



# CITY OF SACRAMENTO

## DEPARTMENT OF PLANNING AND DEVELOPMENT

1231 "I" Street

Sacramento, Ca. 95814

### Administration

Room 300 449-5571

### Building Inspections

Room 200 449-5716

### Planning

Room 200 449-5604

November 15, 1985

Transportation and Community  
Development Committee  
Sacramento, California

Honorable Members in Session:

SUBJECT: Senior Citizen Housing Design Criteria (M85-101)

### SUMMARY

The Planning Commission recommends that the attached Senior Citizen Design Criteria be approved by the City Council.


### BACKGROUND INFORMATION

The Transportation and Community Development Committee asked the Planning Division to develop guidelines for the construction of senior citizen housing. The attached design criteria were developed and approved by the Planning Commission for recommendation to the Transportation and Community Development Committee. The Senior Citizen Housing Design Criteria is to be used as a tool by the planning staff in evaluating applications that include senior citizen housing and in justifying conditional uses and variances.

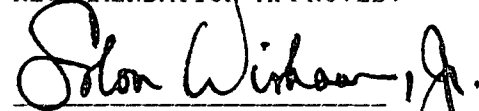
### RECOMMENDATION

The Transportation and Community Development Committee recommend to the City Council approval of the Senior Citizen Housing Design Criteria.

Respectfully submitted,

  
Marty Van Duyn  
Planning Director

RECOMMENDATION APPROVED:

  
Solon Wisham, Jr.  
Assistant City Manager

MVD:DH:lr  
Attachments  
M85-101

City Planning Commission  
Sacramento, California

Members in Session:

SUBJECT: Senior Citizen Housing Design Criteria (M85-101)

SUMMARY

The number of elderly persons is increasing in Sacramento, the elderly have special needs, particularly in the area of housing. There are no established guidelines or standards to meet the special housing needs for the elderly. Also, when developers ask for and are given bonus densities to build senior citizen housing, there are no guarantees that the housing will be rational for senior citizens once it is built.

The Senior Citizen Housing Design Criteria establishes guidelines and standards for constructing special needs housing for the elderly and, if followed, assures the retention of the housing for senior citizens.

BACKGROUND INFORMATION

The elderly population (age 65 and over) increased from 27,894 in 1970 to 37,484 in 1980, an increase of 34.4 percent over the last ten years and was equal to 51.5 percent of Sacramento's total population increase. The size of the elderly population is expected to increase both in number and as a percentage of the total population.

The elderly have special needs, particularly in the area of housing. However, there are no established guidelines or standards to meet the special housing needs for the elderly.

Several developers have applied for permits to construct senior citizen housing and have requested the density bonus the City offers for such housing. It is unclear, however, just what constitutes senior citizen housing and what guarantees there are to assure that such housing will be retained after it is built. These questions were raised by the Transportation and Community Development Committee. The Committee has requested that the Planning Division prepare senior citizen housing design criteria which would satisfy the needs of the developers and the City.

There are basically three general categories for elderly housing. The first category is the apartment/townhouse/condominium type of development where there are special design amenities such as grab rails, easily accessible cupboards, and other safety features. The second category is known as congregate housing which includes all of the features in the first category plus additional facilities such as a small medical center, an activities center, eating facility and any other amenities the developer may wish to include. The third category is the nursing care facility with more emphasis on medical and skilled nursing care and less emphasis on other amenities. The emphasis of the attached design criteria is on the second category - congregate housing.

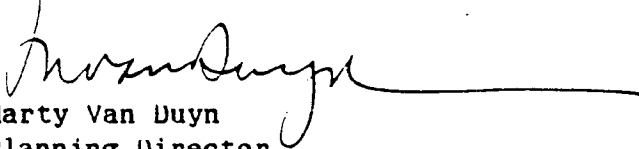
The Senior Citizen Housing Design Criteria is divided into seven major categories. They are: location; project security; landscaping and outdoor activities; entry, lobby, corridors, and other congregate facilities; parking facilities; individual units and management. In addition, the Multifamily Residential Design Criteria and parts 2, 3 and 5 (handicapped standards) of the Title 24 requirements are included in the Senior Citizen Housing Design Criteria.

The design criteria will be used as a guideline for the Planning staff in evaluating development applications that are utilizing the density bonus for the inclusion of senior housing and as a tool in justifying conditional uses and variances.

RECOMMENDATION

That the Planning Commission recommend the Transportation and Community Development Committee to recommend to the City Council approval of the Senior Citizen Housing Design Criteria.

Respectfully submitted,

  
Marty Van Duyn  
Planning Director

MVD:DH:lr  
Attachments

## DRAFT

### SENIOR CITIZEN HOUSING DESIGN CRITERIA

Included in the Senior Citizen Housing Design Criteria is the Multifamily Residential Design Criteria and parts 2, 3 and 5 (handicapped standards) of the Title 24 requirements.

