

Accessibility: Multi-Family Buildings

Presented by Karen L. Braitmayer, FAIA
(August, 2012)



Course Description

AIA Learning Units: 1.0 hour (HSW)

This 60-minute video course provides a general overview of the various codes and standards that affect multifamily dwellings, including: the Fair Housing Act (FHA); the California Building Code (CBC); and the International Building Code (IBC along with the ICC A117.1). Design basics are covered and common errors are highlighted.

This course complies with California licensure requirements regarding accessibility and provides essential information about accessibility requirements applicable in most states.

This course was filmed in 2012 and reflects codes and standards in effect when the course was produced. As codes, standards and interpretations are subject to change, viewers should check current codes and standards with regards to accessibility. These include the California Building Code (CBC), the International Building Code (IBC along with the ICC A117.1) and the 2010 Americans with Disabilities Standards (2010 ADA). Viewers should also discuss specific circumstances with building code officials and with regulatory and other agencies that have jurisdiction over their specific projects.

About The Presenter

Karen is the principal and founder of Karen Braitmayer, FAIA, Ltd., an architectural consulting practice that focuses on accessibility and accessible design. As a registered architect she advises state agencies, local governments, institutions, school districts, design professionals, builders and owners on accessibility under applicable laws including the ADA and the Fair Housing Act. Over the past 18 years, Karen's consulting work has ranged from housing and commercial mixed-use to institutional and educational projects. Karen served as a member of the Washington State Building Code Council from 1994 to 2001 and continues to advise on the development of Washington State's accessibility code. Currently, she serves as a Presidential appointee on the United States Access Board.

Learning Objectives

1. Describe applicable multi-family accessibility codes and standards
2. Identify which units are covered in multi-family buildings relative to accessibility requirements
3. Compare Fair Housing Act (FHA), California Building Code (CBC) and International Building Code (IBC) accessible requirements for multi-family dwelling units
4. Understand common errors in the design of accessible multi-unit dwellings

Note to Transcript Readers:

This transcript is a verbatim reflection of the video narrative and is provided so that those with hearing impairments can follow the video course. As with many verbal presentations, verbatim translations do not always result in the same type of concise language as if the transcript was developed and presented as a technical document.

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CHAPTER ONE: INTRODUCTION

I'm Karen Braitmayer. The topic is Accessibility for Multi-Family Buildings. This is what you need to know.

There are lots of different codes and regulations that apply to multi-family buildings as they're built across the country. The Fair Housing Act is a federal regulation, the Americans with Disabilities Act, also federal, there are building codes, either model codes or those that are specific to your state or local jurisdiction, and then there's the Uniform Federal Accessibility Standards known as UFAS. Let's look at each one for a minute.

The Fair Housing Act is a federal civil rights law. It covers multi-family housing of four units or more. It uses specific design guidelines, the Fair Housing Act guidelines or FHAG, and enforcement is through HUD, not your local building official. So note that there are some codes, for example, the 2003 International Building Code, that are considered safe harbor documents under Fair Housing, and may be used as a substitute for the Fair Housing Act design guidelines.

The Americans with Disabilities Act, or ADA, also applies to some components of multi-family housing. This is also a federal civil rights law intending to prevent discrimination against people with disabilities in lots of areas, including employment, state and local government, public accommodations, telecommunications, and some other items. The ADA's Title II and III use the accessibility guidelines or the ADAG, and this document looks a lot like a building code, and has all the specifics in it of how to build a building that is accessible under the ADA. Sort of like Fair Housing Act, enforcement is by the US Department of Justice, a federal agency, not your local building official. So for both of these two federal laws complaints are investigated by the federal officials, not your local building official, and a sign-off by your building official, unfortunately, does not exempt you from requirements under both of these federal requirements. And also note that in March 15th of 2012, the new 2010 ADA became enforceable, which is a slightly revised version of the original which came out in 1991.

The International Building Code, a model code that's used in many states across the country, also covers multi-family buildings. This code's a little bit different in that it has scoping language that's covered in the IBC document. Chapter 11 is the primary section for accessibility, and it also uses a companion document known as the ICCA117.1, that provides the specifics of how to make something accessible. So, for example, if you're trying to figure out whether or not your multi-stall toilet rim needs an ambulatory accessible stall you would look in the IBC to see if it's required, and then you would look in the ICCA11.7.1 to see how to build it; how wide, how tall, whether it needs grab bars. And then as each state adopts this model code they may make modifications or amendments to one or both documents. So be cautious and careful that you're using not only the right addition, but also including all the state amendments to be sure that you're getting the most current state code. And, happily, this is enforced by your local building official. So that certainly does make it easier. And here in California, the California building code has two sections:

- Chapter 11A covers multi-family housing
- Chapter 11B is all the non-residential sections.

This makes it very easy to isolate exactly the sections that apply to your building type. Again, be sure that you check the current enforceable edition for your local jurisdiction, and know that it's enforced by your local building official.

Lastly, is the Uniform Federal Accessibility Standards, also known as UFAS, is the original federal design standard around accessibility, and it set the standards for accessible design and construction in federal and federally funded housing facilities. Until recently, the UFAS standards were used for all federally funded housing, such as that under the Department of Defense or GSA. Now, only projects funded by HUD used the UFAS standards. We hope that eventually they will be replaced with the 2010 Architectural Barriers Act or ABA Standards. These are comparable to the 2010 ADA, but the specific standards used for federally funded projects, and the Department of Defense and GSA have already adopted those. So we look forward to the days when that language is used for HUD as well.

Multiple regulations can apply within the same building. For example, lobbies or leasing offices in a multi-family apartment building are definitely covered by the local building code. They are public accommodations since the public is coming in to see whether or not they might want to lease an apartment. So they're covered by the ADA, and they're covered by Federal Fair Housing, because it's an amenity that supports the multi-family housing in the building. For example, the dwelling units are not covered by the ADA, they're covered by local code, and they're covered by the Fair Housing Act. So you have to sort of remember that different parts of the building may be covered by more than one regulation and different regulations.

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Diagrams from Chapter One

	Building Codes	2010 ADA	FHA	UFAS
Lobby/Leasing office	X	X	X	
Retail	X	X		
Dwelling units (Apt or Condo)	X		X	
Sleeping units (dorm)	X	X* (transient lodging)		X*
Lounge or Party rooms	X	X	X	

CHAPTER TWO: ACCESSIBLE BUILDINGS ON ACCESSIBLE ROUTES

So let's go over some of the areas that need to be accessible in multi-family buildings. Basically, you have to figure that we start with the assumption that everything needs to be accessible, and then you work back up with some exceptions. So you're going to have an accessible route from the site arrival points. That means if you have a bus stop on the edge of your property or a public sidewalk, you need an accessible route from the edge of your property to your facility. You need a route between buildings on a site. So if you have more than one apartment building or if you have a clubhouse, you would need an accessible route between those buildings. You need a route between elements required to be accessible, and that might include recreation areas, it might include the trash cans, it might include the mailboxes. You need accessible entries to the building whether it's multiple entries or if there's only one entry, and you need an accessible entry to individual covered units.

