start with comprehensive planning and site selection.
- 2 Follow the Accessibility Standards for Play Areas.
- 3 Review the research findings about accessibility issues for play surfaces.
- 4 Assess during the planning, installation and maintenance phases.
- 5 Compare surface options.
- 6 Recognize that proper installation of play surface systems is key.
- 7 Commit to ongoing maintenance of accessible playground surfaces as a responsibility of ownership.

Selecting an Accessible Play Surface Is One of the Most Important Decisions

The U.S. Census Bureau's American Community Survey (2011) estimates there to be 2.8 million school-aged children with disabilities in the United States. The Census Bureau (2009) estimates that one in every seven American families is affected by disability. For children with and without disabilities, the community playground can facilitate a positive environment for physical activity and inclusion. Today, lack of physical activity is considered one of the leading factors contributing to poor health among children. The neighborhood playground fulfills a critical role in community wellness, enabling children to play with friends and burn calories at the same time.

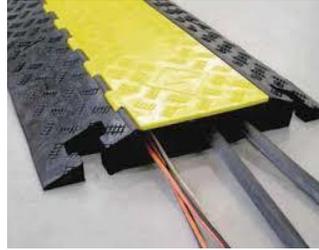
When the playground has barriers prohibiting use by a child with a disability, the opportunity for play and physical activity is lost. Inaccessible surfaces can pose barriers for children with disabilities who may use canes, crutches, walkers or wheelchairs from ambulating through the play area. Pushing a wheelchair over loose gravel or sand requires tremendous physical effort. When so much effort is exerted, little to no energy is left for play.

The presence of physical barriers can prevent children with disabilities from accessing all play elements on the playground. Most significantly, inclusive play between children with disabilities and children without disabilities is threatened when the playground does not have accessible equipment and surfaces. Physical barriers also prohibit adult caregivers with disabilities from engaging with their children and/or responding when a child is in need of assistance.

Recreation professionals and playground owners are confronted with questions of how to install and maintain safe and accessible public playgrounds that are fun, promote inclusion and physical activity; are cost effective and able to withstand a full life cycle of public use.

Choosing play surfaces that are accessible and that can be maintained as accessible surfaces, become one of the most important decisions during the playground planning and design phases. The purpose of this guide is to provide practical information that every public playground owner should know about the accessibility of their playground surfaces.

Temporary Facilities



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Changes in Level §303

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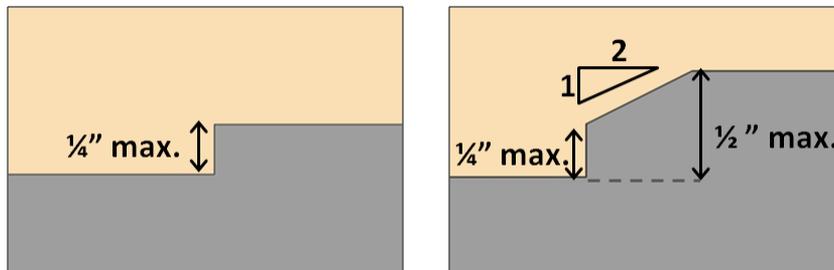
Changes in Level



Apply to all level changes along accessible routes, including thresholds

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Changes in Level



1/4" max. – no treatment

1/2" max. – 1:2 max. bevel

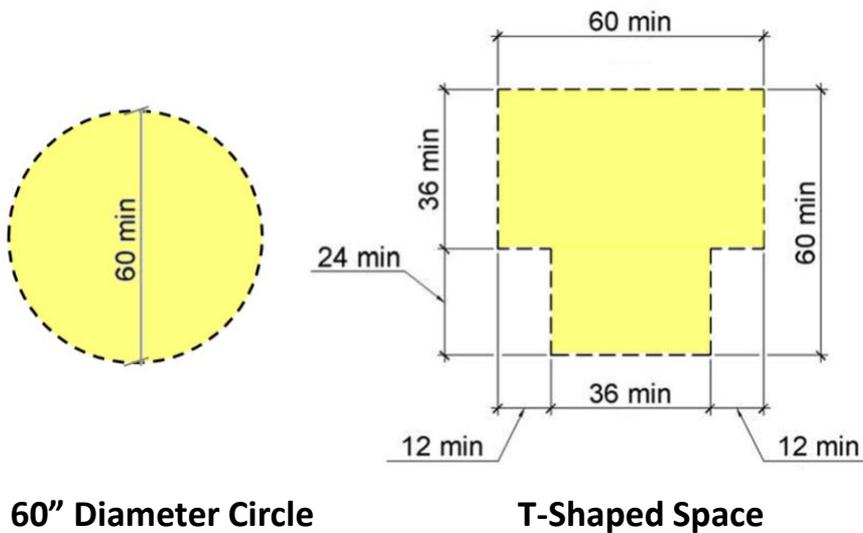
> 1/2" – treatment as ramp/ other means of vertical access