#### LOCATION

1. Freedom from excessive noise and disturbances such as airplane noise and industrial activity.
2. Proximity to parks or other outdoor areas suitable for passive recreation.
3. Views of nearby activity such as baseball diamonds, preschool playground, pedestrian traffic and auto traffic.
4. Spaces which encourage users conflict by either their placement or their scarcity should be modified. (For example, conflict between teenagers and elderly persons, each seeking to use a public outdoor area for musical entertainment activities illustrates a sort of competition which can promote criminal harassment.)
5. Absence of steep grades in and around the general circulation area of the proposed site.
6. Compatability with the surrounding neighborhood (height, building type).
7. Within 2 blocks of a bus stop.
8. Within 1/2 mile of a clinic and hospital.
9. Within 1/2 mile of library.
10. Within 1/2 mile of neighborhood services and shopping.
11. Allow for small detached housing units in single family neighborhoods.
12. Juxtapose Senior Housing to single and multifamily developments.

#### PROJECT SECURITY

1. Public entries to the area should be limited in terms of their number, location, and the possibilities of surveillance by residents.
2. Outdoor areas should have distinct boundaries which encourage resident supervision of their use.
3. Placement of dwelling units and public activity nodes should enhance the opportunities for surveillance.

4. "Unassigned space" for which no one feels or assumes responsibility should be avoided.

#### LANDSCAPING AND OUTDOOR ACTIVITIES

1. Deciduous ivy over trellise covering outdoor sitting areas where the ivy will screen the sun out in the summer and let it in in the winter.
2. No thorny or sharp leaved shrubs.
3. Barrier type walls should be of plantings, not brick, rock, etc.
4. Create landscaping so that it encourages residents to go outside.
5. Grades should not be more than 5 degrees.
6. Sitting areas in sun and shade, secluded or in groups.
7. Outdoor benches with backs facing each other or at 90 degree angle to facilitate conversation.
8. Light and sturdy outdoor furniture.
9. Well defined outdoor spaces and patios.
10. Outdoor activities such as barbecues, gardens, shuffleboard.
11. Well illuminated walkways without barriers.
12. Designed structures which function as security around recreational areas to keep out intruders.
13. Sheltered galleries for lounging, etc.

#### ENTRY, LOBBY, CORRIDORS AND OTHER CONGREGATE FACILITIES

1. A porte cochere at the entrance with nonslip walking surface.
2. No abrupt changes in ground and floor levels.
3. Separate service entrance behind building and screened from view.
4. All areas should be well lit.
5. Avoid elongated buildings to minimize "institutional" look.
6. Lobby should be large and very well lighted.

7. Within the lobby area are the following: administrative offices, lounge, 24 hour switch board and receptionist desk, or intercom entrance control system, public restrooms, mail boxes (opened with apartment door key).
8. Corridor length should not be any more than 150 feet long and need not be any more than 6 feet wide (elderly people lose their perception so that long corridors look even longer than they actually are).
9. Put handrails in corridors. Exclude handrails in public areas (e.g., lobby).
10. Put windows at the end of corridors.
11. Corridors should promote easy orientation and not be confusing. Distinct identification of floors.
12. No sharp curves in corridors.
13. Elevators should have handrails and be big enough for wheelchairs.
14. Congregate facilities should consider including the following: dining area, large kitchen, small chapel, beauty salon, barber shop, gift shop with tenants arts and crafts for sale, pool table, card tables, manager's office, office space for social workers and psychiatrists, small conference room, library, small commissary, craft/hobby/small kitchen room, laundry room, greenhouse, first aid/medical examination room, multipurpose room with moveable room dividers, overnight guest room.
15. Separate the less formal congregate care facilities from the more formal ones.

#### PARKING FACILITIES

1. Parking facilities should be provided for tenants, guests and employees.
2. Stalls and driving aisles should be at least 9 feet wide.
3. Stalls for the tenants should not be more than 150 feet from the front entrance, or in the case of enclosed parking, from the elevator.
4. Tenant parking should be no less than 25 percent nor more than 50 percent of the number of units.

#### INDIVIDUAL UNITS

1. Kitchen windows should be low.
2. Overall illumination and strong light over kitchen sink.
3. Provision of knee space under the sink.

4. Full length pantry with bi-folding doors.
5. Minimum kitchen facilities would be a 2 burner stove, bar sink, and small refrigerator.
6. Beds in bedrooms should be accessible from three sides.
7. Emergency signaling device with cord to floor.
8. Telephone jacks.
9. Television outlets.
10. Bedroom size should provide sufficient space for double size bed night tables, chest of drawers, desk and desk chair.
11. A minimum of five to six percent of the units should have 2 bedrooms.
12. There should be a direct route to the bathroom from the bedroom.
13. Bathrooms should contain adequate space to transfer from a wheelchair to the toilet.
14. Walls adjacent to the toilet should have side bars.
15. Fifty percent of the bathrooms should have shower stalls and 50 percent have bathtubs.
16. There should be an emergency signaling device with a cord to the floor in the bathroom.
17. Units with showers should have a shower seat and a removeable shower hose.
18. Studio units are often not marketable to seniors and should not be required or encouraged by staff.
19. Other safety devices should be intercoms, smoke alarms, "open door" warning indicators; dome light above hall door which flashes when bedroom or bath alarm is activated.
20. There should be a panel at the receptionists desk which contains all central control systems, intercoms, smoke alarm monitors, tenant bedroom and bath emergency call monitors and "open door" warning indicators.
21. Flooring should be ceramic mosaic and or concrete pavers. No corrugated tiles or exposed aggregate should be used. Carpeting should not be thick.
22. All units should have a lot of storage such as a guest closet, utility closet, linen closet, wardrobe closet and a storage closet. These storage spaces may be combined.