A covered multi-family dwelling under the California Building Code are dwelling units in buildings consisting of three or more dwellings or four or more condominiums. This is a little different than the Fair Housing Act or the International Building Code. Under the Fair Housing Act, covered multi-family dwellings are dwellings in buildings consisting of four or more dwellings regardless of leasing or ownership. A dwelling unit could include a single-family unit in a building with four or more units, it could also be an apartment, or it could be a room in which people sleep even if they share a kitchen or a bathroom, such as in a dormitory or transitional housing.

Covered multi-family dwellings that were built for first occupancy after March 13th, 1991, are supposed to be designed and constructed to have at least one building entrance on an accessible route. The only exception is if it's impractical to do that, because of a very steep terrain or other unusual characteristics of the site. The accessible entrance should not be the rear service entrance to a building. It should be a main entrance.

Covered multi-family dwellings subject to the Fair Housing Act Amendments describe buildings consisting of four or more dwellings if such buildings have one or more elevators. So if you have an elevator in the building, then all of the units are covered; all the floors and all the units. If you do not have an elevator in the building, then only the units on the level of the accessible entrance are covered. So that might be the ground floor or the first level. If an elevator serves other floors in the building, then the building becomes a building with one or more elevators, and the elevator must go to all the floors. So once you put an elevator in, it typically triggers going to all the levels. The only exception to that is if you have an elevator that connects below grade parking to a grade level, then that is not an elevator building, and only the grade level units are covered.

Some of the elements of an accessible entrance that I'd like to point out are having enough clear space around the entrance door for maneuvering clearance, and that that clear maneuvering space is level, both in slope in cross-slope. Other features that you see in this illustration include having a convenient place to put things down, a package shelf or a bench, so that you can relieve the burden of packages in order to unlock the door. Having a communication device for visitors who want to notify a resident of their arrival that's within reach, and has a clear floor space centered on it, so that you can easily approach it and use it.

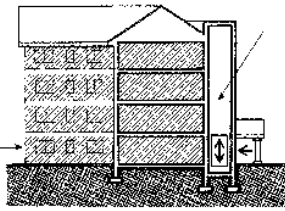
And then there are other things that are beneficial: good lighting, good signage and being on an accessible route.

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Diagrams from Chapter Two

In a building with one or more elevators that go to units above or below ground floor units, all dwelling units in the building must be on an accessible route and all units must comply with Requirements 3-7.

ground floor units

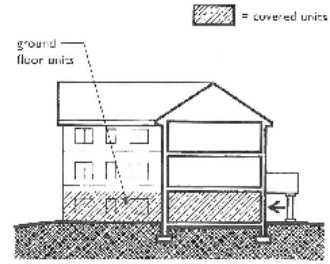


In Buildings with One or More Elevators: (Elevator Buildings) All Units are Covered

covered units

elevator

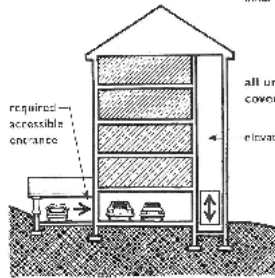
Buildings with one or more elevators, regardless of site conditions, must have at least one accessible entrance on an accessible route.



In Buildings Not Having Elevators (Nonelevator Buildings) Only Ground Floor Units Are Covered

When an elevator provides access to dwelling units other than dwelling units on a ground floor, it becomes a "building with one or more elevators" and the elevator must go to all floors and all dwelling units are covered.

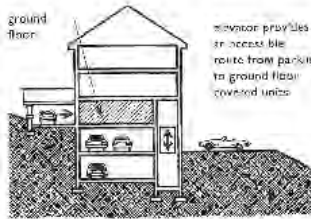
covered units



Elevators Must Provide Access to All Dwelling Units in Elevator Buildings

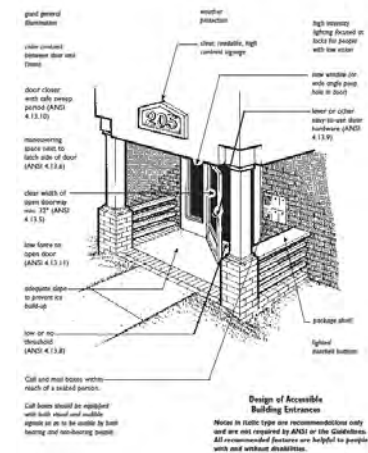
If a building elevator is provided only as a means of creating an accessible route from parking to dwelling units on a ground floor, the building is not considered an elevator building. In this case, the dwelling units on the "ground floor" plus one of each type of public and common use area must comply with the Guidelines.

ground floor



Elevators for Access to Ground Floor Units Do Not Make an Elevator Building

Elevator provides an accessible route from parking to ground floor covered units.



Design of Accessible Building Entrances

CHAPTER THREE: ACCESSIBLE PUBLIC AND COMMON USE FACILITIES

I chose this illustration of how the accessible common use areas might be connected, because it shows almost every possible scenario of spaces that could be included in a multi-family project. I urge you to look at it in detail. Maybe you want to pause for a minute and look at it up close. It's exceptional, because it shows the connection from public drop-off through all the amenities that might be used by a resident, all the way out to in the right-hand side of the page is accessible parking in a garage. But it really serves to remind us that every resident wants to be able to use, equally, all of the amenities in their building. Everything from the mailboxes and the laundry room to the movie theater and the computer use room.

So just looking at the various features of your housing project, first of all, we should think about parking. Two percent, but not less than one of each type of parking space provided must be accessible. And you have to have parking in each of the different sorts of parking spaces that you provide. So a common garage is different than individual private garages, which are different from carports, and even different from off-street parking or parking lots. Each of those are different amenities and should be available to residents. So you would need to have two percent of each kind of parking available.

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The parking counts are calculated, as I just said, on each facility even if that brings you to a total number that exceeds two percent. And don't forget, if you provide parking for visitors, you also have to provide accessible parking for visitors. So accessible parking is there are standard parking spaces with standard access aisles and van accessible spaces with van access aisles. The access aisle is a critical component in accessible parking, because they provide enough space for a person with a mobility device to exit their car safely. The access aisle must be level with the parking space. Frequently, I see architects try to use the curb or an island as part of the access aisle, and that doesn't function very well for people who use mobility devices. So the access aisle must be level with the parking space, it has to be sized properly, and if you have angled parking you would like the access aisle to be on the passenger side of the van space. And signage is required adjacent to the parking space, mounted at the proper height, and stating the correct state or federal regulations.