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Turning Space §304

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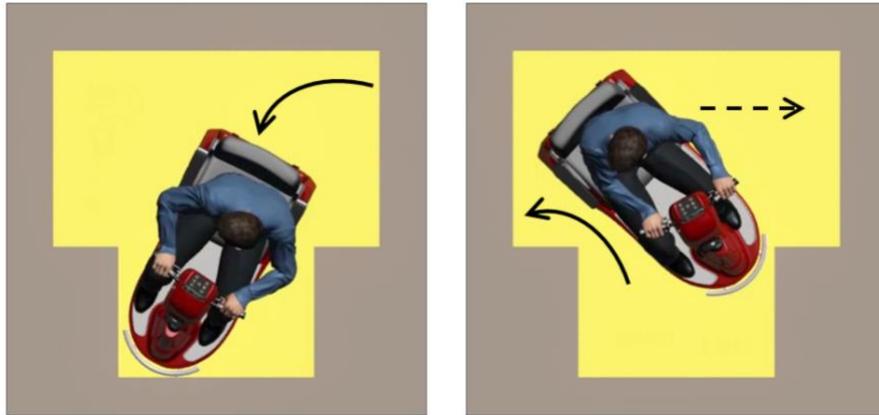
Turning Space



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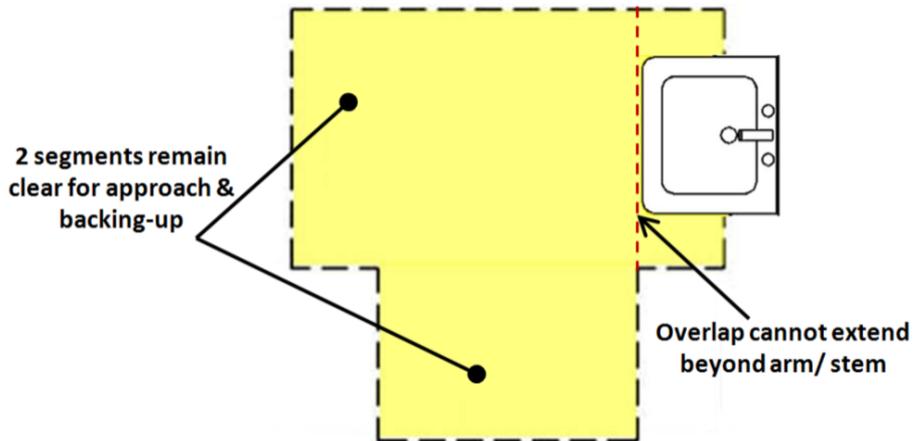
Turning Space

T-shaped space



37

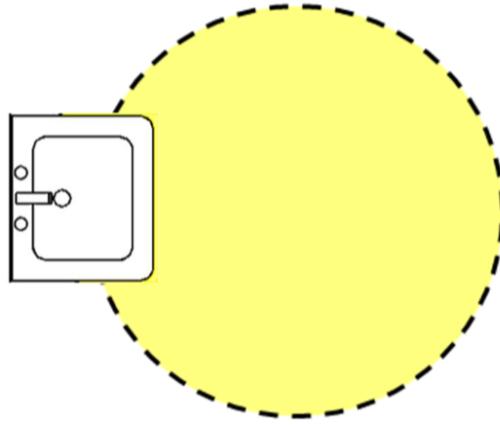
Overlap of Turning Space



Elements with knee/toe space can overlap either 1 arm or stem

38

Overlap of Turning Space

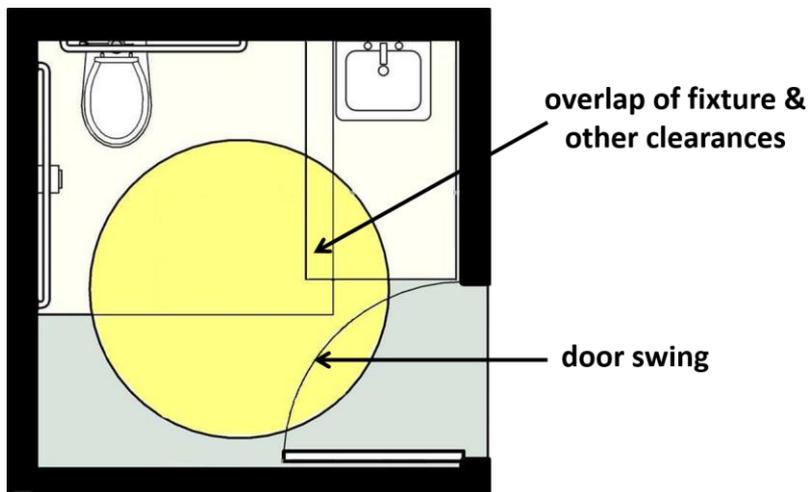


Overlap of circular space (25" max)

Recommended: avoid any overlap or limit to approximately 12" (wheelchair space remains clear)