MANAGEMENT

1. The key to a successful Senior Citizen housing facility is good professional management which assumes responsibility for service coordination, as well as preventive maintenance.
2. The management should provide a safe and secure environment for residents, which incorporate needs for personal control and privacy, as well as social interaction.

DH:lr



MULTIFAMILY RESIDENTIAL DESIGN CRITERIA  
P85-

A. GENERAL BUILDING DESIGN AND ORIENTATION

1. Large multi-family projects (exceeding 100 units) shall incorporate design variation within the project to create a sense of uniqueness and individuality. Large complexes using the same building design, materials, and colors should be avoided.

Design elements which achieve these objectives include: separate clustering of building groups with extensive open-space and landscape buffering between projects; variation in building elevations and configurations between projects; variation in building heights; use of different building materials or combination of different materials; contrasting color schemes between projects.

2. The monotony of straight building lines of all units shall be remedied through limiting the size of individual buildings or units, staggering of units, variation of exterior building materials on adjacent units, use of intensive landscaping, or other methods.
3. Multi-family buildings adjacent to public streets shall be designed and oriented to minimize the likelihood of on-street parking by project residents. Examples of acceptable design and building orientation are:
  - minimize location of main entry doors of units facing the public street
  - orient ends of building toward public street
  - break up long buildings containing many units into smaller building clusters or incorporate a breezeway through midsection of a long building which provides closer access to off-street parking area for residents
  - locate off-street parking areas between the public street and building (off-street parking area to be located and screened behind bermed landscape setback area - Section B-4).
4. All mechanical equipment (including public utility boxes and particularly exterior wall mounted air conditioning units) shall be attractively screened.
5. Buildings shall be designed and oriented to reduce overview of private backyards and patio areas of on-site and adjacent developments and windows from second story units.
6. Accessory structures shall be compatible in design and materials with main building.
7. Communal facilities shall be centrally located.

8. Recreational facilities shall be located and/or designed so as not to create a nuisance to surrounding units or to impact adjacent properties. Sufficient setbacks, landscaping and berming between recreation facilities and surrounding units shall be provided to minimize noise and visual conflicts.
9. Solar heating and cooling of units shall be achieved to the maximum extent possible.
10. Site planning shall take into account optimum solar orientation of structures.
11. Site planning shall minimize the incidences of one building shading another.
12. Private outdoor or garden areas shall be oriented to the south as much as possible.
13. Roofing materials shall be medium wood shake or shingle, or equivalent aluminum, concrete, tile, or other imitation shakes, subject to Planning Director approval.
14. The location of second story end unit windows shall be varied to provide variety in exterior unit detailing and designed in such a way as to reduce the incidence of overview into private first floor open space areas.
15. A minimum building setback of 50 feet shall be utilized on multiple family projects from interior and rear property lines abutting existing or future low density residential developments where two story structures are proposed. A minimum setback of 25 feet shall be required where single story structures in multiple family projects abut existing or future low density development.

B. OFF STREET PARKING DESIGN CRITERIA

1. Off-street parking shall be provided at a ratio that adequately serves the needs of tenants and guests. The minimum ratio shall be 1.5 to 1 (this ratio may be reduced for projects designed strictly for the elderly) of which a minimum 1:1 shall be covered parking. Six foot decorative masonry walls are required on interior property lines between parking lot areas and existing or proposed residential development. The design and materials used for covered parking structures shall be compatible to the main building structures.
2. For the convenience of tenants and guests, and to encourage the use of off-street rather than curbside parking and parking along private drives, parking spaces shall be located as close as possible to the unit or communal facility it is intended to serve.
3. To discourage parking on the street and along private on-site drives, physical barriers such as landscaping, berming, or wall segments shall be incorporated into the project design.

4. Off-street parking shall be screened from the street by undulating landscaped berming with a minimum four foot height (as measured from either the parking surface or street sidewalk, whichever is higher).
5. Surface parking areas and carport roofing shall be screened from second story units by trees or lattice and trellis work.
6. The project shall comply with the 50% shading of surfaced areas requirement of the Zoning Ordinance.
7. The setback from interior side and rear property lines shall be 10 feet for open stalls and 15 feet for carports. If adjacent to nonresidential development, the setback area shall be planted with large growing evergreen trees to screen adjacent use.
8. Evergreen trees shall be used for screening purposes along the perimeter of the parking areas.
9. Particularly within large open lots, deciduous trees should be utilized to provide summer shading and winter sun.
10. There shall be a ratio of at least one tree for every five parking spaces planted throughout or adjacent to open and covered parking areas. Rows of parking stalls, either open or covered, shall be broken up by a tree planting approximately every 10 spaces.
11. The parking stall depth shall be reduced by two feet.
  - a. The two feet gained shall be incorporated into adjacent landscaping or walkways.
  - b. For angled parking the triangular space at the head of each stall shall be landscaped (as a planter when abutting a sidewalk or incorporated into adjacent landscaped strips).
12. The more efficient 90 degree parking arrangement shall be utilized when possible, so as to minimize parking lot size.
13. For the most part, double-loading of parking aisles should be utilized to minimize surfacing devoted to maneuvering area.