In California, for one of every eight accessible spaces must be a van space. And you can see one of the reasons I've chosen this illustration is this is a reminder that people who use vans really do need that extra eight feet of space off the side of their vehicle. Your ramp or lift extends approximately four feet beyond the car, and then you need to have enough room to roll a wheelchair off the end of the ramp, which could be an additional four feet. So that eight feet is very critical. And please be aware that under the 2010 ADA and the IBC, they call for one of every six, or a fraction, of accessible spaces to be a van space. So no matter what, if you have only one accessible space, the first one must be a van space.

So let's just go through some of the common use facilities in multi-family buildings that need to be accessible. Certainly, your lobby and reception area needs to be accessible. Most apartments and condos have some sort of a callbox or communication device that allows visitors to call the resident, let them know that they're there, maybe be buzzed into the building. That needs to be within the reach range, and have clear floor space for approach and use. And it should have an audible and visible component, so that visitors who are lacking one of the senses can still communicate. Of course, your leasing area would like to be accessible, so that you can welcome anybody in to lease an apartment. The mailroom must be accessible, and if you have public or common use toilets, they must be accessible. And just because we'll talk a little bit about accessible features in dwellings, the public or common use toilets must be fully accessible like a commercial facility. So that means that you need to have a laboratory with knee and toe clearance underneath, the water closet needs to be accessible, and you must have grab bars installed. Unlike the dwelling units, remember that this is a little bit different. And I just have some examples here to show you of what a unisex stall is like compared to a multi-stall toilet.

So continuing on with other common use facilities...If you provide meeting or conference rooms or any kind of computer-use or business office-use rooms, those must be accessible. Certainly, spa or exercise rooms, remember that if you plan for an exercise room with equipment in it, that you must have an accessible route between each of the different kinds of equipment. So if you have three treadmills and three stair-steppers, you need to have an accessible route to one of each different kind of equipment.

If you have a media room, those are certainly becoming more popular these days, a media room or home theater space. If you provide fixed seating, then you must meet a percentage of accessible seating. And don't forget to provide the controls for any kind of tenant-use equipment within the reach range. So if you have the DVD player or, I guess, now maybe the Blue Ray player, where a resident can come in and put in their own disc, be sure that the controls and everything are usable and within reach range. If you have any kind of clubroom or party room that might have a full kitchen in it, that kitchen must comply with the full accessibility requirements unlike a residential kitchen. So if it has full cooking services, you have to have an accessible sink and an accessible work surface, and both must have knee and toe clearance provided, and you have to have 50 percent of the storage space within the reach range, and the appliances must have their controls within the reach range. This is so that any resident can come down and enjoy the benefits of the party room equally. And then the recreation areas, if you have a pool or more than one pool or tennis courts or playgrounds, you must have at least one of each type of recreation space accessible, and it must be on an accessible route. Now, there is one exception, and that is that if due to site constraints it's not possible to provide an accessible route to an area of recreation, you may provide a vehicular route with accessible parking. So if you had a swimming pool that was at a much lower terrain than where the rest of your apartment buildings are, you could provide an accessible driveway and accessible parking down at the pool level.

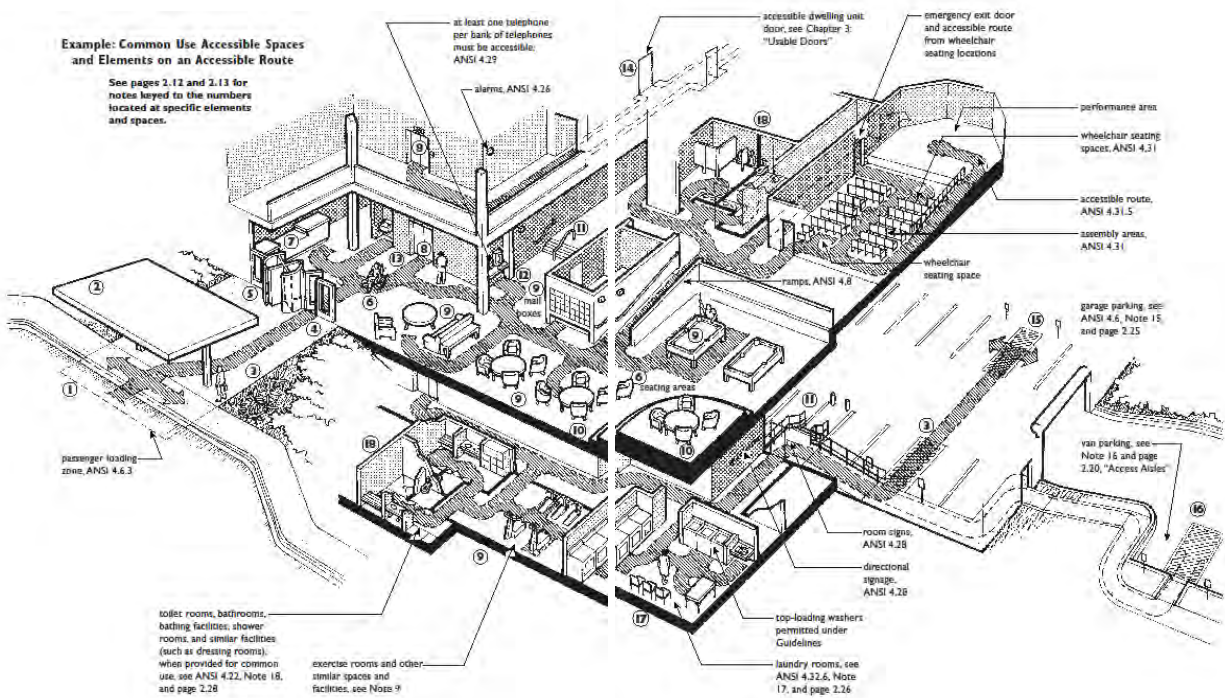
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So let's talk about some of the common errors that I see in multi-family projects. Protruding objects is one of the most frequent barriers. So, certainly, finding ways to recess items such as drinking fountains, fire extinguisher boxes, and that sort of thing, so that they are either detectable, which means that they are lower than 27 inches off the floor or they are protected by a barrier that is in the detectable range. Make sure that your floor surfaces are firm, stable, and slip-resistant, and do watch for those walk-off mats in lobbies that frequently can be very plush and really catch small wheels on wheelchairs or walkers. The joints between your materials and the floor should not allow a half inch sphere to enter. So you're looking at any kind of grading or material change. You want to keep those joints really narrow, and you want to be sure that the transitions between your floor materials are either level or they can have a vertical change up to a quarter inch, or they're beveled one to two, up to a half inch. And beyond that, then you get into the ramp, like a 1:12 slope.