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Turning Space



Turning space can overlap other clearances; door can swing into turning space

40

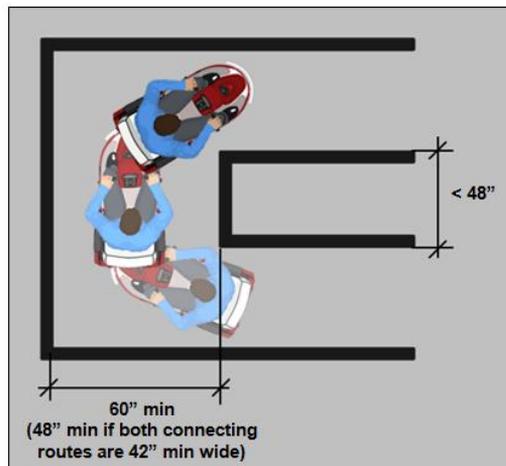
Where Turning Space is Required

- Toilet/ bathing facilities
- Dressing/ fitting/ locker rooms
- Transient lodging guest rooms
- Dwelling units (all rooms on accessible routes)
- Patient bedrooms
- Holding and housing cells
- Saunas and steam rooms
- Courtrooms (raised stations served by ramps)
- Certain recreation spaces



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Where Turning Space is Required



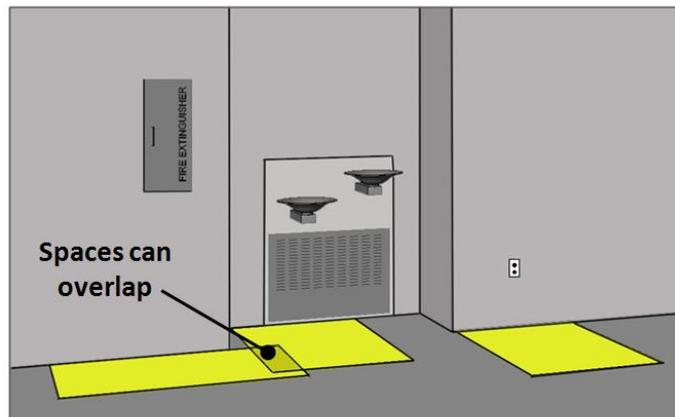
Required at 180 degree turns around obstructions less than 48" long (unless route at least 42" wide)

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Clear Floor or Ground Space §305

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Clear Floor/ Ground Space



Clear floor space required at operable parts and other accessible elements (e.g., drinking fountains, lavatories and sinks, counters, dining/ work surfaces, etc)

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Clear Floor/ Ground Space



Forward Approach:

Required at dining/ work surfaces, DFs, lavatories, most sinks, urinals



Side Approach:

Specified/ usually provided at sales & service counters, beds, and most appliances

Either approach allowed at other elements

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Size/ Centering



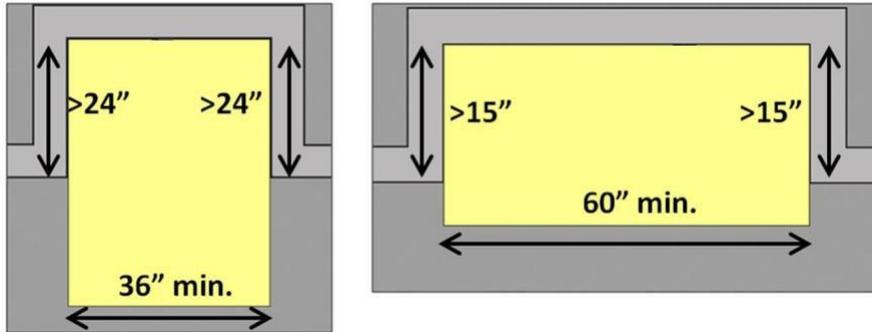
**Minimum size:
30" x 48"
(unconfined)**



**Centering = required at only certain elements:
DFs, kitchen work surfaces, washers & dryers**

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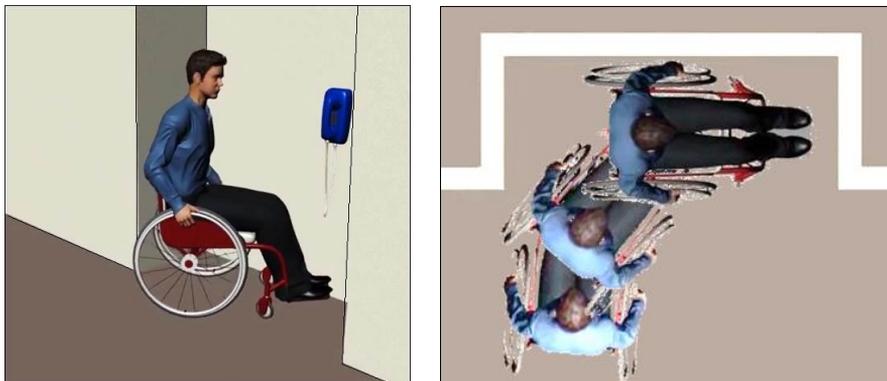
Size (Confined)