C. ON-SITE CIRCULATION

1. Minimum pedestrian/vehicle conflict should be sought in driveway/walkway system design.
2. A display and unit location map shall be installed at each major driveway entrance and any major walkway entrance to the project as an aid to emergency personnel and a convenience to visitors. An auto turnout lane shall be provided adjacent to directory map to eliminate blocking of driveway entrance.

3. Walkway location shall assure convenient access between parking and dwelling units.
4. Central pedestrian/bikepaths shall provide convenient access to bus stops, green belts and public facilities.
5. Pedestrian crossings shall be provided at appropriate locations along main drives and shall be accentuated by a change in surface textures.
6. Walkway connections between buildings and street sidewalks are discouraged if they encourage on-street parking by residents.

#### D. BICYCLE STORAGE

1. One bicycle parking facility is required for every ten (10) off-street parking spaces required, excluding developments which provide individual enclosed garages.
2. Fifty percent (50%) of the required bicycle parking facilities shall be Class I. The remaining facilities may be Class I, Class II or Class III.
3. Bicycle racks and lockers shall be provided throughout the development.

#### E. LANDSCAPING AND OPEN SPACE

1. Landscape materials selected shall be:
  - a. Compatible with one another and with existing material on the adjacent site.
  - b. Complimentary to building design and architectural theme.
  - c. Varied in size (one and five gallon shrubs, five and 15 gallon, and 24 inch box trees).
2. Landscape treatment shall include:
  - a. The major treatment for all setback areas shall be lawn and trees. At least 75% of the ground cover treatment within landscaped areas within the entire project shall be lawn. Lawn areas shall be established by sodding or hydromulching when conditions such as excessive gradient, anticipated seasonal rain, etc., may result in erosion or other problems.
  - b. Larger specimens of shrubs and trees along the site periphery, particularly along setback areas adjacent to public streets.
  - c. Greater intensity of landscaping at the end of buildings when the elevations lack window and door openings or other details that provide adequate visual interest. This is especially significant at the street frontage and interior side and rear property lines and for two story structures.

- d. Consistency with energy conservation efforts.
  - e. Trees located so as to screen parking areas and private first floor areas and windows from second story units.
  - f. Undulating landscaped berms located along street frontage and achieving a minimum height of four feet measured off of the street sidewalk or the adjacent building pad or parking lot, whichever is higher.
  - g. Deciduous trees shall be utilized along the south and west facing building walls to allow solar access during the winter.
  - h. For crime deterrent reasons, shrubs planted below first floor windows should be of a variety which has thorns and/or prickly leaves.
  - i. Large growing street trees (preferably deciduous) shall be planted within the landscape setback areas adjacent to all public streets as a means of reducing outdoor surface temperatures during summer months and to provide a visual buffer between the units and public street.
3. Landscaping of parking areas is discussed in Section B.

#### F. TRASH ENCLOSURES

1. The walls of the trash enclosure structure shall be constructed of solid masonry material with decorative exterior surface finish compatible to the main residential structures. Split face concrete block finish is recommended. Brick or tile veneer exterior finish should be avoided.
2. The trash enclosure structure shall have decorative heavy gauge metal gates and be designed with cane bolts on the doors to secure the gates when in the open position.
3. The trash enclosure facility shall be designed to allow walk-in access by tenants without having to open the main enclosure gates.
4. The walls shall be a minimum six feet in height, more if necessary for adequate screening.
5. The perimeter of the trash enclosure structure shall be planted with landscaping, including a combination of shrubs and/or climbing evergreen vines.
6. A concrete apron shall be constructed either in front of the trash enclosure facility or at point of dumpster pickup by the waste removal truck. The location, size and orientation of the concrete apron shall depend on the design capacity of the trash enclosure facility (number of trash dumpsters provided) and the direction of the waste removal truck at point of dumpster pickup.

The minimum dimensions of the concrete apron for a single, two cubic yard dumpster shall be: width 10' or width of enclosure facility; length 20'. Larger trash enclosure facilities shall require a larger concrete apron, subject to the approval of the City Building Inspections Division Building Technicians (Plan Checker).

Paving material shall consist of 5" aggregate base rock and 6" portland cement paving.

7. The enclosures shall be adequate in capacity, number, and distribution.

#### G. SIGNAGE

With the exception of the main project identification sign(s), all other signage shall comply with the City Sign Ordinance.

A project identification sign is permitted at each major entrance into the complex. The sign shall be a monument type or incorporated into a low profile decorative entry wall(s). The height of the monument sign shall not exceed six feet.

The primary material of the monument base or wall shall be decorative masonry such as brick, split face concrete block, stucco or similar material which complements the design of the main buildings.

Individual letters and project logo are permitted. The signage program shall be subject to the review and approval of the Planning Director.

#### H. PERSONAL SAFETY DESIGN CRITERIA

Ordinance No. 84-056 relating to personal safety building code requirements has been adopted by the City Council on June 19, 1984. This ordinance applies to all residential building project including apartments and condominiums.

The building code requirements relate to: minimum outdoor lighting standards, addressing and project identification, door locking standards, etc.

A copy of this ordinance may be obtained from the City Building Inspections Division.