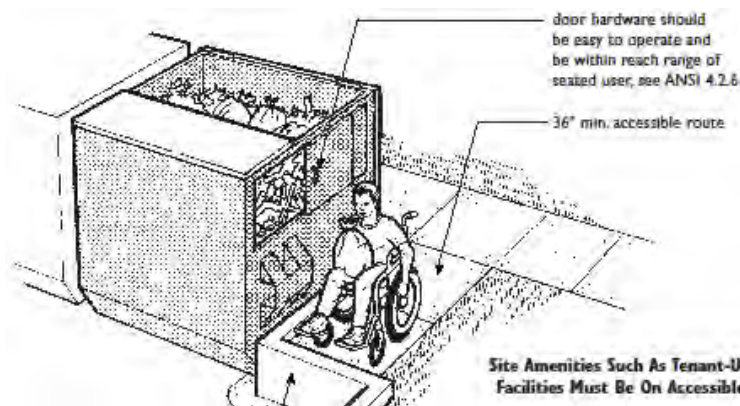
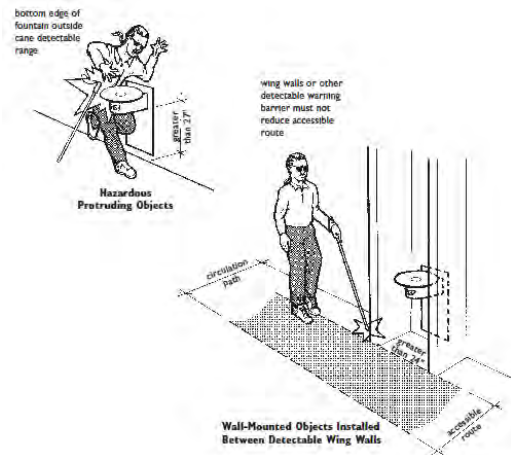
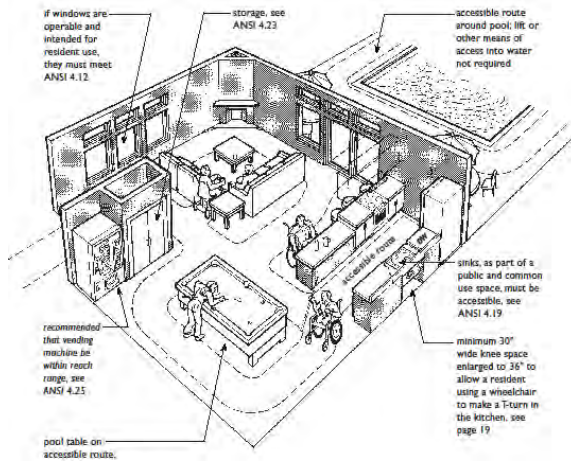
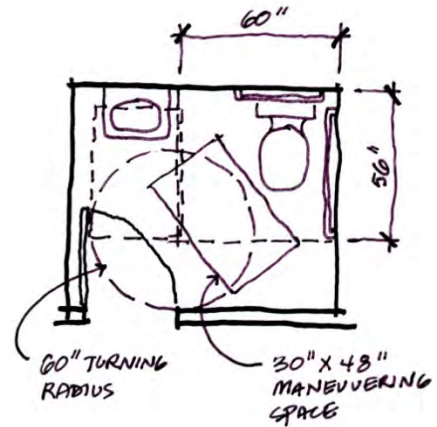
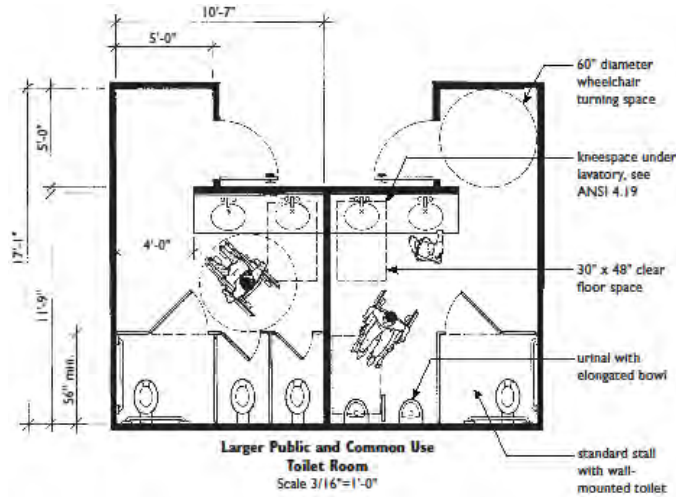
Signage. Any signs that identify permanent rooms and spaces must have tactile raised and braille letters and pictograms. So if you have apartment numbers in your building, those numbers need to be raised and braille. You do not need to have something that says, "The Smith Residence," just the unit numbers. And these signs need to be mounted between 48 and 60 inches off the floor to the bottom of the tactile lettering, and it has to be on the latch side of the door approximately nine inches from the jamb.

So trash disposal is always a challenge, especially when it's an exterior dumpster. They are particularly challenging to be able to get an accessible approach to. So, first of all, a trash unit needs to be on an accessible route. Everyone in the facility needs to be able to get to a trash unit. The trash disposal unit needs to have controls that are within the reach range, and they need to be operable with one hand and not require tight, pinching, grasping, or twisting. The force to operate the controls needs to be five pounds maximum. And you have to have clear floor space of 30 x 48 inches for either a forward or side approach to be able to use the unit centered on the controls.

Diagrams from Chapter Three



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Site Amenities Such As Tenant-Use Trash Facilities Must Be On Accessible Route

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CHAPTER FOUR: DOORS (INTERIOR AND EXTERIOR, MANEUVERING CLEARANCE)

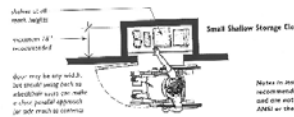
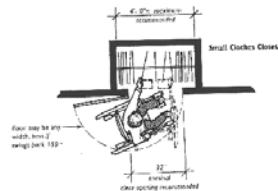
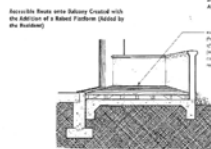
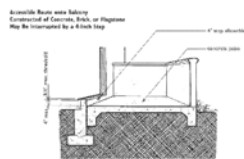
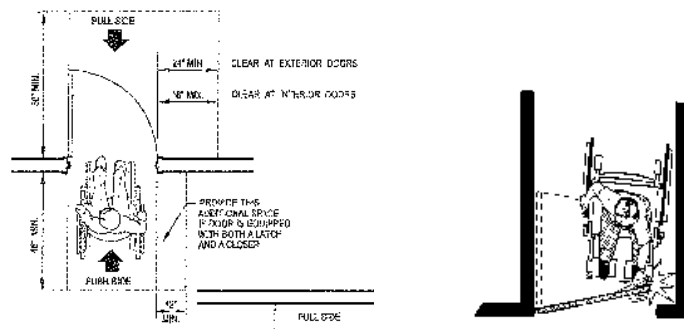
Let's talk about doors. Door forces are easy to get out of whack and, hopefully, easy to get back into the required force. So exterior door forces shall be eight and a half pounds of force or less. Interior door forces must meet five pounds of force or less or comply with your local code. Interior door hardware in accessible dwelling units has to be easily operable with one hand, and not require tight, gripping, or twisting. Doors on an accessible route and all unit entry doors must have accessible maneuvering clearance on each side of the door. The maneuvering clearance is really there to enable someone who uses a mobility device to have enough clearance to be able to approach the door, swing it open and not be in the path of the door swing, and move through it comfortably.