**Additional clearance where space confined on 3 sides
(and more than half of space depth confined)**

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Side Approach



Parallel approach to element in alcove

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Knee and Toe Clearance §306

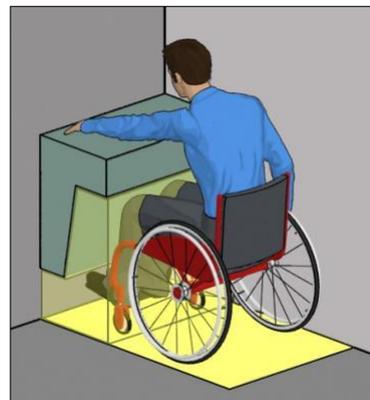
49

Knee & Toe Space

Elements providing knee/ toe clearance can overlap space;
can help reduce reach to operable parts



Toe Space



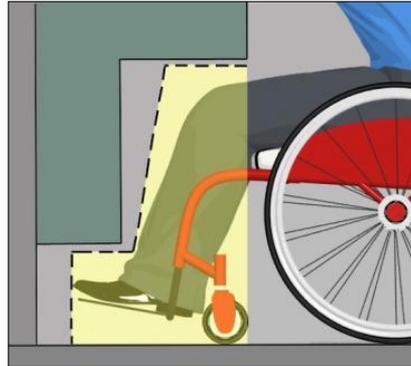
Knee & Toe Space

50

Knee & Toe Space

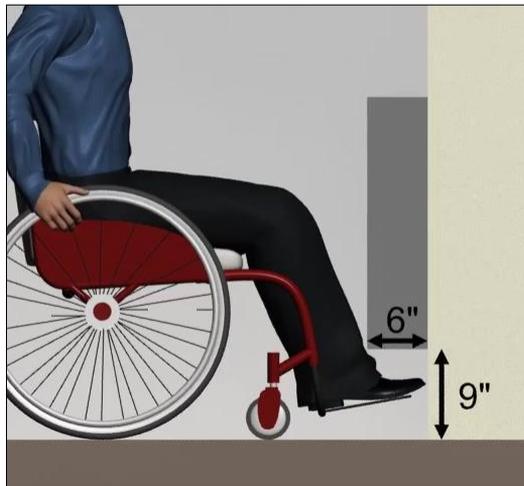
Required at :

- drinking fountains
- lavatories & most sinks
- dining/ work surfaces
- sales & service counters providing forward approach



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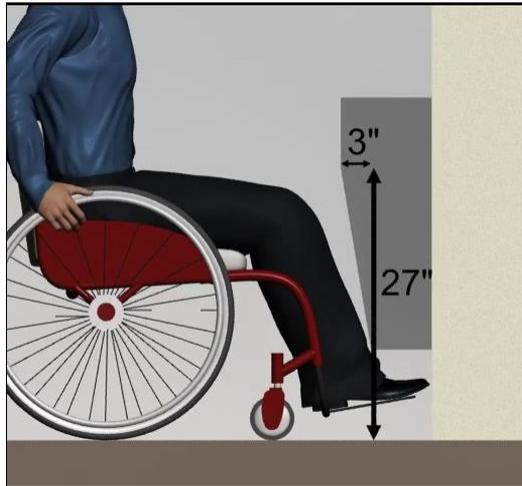
Knee & Toe Space



Toe space

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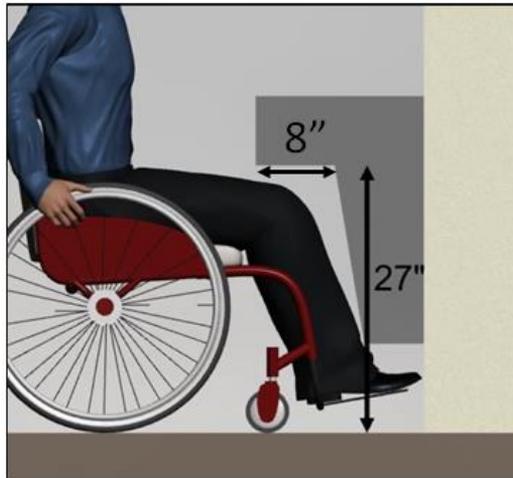
Knee & Toe Space



Beyond toe space, clearance increases from 9" to 27" min. high over 3" span (6:1 slope)

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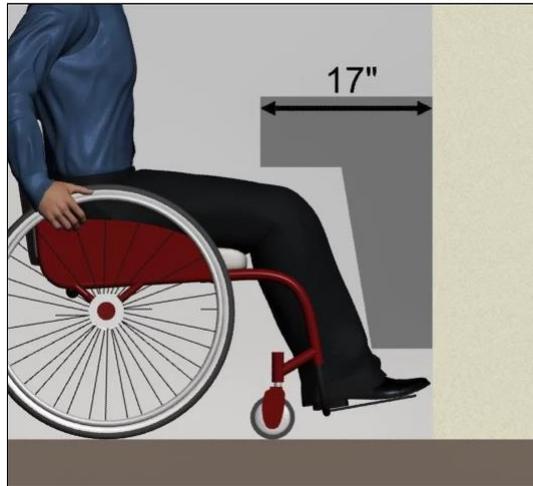
Knee & Toe Space