## Outside The Apartment Unit

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### Walks and Sidewalks

- 2-3323(a) An abrupt change in elevation, or an obstacle protruding into a walk or sidewalk can be an insurmountable barrier for the disabled. Accessible walks and sidewalks must have a continuous common surface, uninterrupted by steps or abrupt changes in level over 1/2 inch. The walks must be at least 48 inches wide. But if right-of-way restrictions, natural barriers, or other existing conditions make compliance with the 48 inch requirement an unreasonable hardship, the enforcement agency may reduce the walk's width to a minimum of 36 inches.
- 2-3323(a) 3  
Exception
- 2-3323(a) 1 If the slope of a sidewalk is less than 6%, the surface must be at  
2-3323(a) 2 least as slip-resistant as a medium salted finish. When the slope is 6% or greater, the surface shall be slip-resistant.
- 2-3323(a) 3 Surface cross slopes (slopes in a direction other than the direction of travel) are not to exceed 1/4 inch per foot except when the enforcing agency finds that local conditions make the requirement an unreasonable hardship. In that case, the cross slope may be increased to a maximum of 1/2 inch per foot for distances not over 20 feet.
- 2-3323(b) Walks, sidewalks and pedestrian ways shall be free of gratings, whenever possible. If there are gratings, grid openings are to be no more than 1/2 inch in the direction of traffic flow. If the enforcing agency determines compliance with this section of the regulations creates an unreasonable hardship, exceptions may be granted if equivalent facilitation is provided. If legal or physical constraints on the project site inhibit compliance or equivalent facilitation without unreasonable hardship, an exception is also granted.
- 2-3323(b)  
Exception 1
- 2-3323(b)  
Exception 2
- 2-3323(c) When the slope in the direction of travel of any walk exceeds 6%, it must comply with the provisions of pedestrian ramps.
- 2-3323(d) Level changes not exceeding 1/4 inch can be vertical. Greater level changes are to be beveled with a slope of no more than 5%.
- 2-3323(e) Walks to an apartment building must have a level area not less than 60 inches by 60 inches where a door or gate swings toward the walk, and not less than 48 inches wide by 44 inches deep where a door or gate swings away from the walk. These areas must extend 24 inches from the side of the strike edge of a door or gate that swings toward the walk. (See page 9)
- 2-3323(f) All walks with continuous slopes need level areas five feet long every 400 feet or less.

2-3324(a)

Warning Curbs: Except between a walk or sidewalk and an adjacent street or driveway, abrupt changes in level (such as at planters or fountains located in or adjacent to walks, sidewalks, or other pedestrian ways) are to be identified by warning curbs projecting at least 6 inches above the walk or sidewalk.

No curb is required if: 1) the slope of the walk is 5% or less; 2) a handrail is provided; or 3) no adjacent hazard exists such as a drop-off. (See below)

2-3324(b)

Overhanging Obstructions: The bottom of an obstruction overhanging a pedestrian way must be at least 80 inches above the walkway.