Some of the most difficult challenges around doors and thresholds in multi-family dwellings have to do with the exterior door thresholds out to balconies or patios. So an exterior door threshold in a unit has to be accessible up to a maximum of a half inch for swing doors and up to three-quarters of an inch for sliding doors. Well, this becomes particularly challenging when you have a building that either is a high rise and it has water forces that are acting on it, and various kinds of construction make that difficult.

Fair Housing Act units with exit balconies, and that could be a Type B unit under the International Building Code. Those may have a transition of up to a four inch drop from the interior to the exterior surface if the deck or balcony is of an impervious surface. And then the theory is that if someone in that unit needed a level approach to their deck or balcony, that the surface could be built up, so that you would end up with a more level transition. And don't forget that all of your exterior entrance doors to the building including incidental spaces, retail spaces, anything from the sidewalk must have at least a 60 x 60-inch level landing, so that you provide accessible maneuvering clearance oriented towards the entrance door.

Another issue that comes up around doors is the doors to closets. So inside the unit closets that are shallow are not required to have doors that are wide enough for passage, because the theory is that you can pull up alongside that closet and reach the contents. If the closet is deep enough over, say, 24 inches, then they assume that you must be able to roll in, in order to reach the contents and, therefore, you need a passage door. So that's an area that I see frequently is the wrong size door on the wrong size closet.

Diagrams from Chapter Four



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CHAPTER FIVE: DWELLING AND SLEEPING UNITS

So covered units are required to have an accessible route throughout the unit. So you can imagine that there should be path throughout the entire unit that touches the kitchen, the bathroom, the closets, the windows, goes out to the deck, that sort of thing. And that path needs to be 36 inches wide. The route is allowed to narrow at doorways, so the required 32 inches.

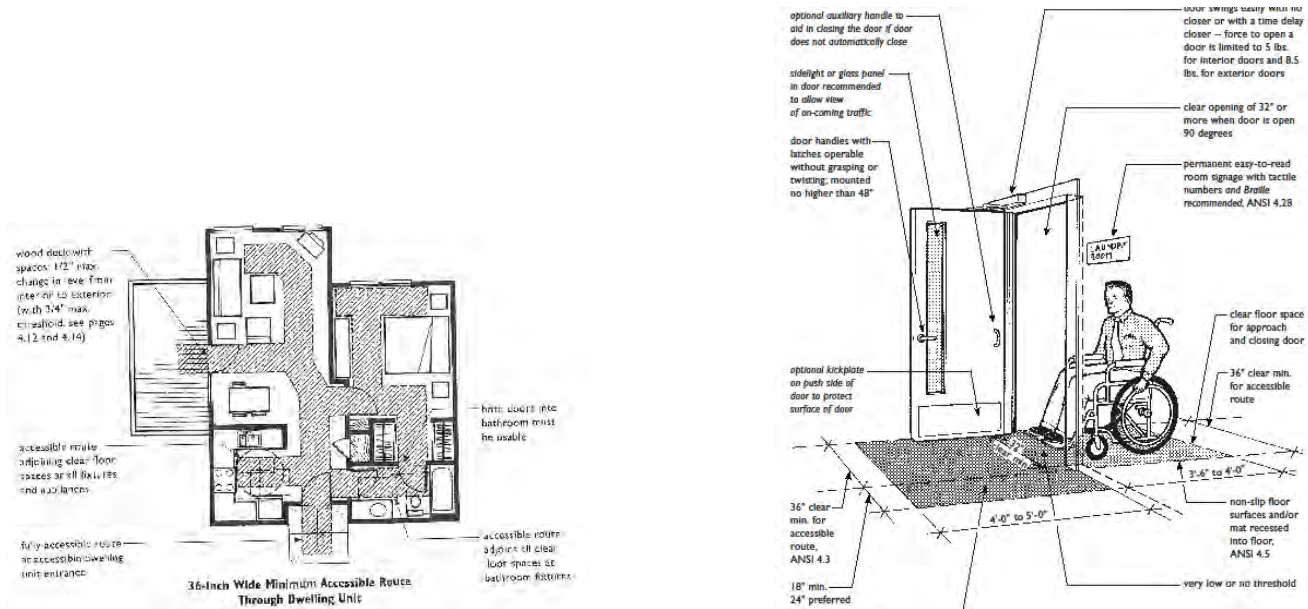
Unit doors must have 32-inch clear openings. The measurement is taken from the face of the door panel when it's held open at 90 degrees to the opposing stop in the jamb. The Fair Housing Act allows covered unit interior doors, not the exterior doors but just the interior doors, to be 31-3/4 inches clear, theoretically, allowing the use of a 2' 10" door rather than a 3' door. Note that you must have maneuvering clearance on the exterior of the unit door, but you're not required to have maneuvering clearance on the interior of the unit door.

In terms of environmental controls in the unit, anything that's user-operated is covered. So your light switches, your electrical outlets, your thermostat, if you have a ceiling fan, the controls for that. All those should be placed within the reach range, and I recommend that you call out that the tops of the j-box should be at 48 inches, and the bottom of the lowest j-box at 15 inches. This ensures that any outlet or switch within that j-box is within the reach range. And also pay attention to having clear floor space for approach and use.

Now, if you have outlets, for example, in your kitchen or your bathroom that are going to be over counters, they shall be no higher than 46 inches maximum for a side reach, and only 44 inches for a forward reach. Wheelchair users, just because of the configuration of our chair with wheels out behind us and our feet out in front of us, find it very difficult to get in very close to corner cabinet situations. So best practice is to avoid placing any switches or controls in cabinets or bathrooms any closer than 36 inches from an interior corner.