Knee Space (8" deep min. where knee space required)

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Knee & Toe Space



Required knee & toe space must be at least 17" deep

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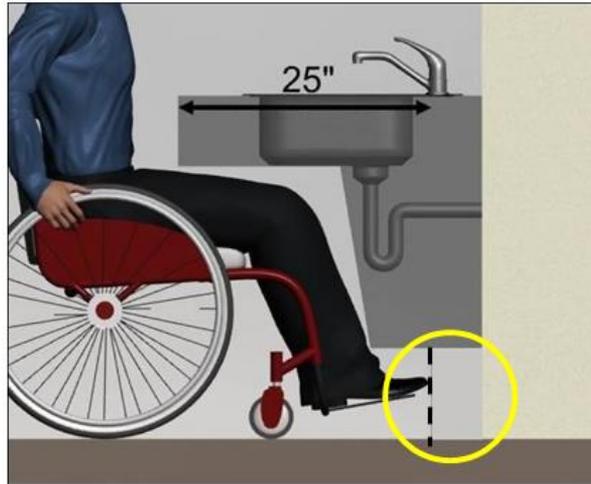
Knee & Toe Space



Additional depth must provide 27" min. clearance for knees

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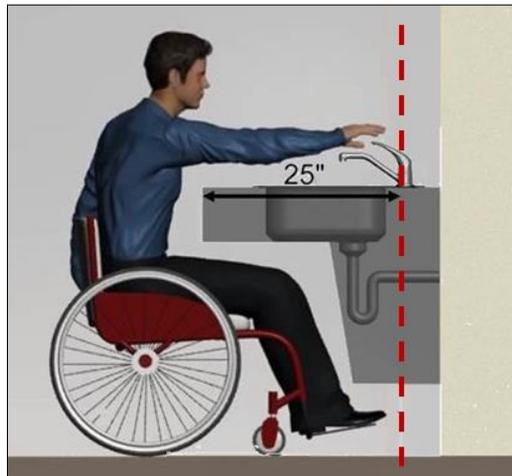
Knee & Toe Space



Space beyond 25" depth is not usable

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Knee & Toe Space

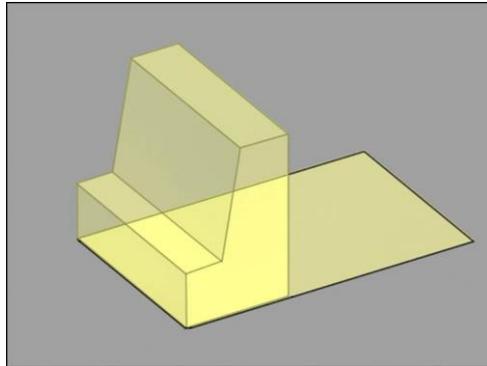


Obstructed reach cannot exceed depth of usable
knee & toe space – also limited to 25" max

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Knee & Toe Space

No protrusions allowed into minimum knee & toe space
(other than dip of overflow at sinks)



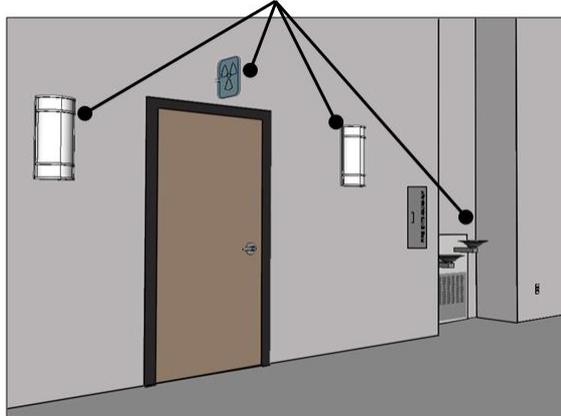
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Protruding Objects (§307)

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Protruding Objects

Examples of protruding objects

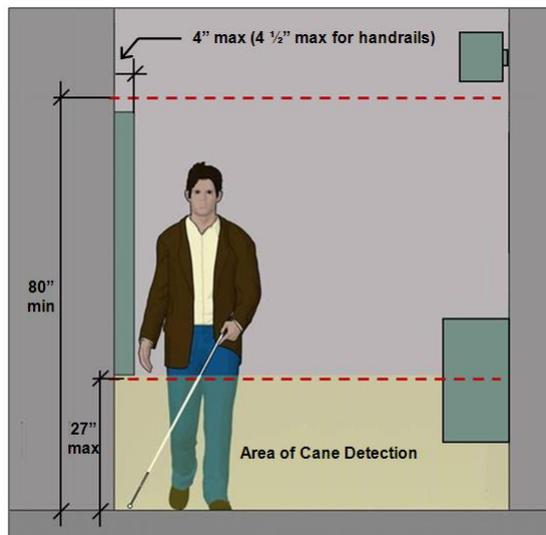


Protrusion limits apply to all areas of circulation
– not limited to accessible routes