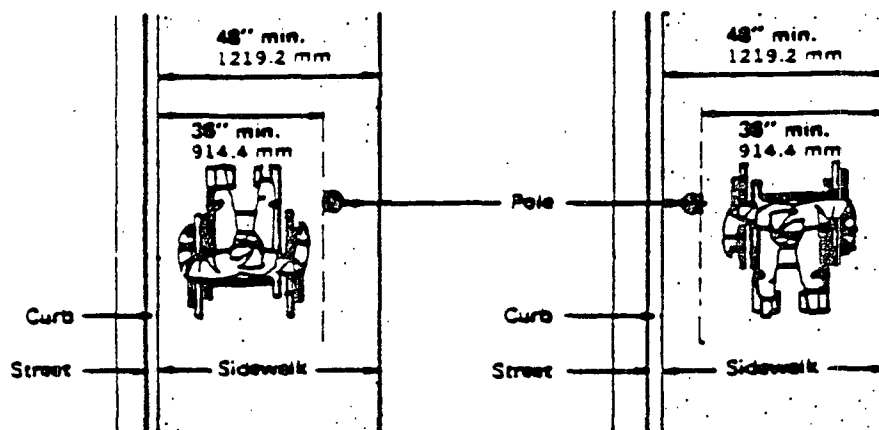


Figure 33-3A

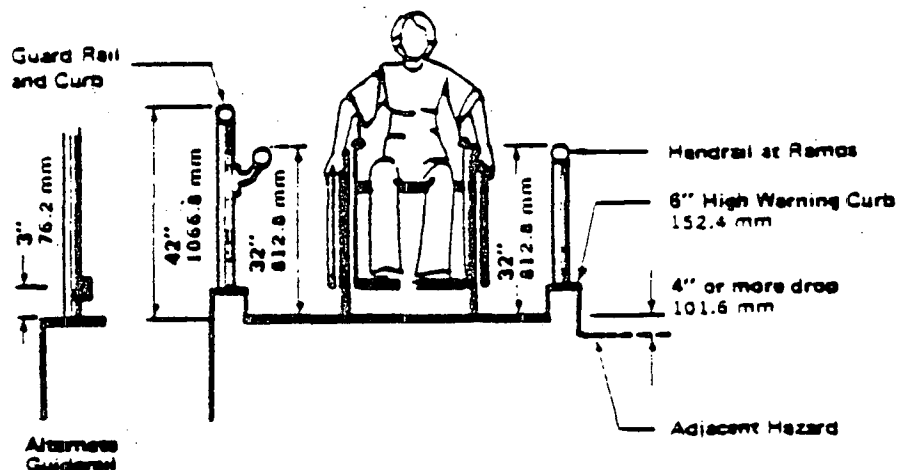


Figure 33-3B

## Walkway Width

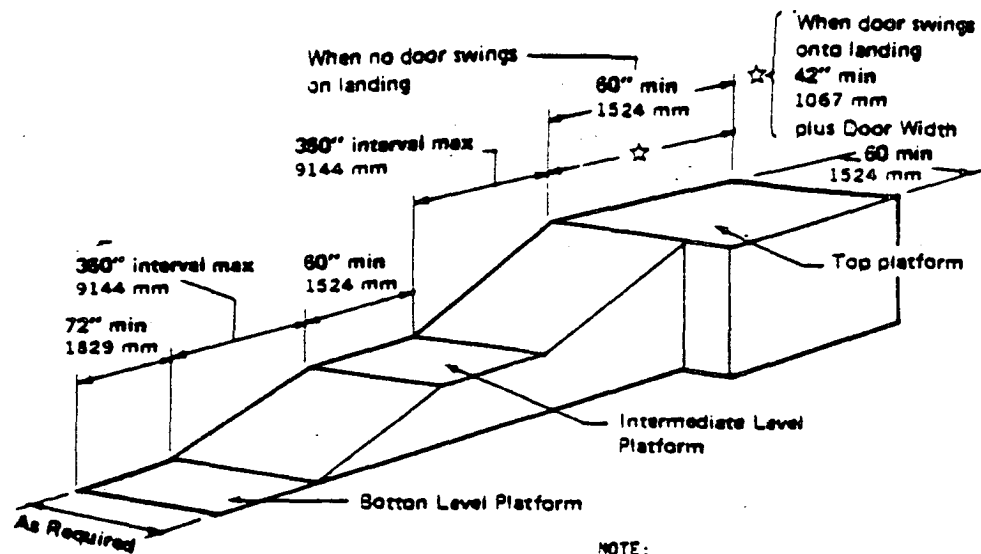
Figure 33-3





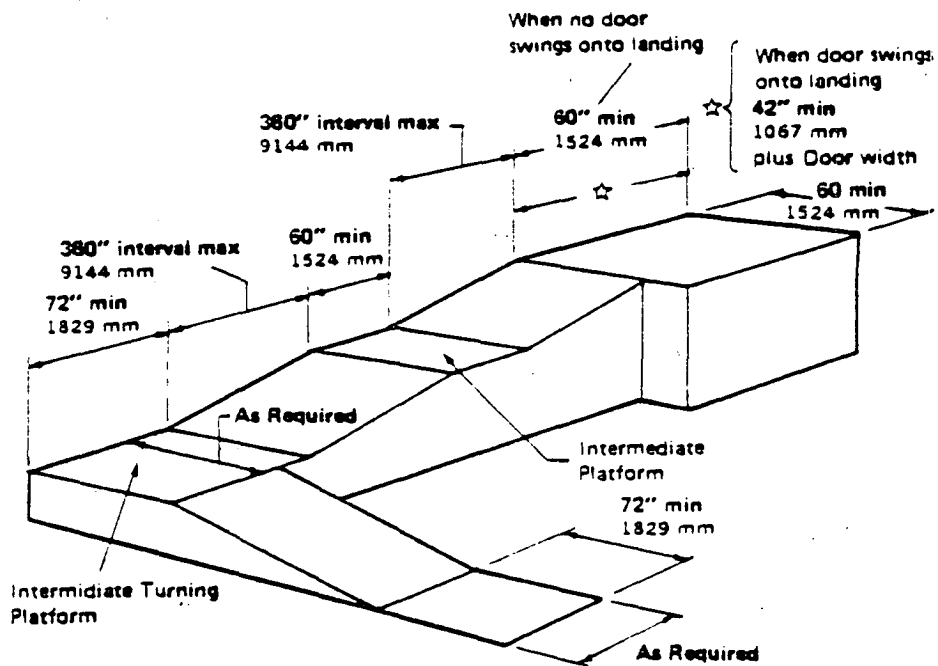
## Ramps

- 2-3306(a) Any path of travel is considered a ramp if its slope is greater than  
2-3306(c) 6% (1:20). The slope of a ramp can not exceed 8.33% (1:12).
- 2-3306(g) Surfaces of ramps with a slope of less than 6% shall be at least as slip-resistant as a medium salted finish. Surfaces with a slope of 6% or greater must be slip-resistant.
- 2-3306(e) Continuous, full-length handrails are to be placed on each side of the ramp. The handrails are to extend at least 12 inches beyond the top and bottom of the ramp, and the ends are to be returned. The handrails must be 30 to 34 inches above the ramp surface. The size and spacing requirements for ramp handrails are the same as for stairway handrails.
- 2-3306(e) Ramps that require handrails and that serve one individual dwelling  
Exception 2 unit may have one handrail on the open side if the ramp is open on one side only. If the ramp surface is not bounded by a wall or fence, and the ramp is longer than 10 feet, there shall be a curb at least 2 inches high, or a wheel guide rail 2 to 4 inches high on each side of the ramp.
- 2-3306(b) 3 Ramp width must be at least as wide as stairways (See "Stairways" page 7). Pedestrian ramps leading to primary apartment entrances serving 300 or more occupants need a minimum clear width of 60 inches. If the building serves 50 to 300 occupants the minimum clear width is 44 inches. If the building serves 50 occupants or less, ramps serving the primary occupancy are to have a minimum clear width of 36 inches.
- 2-3306(d) Landings are to be provided at the top and bottom of each ramp. Intermediate landings are to be provided at intervals not exceeding 30 inches of vertical rise, and at each change of direction. Landings are not considered in determining the maximum horizontal distance of each ramp.
- 2-3306(d) 2 The top landing dimension measured in the direction of the ramp shall be at least 60 inches wide and 60 inches in length in the direction the ramp runs when no door or gate swings onto the landing.
- 2-3306(d) 3 If a door or gate does swing onto a landing, it can not reduce the length of the landing in the direction the ramp runs to less than 42 inches. When doors are fully opened, the required width of the landing must extend 24 inches past the strike edge of the door or gate for exterior ramps and 18 inches for interior ramps. (See pages 5 and 6)
- 2-3306(d) 6 & 7 Intermediate landings are to be at least 60 inches, measured in the direction of the ramp. Bottom landings and landings at a change of direction above 30 degrees must be at least 72 inches as measured in the direction of the ramp.