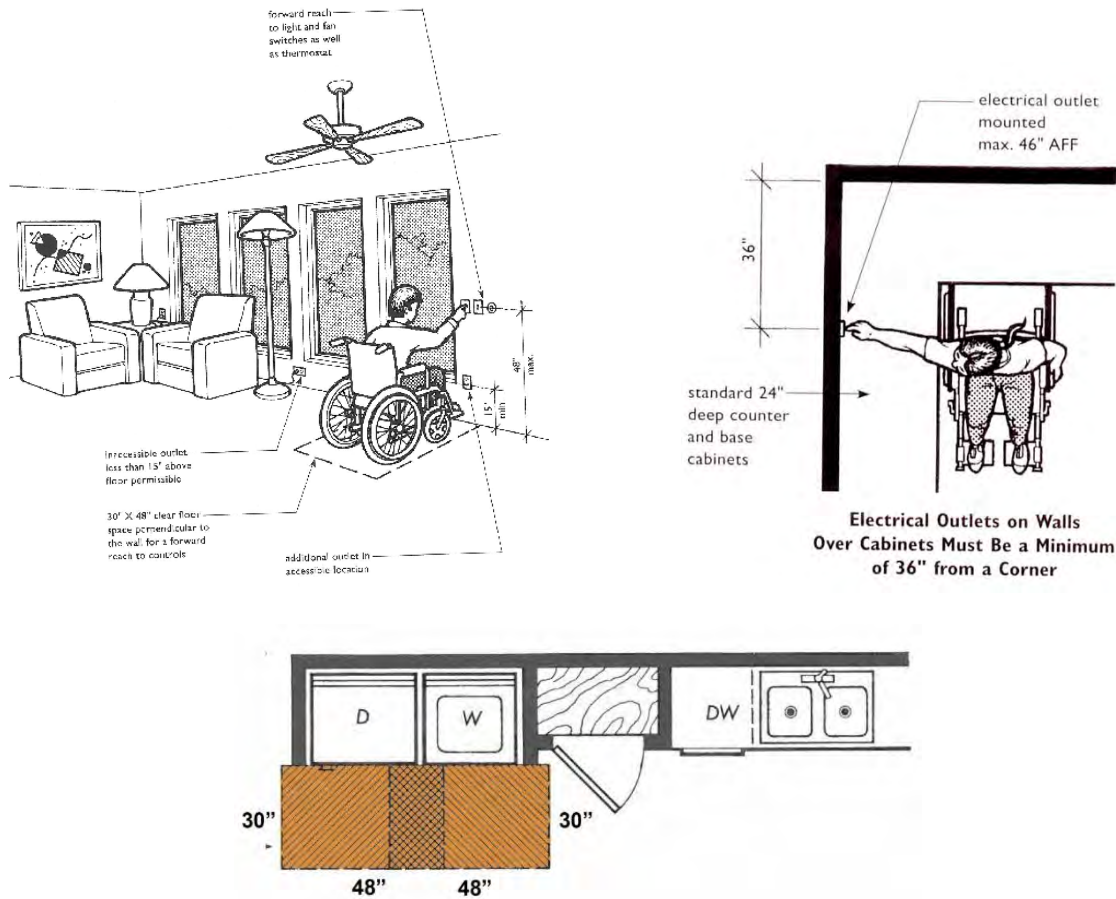
One of the most common errors I see in unit layouts around multi-family housing is around the washer and dryer. Washers and dryers are required to have 30 x 48-inch clear floor space for each laundry appliance, and it needs to be provided for a side approach and centered on the appliance. Now, if you pair a washer and dryer, as shown here, and you can imagine that the clear floor space for each appliance may overlap, but they also extend out on either side from the face of the appliance. Bi-fold doors on a laundry closet like this can obstruct the required clear floor space if the door opening isn't wide enough. So pay close attention to the way you design the closets or enclosures for your washer and dryer.

Diagrams from Chapter Five



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Diagrams from Chapter Five (continued)



CHAPTER SIX: KITCHENS AND BATHS

Kitchens and bathrooms are some of the most difficult spaces to get right. Let's talk about baths. So covered unit bathrooms require a 38 x 48-inch clear floor space beyond the door swing. The idea is that you should be able to get in and get to the fixtures, and close the door behind you. It doesn't say that you should be able to turn around, which is unfortunate. Clear floor space at the fixtures should be centered on the lav, and you have to have various approaches, as outlined in the codes, at the tub or shower.

California requires a door maneuvering clearance of 18 inches on the pole side of the door plus an accessible route into the bathroom. So this is going to trigger a larger bathroom than we have illustrated here. But the bathroom illustrated here is compliant under Fair Housing and the International Building Code. This one shows a somewhat more useable approach to the tub where instead of a forward approach you have a side approach to the tub, which makes it a little bit easier to access the controls. You are required to provide the critical clearance that 30 x 48-inch outside this door swing. And please note that the clearance between the leading edge of the water closet and the tub is going to be the key to making sure that you have a useable bathroom. So if you designed the unit bathroom using a standard size bowl and you later on in the project substitute an elongated bowl, it may interfere with your compliance in accessibility. So pay close attention to that. You are allowed to have removable cabinets in the bathroom to allow for a forward approach under the California code, and under the IBC and Fair Housing you are allowed to have a side approach to the lav. And then be sure that you have reinforcing in the walls for the future addition of grab bars. Again, remember that in the California codes you are required to have 18 inches on the pole side of the door. So, again, this illustration is not a hundred percent accurate under the California code.

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I wanted to talk a little bit about how people use showers to help you understand the difference between a transfer shower and a rolling shower. A transfer shower anticipates that someone is going to transfer out of their wheelchair onto a bench in the shower, and be able to pull the shower curtain closed leaving their wheelchair outside, nice and dry. People who use wheelchairs frequently have limited trunk stability, and frequently will use the corner of the shower. They'll lean back into that in order to provide enough stability to wash their hair or whatever. And they need to be able to remain in a seated position and reach across the shower to the controls. This is the reason why a transfer shower must be exactly 36 x 36, and bigger is not better, because all of a sudden if the controls are 42 inches away and you're soapy and slippery, and you reach over to grab the handheld shower, that may not be a safe condition.

And then a rolling shower that may have a bench in it or it may not, and someone might use their own personal shower chair. You don't use your everyday chair in the shower, because the wet seat cushion is just not good. But a rolling shower provides enough space to use a special shower chair, and having enough clearance to be able to approach that space is required.

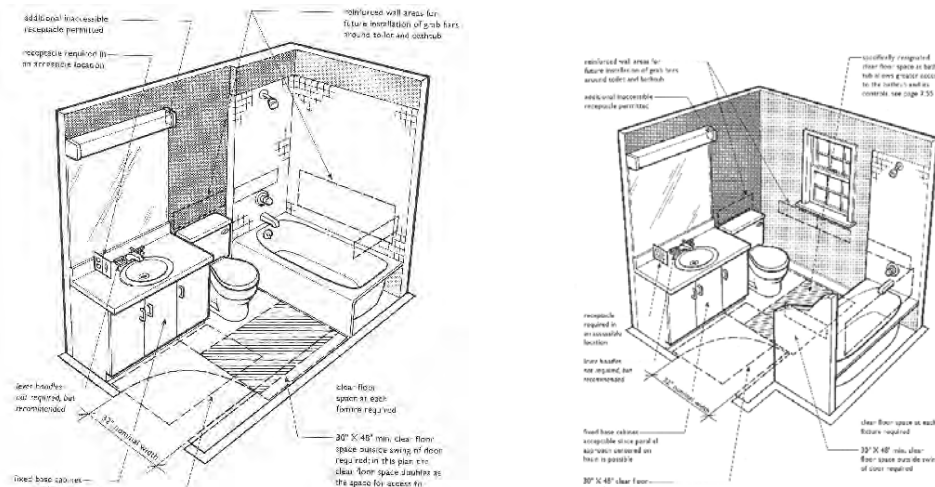
Toilet and bathing rooms in covered dwelling units must have reinforcing for grab bars at toilets, showers, and tubs. There are specific places that you need to plan for the future addition of grab bars. And, of course, the reason that we prescribe where the blocking or the reinforcing needs to go is so that in the future, should someone add grab bars, they will feel confident that there is adequate support in the wall behind. So you don't have to provide the grab bars now, but you need to provide blocking in the specified locations.