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Protruding Objects

Apply to ALL circulation paths, not just ARs



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Protruding Objects

Drinking Fountains

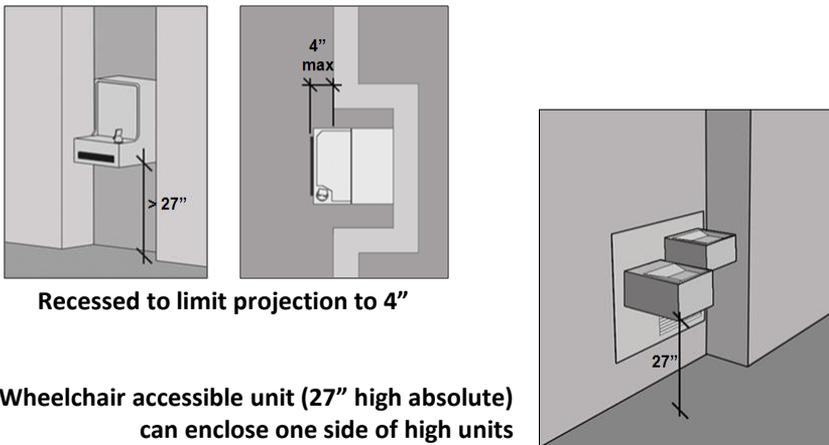


Elements often recessed to comply (e.g., drinking fountains at standard heights)

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Protruding Objects

Drinking fountains (leading edge above 27" AFF)



Recessed to limit projection to 4"

Wheelchair accessible unit (27" high absolute) can enclose one side of high units

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Protruding Objects

Post-mounted objects

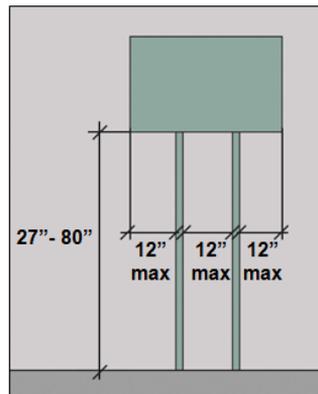
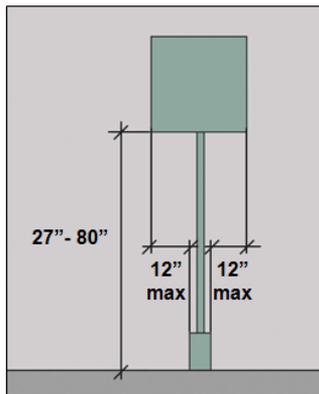


Protrusion limits also apply to objects mounted on posts

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Protruding Objects

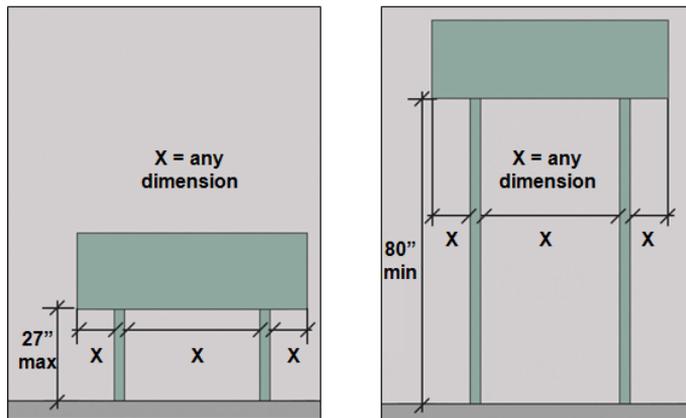
**Objects with leading edges 27" - 80" high on posts/ pylons:
12" max. protrusion into circulation paths.**



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Protruding Objects

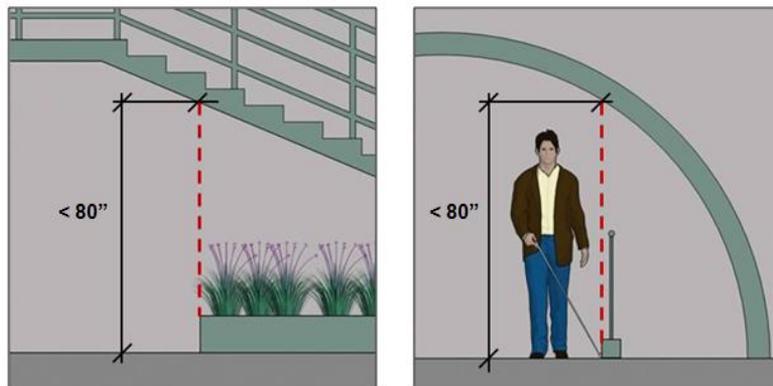
Post-mounted objects with leading edges 27" max or above 80" can protrude any amount



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Vertical Clearance

80" min. vertical clearance – guardrails or other barriers required where clearance < 80" (leading edge 27" high max.)