NOTE:  
Maximum Horizontal Distances of each ramp and run varies. See table under 2-3306

**Straight Ramp Run**

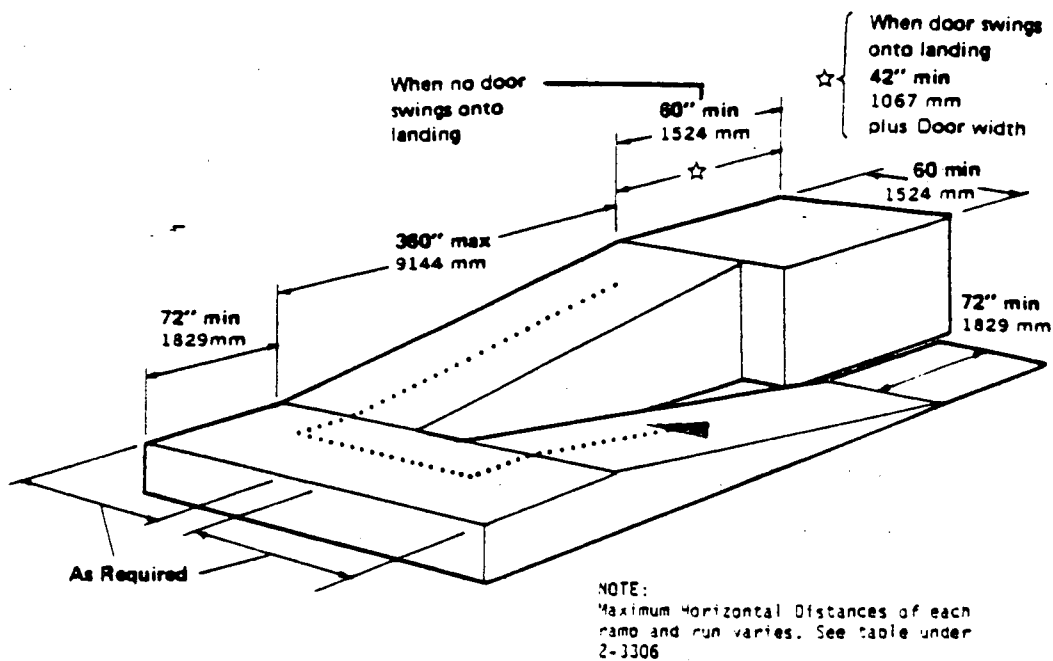


NOTE:  
Maximum Horizontal Distances of each ramp and run varies. See table under 2-3306

**Ramp With Turning Platform**

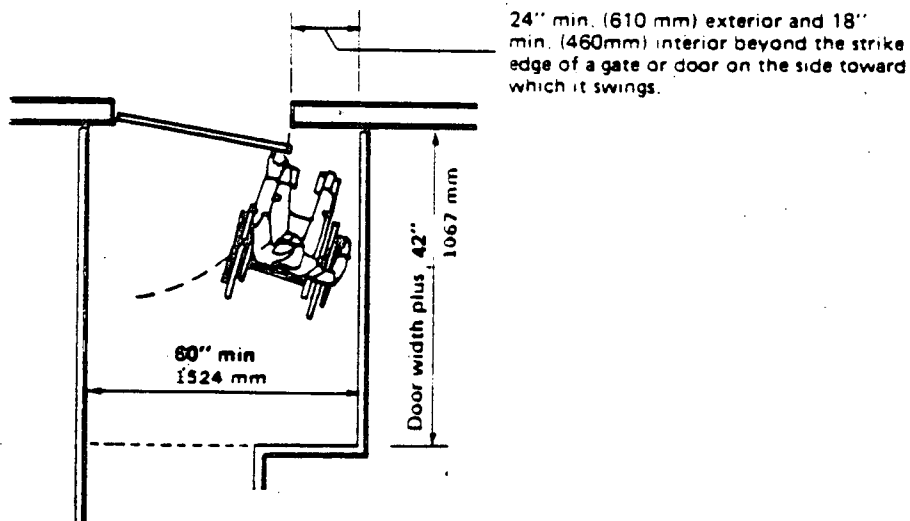
This figure is illustrative only of the applicable Building Standards and does not delineate the only means of complying with such standards.