Remember that public and common use toilet and bathing rooms must have the grab bars installed. The difference is in the public use facilities anybody might come along and might need a grab bar. In a dwelling unit, usually, the resident will be able to say, "Yes, I need grab bars," or "No, I don't," and they can set it up to their preference.

So galley kitchens are considered any kitchen that is a pass-through that has openings on both ends, and those kitchens are required to have 40 inches of minimum clearance between appliances, cabinets, walls, or any other obstruction. Now, in California they require 48 inches of clearance. So still in the pass-through kitchen with openings at either end 48 inches in California.

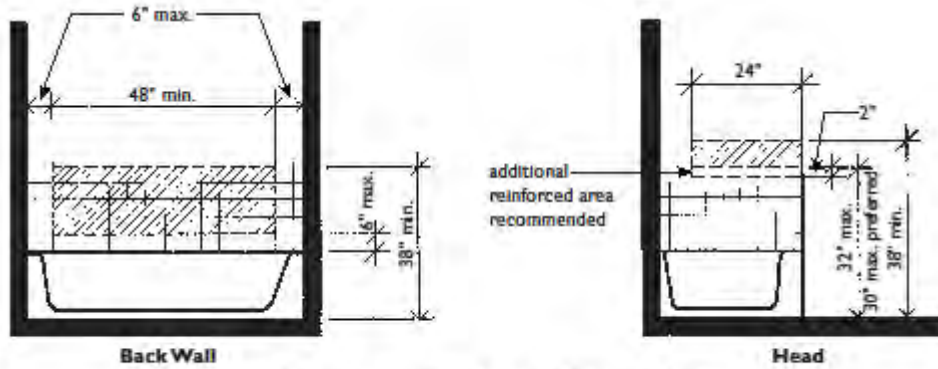
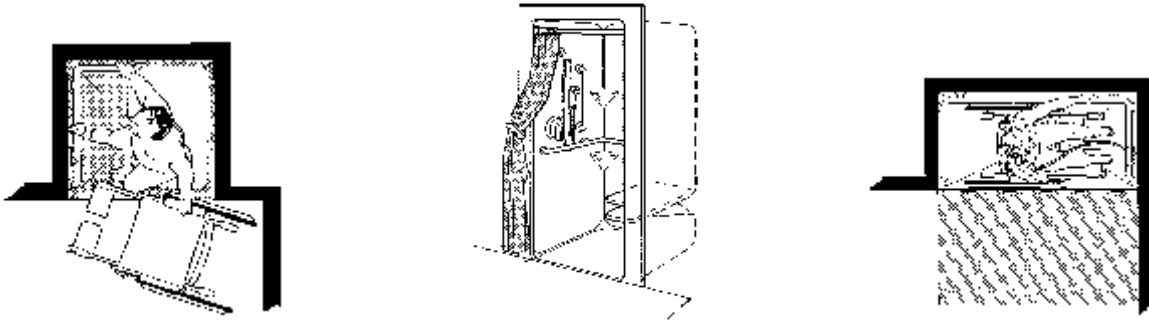
U-shaped kitchens, and that is a kitchen that has cabinets, counters, or wall on three sides. Those are required to have 60 inches minimum between appliances, cabinets, walls, and other obstructions. And appliance handles are exempt, so you don't have to worry about the handle on the refrigerator or the dishwasher, but you're measuring from the face of one appliance to the face of another appliance. Do keep in mind as you're planning your kitchens that refrigerators often need a couple of inches of air space behind them, and they may protrude into the clear floor space a little bit more than you anticipate. So know your appliance in advance and be sure that you have the clearance that you need.

Diagrams from Chapter Six



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Diagrams from Chapter Six (continued)



Reinforced Areas Required by the Guidelines at Conventional Bathtubs

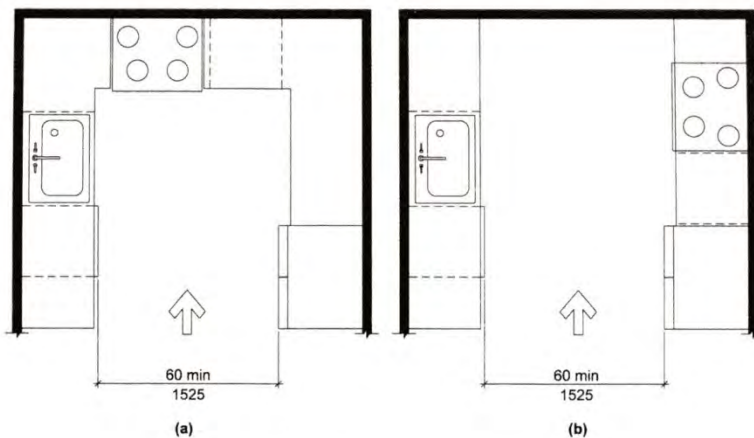
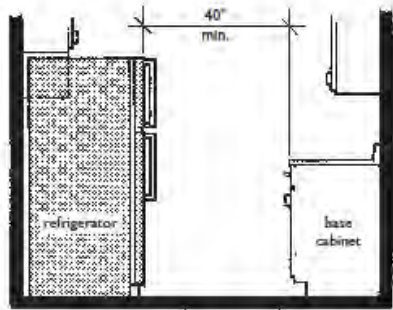


Fig. 804.2.2 U-Shaped Kitchen Clearance

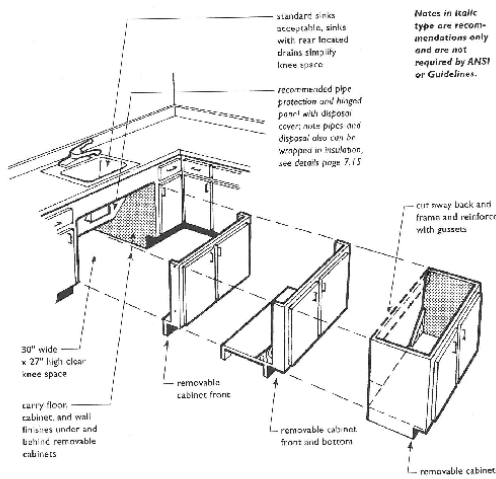
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Diagrams from Chapter Six (continued)