Reduced Clearance
Below Stairway

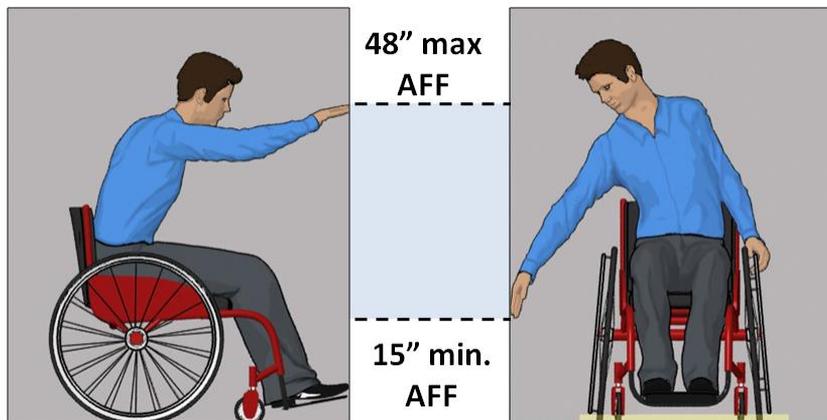
Clearance Reduced at
Curved (or Sloped Walls)

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Reach Ranges §308

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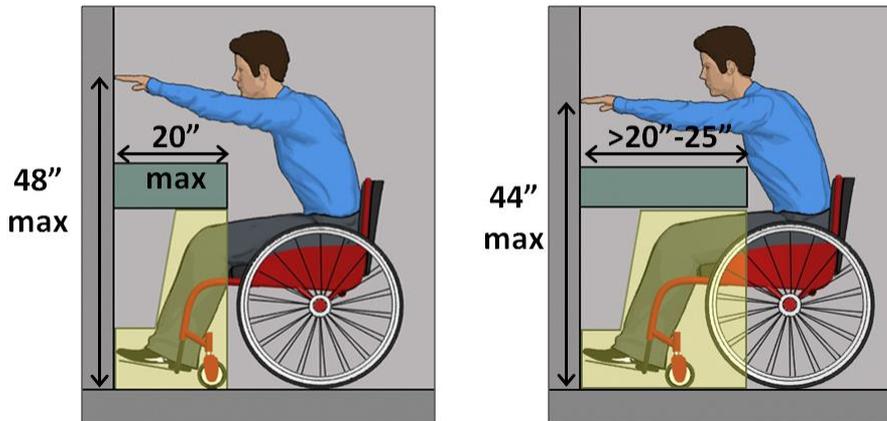
Reach Ranges



Unobstructed forward and side reaches

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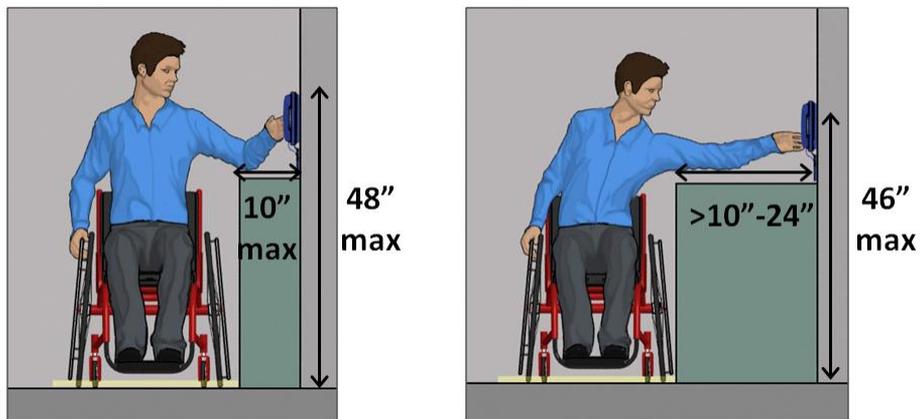
Forward Reach (Obstructed)



Obstructed reach: 44" max. if reach depth exceeds 20"

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Side Reach (Obstructed)

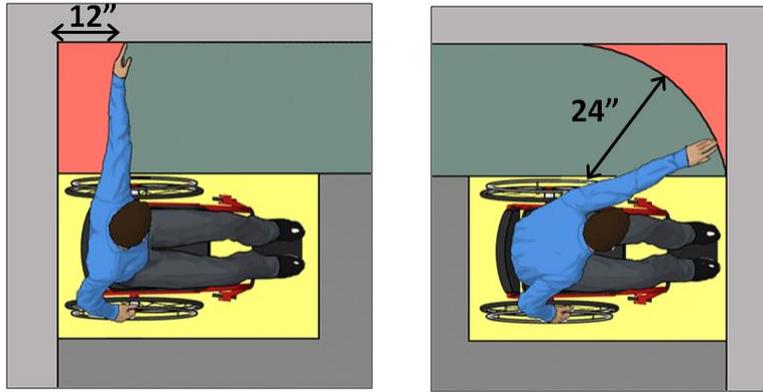


Obstructed reach: 46" max. if reach depth exceeds 10"