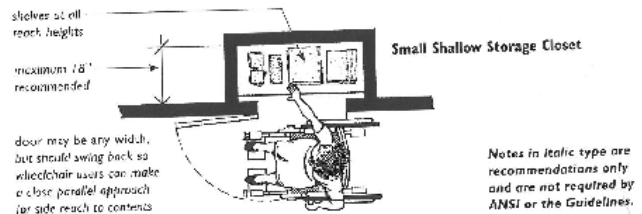
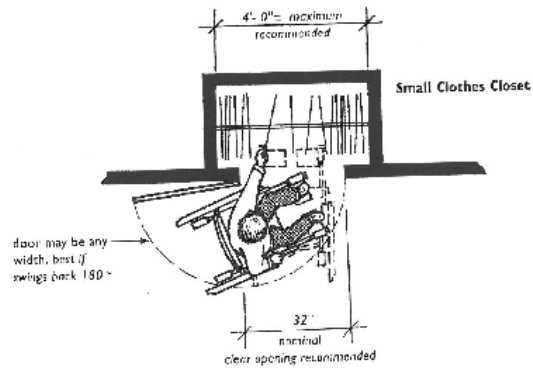
Minimum Clearance between Refrigerator and Opposing Base Cabinet

Building Type	Accessible Units (ANSI Section 1002 + 2010 ADA)	Type A Units (ANSI Section 1003)	Type B Units (ANSI Section 1004)
Apartment/condo/Convent (non-transient=dwelling) (R-2, IBC 1107.6.2)		5% of all units (IBC 1107.6.2.1.1)	Remainder of units
Boarding house/dorm/motels (non-transient=sleeping) (R-2, IBC 1107.6.2.2)	# per table IBC 1107.6.1.1		Remainder of units
Boarding Hs/Motel (transient=sleeping) (R-1, IBC 1107.6.1)	# per table IBC 1107.6.1.1		



Possible Removable Cabinet Options for Required Knee Spaces at Sinks or Coiletops in Narrow (Less Than 60" Wide) U-Shaped Kitchens

Notes in italic type are recommendations only and are not required by ANSI or Guidelines.



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CHAPTER SEVEN: OTHER CODES (IBC, UFAS)

So there are three sorts of accessible units under the IBC. Three different levels of accessibility, you might say. The Type B units are really intended to be compliant with Fair House Act. The Type A units are intended provide wheelchair accessible features above and beyond what's included in the Type B units. And even beyond that, the Accessible units with a capital A are intended to provide fully accessible facilities, and those are used predominately in transient facilities like boarding houses, dorm rooms, motels and hotels, and that sort of thing. Type A and Type B units are seen in longer term housing such as apartments and condos.

Under the Group R, a section in the IBC, Accessible and Type A units shall be apportioned among efficiency, single bedroom and multiple bedroom units in proportion to the number of units in the building. So if you have a hundred-unit building and you have 50 percent of them are one bedroom units, then you need to have 50 percent of your Type A units as one bedrooms.

In R-2 occupancies that have ten or more units, at least two percent must be a Type A unit. Remember that's slightly more wheelchair-friendly than a Type B unit. And some states have amended this requirement to increase the percentage, so check your local code.

Now, Type A units must have at least one bath that complies with Type A criteria. Type B units, you have a choice, bathrooms in Type A units may comply either with an Option A or Option B criteria. If you select Option A all the bathrooms in the unit must comply with Option A. The only exception is if you have a powder room, and it's not the only toilet facility on the accessible route. If you select Option B, one bath must comply with Option B, and the others don't need to comply with any criteria. And you can mix Option A and Option B bath styles within the same building, not within the same dwelling, but within the same building.

So some of the common errors that I see around toilet rooms in dwelling units, the biggest one is the clearance between the center line of the water closet and the nearest opposing object. Frequently, that's either a tub or a wall. The best is to comply with the Fair Housing Act requirement, which is 18 inches to the sidewall at water closets. If you have a fixture, like a tub, you would want to have 18 inches minimum between the center line of the water closet and a tub. And the vanity can intrude into the clear floor space for the water closet.

In kitchens you are required to have a removable cabinet at the sink, a removable cabinet at a work surface. Type A unit kitchens must have appliances with controls within the reach range. So that means that your range controls, your dishwasher, refrigerator controls, and your microwave controls. So it makes it very challenging to provide an over the range microwave in a Type A unit. And you must provide redundant controls for things that are out of reach. So, for example, the range hood. You may have controls on the hood as long as you have a second control that's within the reach range.

And you can see in this illustration there are lots of different ways to provide that removable cabinet. It can be just a cabinet front. You can remove the entire base, but it should be easily removable and without altering the countertop or significant tools. They don't mean pull out the Sawzall.

So Type A units, we've talked a little bit about the requirement for having doors that are wide enough and closets that need approach. We should also remember that we want to have the storage facility within the closet to be within the reach range. So that means shelving within the reach range or that have the closet rod at a lower height or easily adjustable down to that lower height. There's also a requirement for dwelling units with communication features, and those requirements include having alarm systems with both audible and visible components, having an entry door with an audible and visible notification device, an entry door that has a means of identifying a visitor without opening the door, which I usually think of as a peephole, and having two-way communication systems with both audible and visual indicators at all the stations. So if you have a system that allows visitors to notify you that they're at the front door of the building, that you would be able to communicate enough with them, so that you can open the door and greet them, that sort of thing.

And, lastly, to bring up the unique conditions under the Uniform Federal Accessibility Standards, or UFAS. Those accessible units have some requirements that are unique. So, for example, in a UFAS unit doors shall not swing into the clear floor space required for any fixture. This is more stringent than the Type A unit requirements where it allows the door to swing into the clear floor space for a fixture if a 30 x 48-inch clear floor space is provided outside the swing of the door. That exception is not allowed under UFAS. So it means the bathrooms tend to be a little bit larger.

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The kitchen, both the sink and the work surface, there's a requirement that the counter thickness, when you don't have a cabinet underneath, that the counter thickness is only two inches in depth, and that is more stringent than the Type A kitchen requirements, which only require 27 inches of knee and toe clearance under the sink and under the work surface.

And the requirements for kitchen storage are also a little bit more stringent. UFAS calls out cabinets, drawers, and shelf areas have to comply with the reach range, and the maximum height must be 48 inches for at least one shelf of all cabinets and storage areas mounted above work counters, and door pulls, or handles, for wall cabinets will be mounted as close to the bottom of the cabinet doors as possible. This is definitely more stringent than the Type A kitchen storage, which calls just for a clear floor space positioned for parallel or forward approach to the kitchen.

In closing, I encourage you to provide as many accessible features in your multi-family buildings as you can, even going beyond the code, if possible, because accessible dwelling units benefit everybody whether they're wheelchair users or young families with children in strollers or even just a family who wants to be able to welcome grandma and grandpa over for a visit.

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