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Side Reach (Obstructed)

Recommendation: consider standard reach radius in locating operable parts accessed from side approach

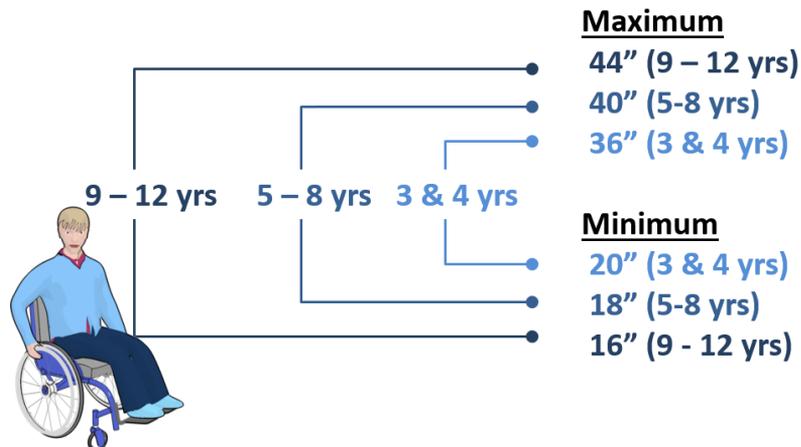


Elements in corners can be hard to reach from side approach

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Children's Reach Ranges

Advisory (non-mandatory): Forward & Side



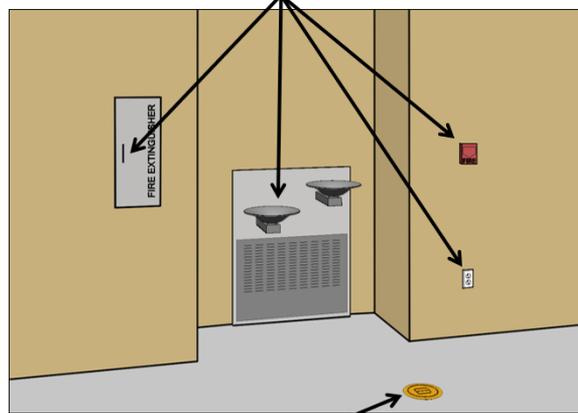
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Operable Parts §309

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Operable Parts (§205/ §F205)

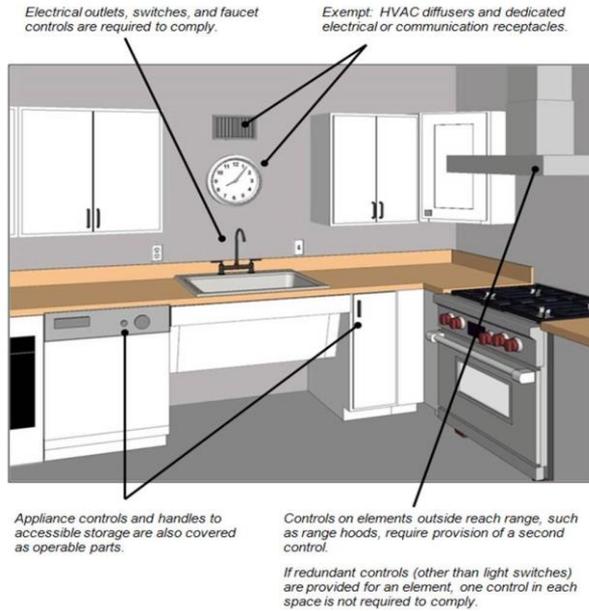
Examples



Exempt: floor receptacles & operable parts used only by service or maintenance personnel

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Operable Parts in Kitchens



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Operable Parts

- Operability
- Reach Range
- Accessible route
- Clear floor space



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Operability



- 1 hand operation
- No tight grasping, pinching, or twisting of wrist
- 5 lbf max.



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Operability

Recommended:

- Buttons - raised/flush (not recessed)
- No simultaneous action/ movement
- Hand or finger dexterity not required



**Not required to comply: non-fixed portions
(e.g., keys, access cards)**



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Technical Guides on the Standards Available on the Board's website



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Questions?

You May Type and Submit questions in the Chat
Area Text Box or press Control-M and enter text in
the Chat Area

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Continuing Education



AIA Provider Number: I017

AICP Provider Name: Great Lakes ADA Center

Course Title: Using the ADA and ABA Standards Series: Chapter 3: Building Blocks

Course Number: GL20200402

Date: April , 2014



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Questions will be addressed at the conclusion of this presentation.

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**Thank you for participating
in today's webinar**



**Next session:
May 7, 2020**



**USING THE ADA AND ABA STANDARDS SERIES:
CHAPTER 4: ACCESSIBLE ROUTES**

2:30 pm – 4:00 pm EST

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