## Ramp Dimensions



**Ramp With Intermediate  
Switch-Back Platform**

*All ramps must meet handrail and curb  
requirements*



**Ramp Landing at doorway**

This figure is illustrative only of the applicable Building Standards and does not delineate the only means of complying with such standards.

## Ramp Dimensions

**Figure 33-11B**

November 7, 1985



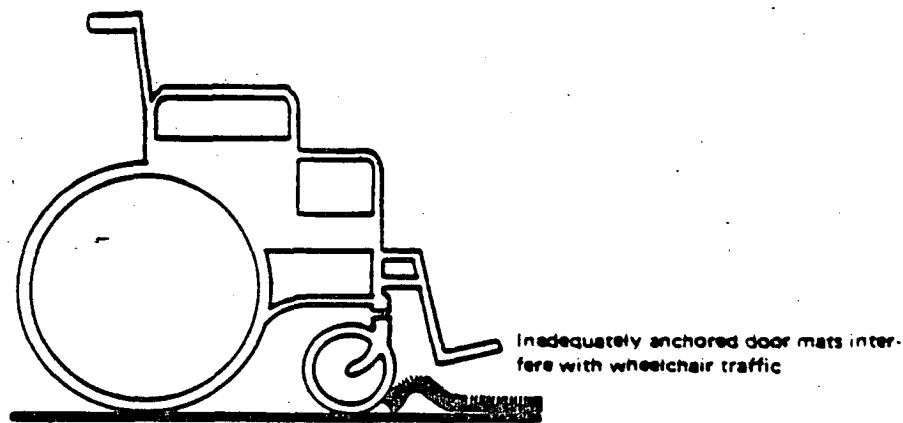
## Stairways

- 2-3305(s) 1 Stairway treads must be slip-resistant with smooth, rounded or beveled edges, and no abrupt edges at the nose. The upper approach to a stairway and all stairway treads outside a building are to be marked by a strip of clearly contrasting color, at least 2 inches wide (a painted strip is acceptable). The strip is to be placed parallel to and not more than one inch from the nose of the step or landing. The strip material must be at least as slip-resistant as the other stair treads.
- 2-3305(r)
- 2-3305(s) 2 & 3 The nosing should not project more than 1-1/2 inches past the face of the riser below, and the risers should be solid enough to prevent objects larger than 1/4 inch from passing through them.
- 2-3305(j)  
Exception 3 Stairways must have handrails on both sides. Private stairways 30 inches or less in height may have handrails on one side only.
- 2-3305(j)  
Exception 2 Stairways serving one dwelling unit in an apartment house are allowed to have only one handrail; but if the stairway is open on one or both sides, handrails are to be provided on the open side(s).
- 2-3305(j) 1 Other stairways must have handrails on both sides. A stairway more than 88 inches wide must have at least one intermediate handrail for each 88 inches of required width. Intermediate handrails shall be spaced at approximately equal intervals along the entire length of the stairway.
- 2-3305(j) 2 Handrails must be continuous for the full length of the stairway. The handrail must be 30 to 34 inches above the nosing of the treads, and extend at least 12 inches beyond the top nosing and 12 inches plus the tread width beyond the bottom nosing. The handrail must be returned or end in newel posts or safety terminals. If the extension of the handrail in the direction of the stair run creates a hazard, the extension must be made at right angles to the face of the returning wall. Where the stairs are continuous from landing to landing, the inner rail must be continuous, but need not extend into the landing.
- Handrails projecting from a wall are to be at least 1-1/2 inches from the wall. The rail's handgrip must be between 1-1/4 to 2 inches wide, or the shape must supply an equivalent smooth gripping surface with no sharp corners.

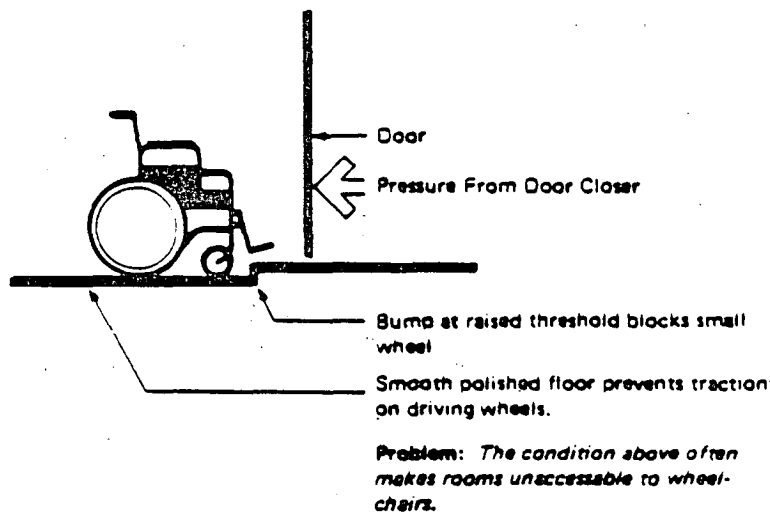


## Entry Ways

- 2-3301(m) 1 & 2 Applicable primary entrances to buildings are to be accessible to the physically handicapped. If the primary entrances are not being used by the disabled or their use is restricted, the entrances which are being substituted must be made accessible to and usable by the physically handicapped.
- 2-1213(b) 5 Every primary entrance and individual living accommodation shall have a door buzzer, bell, chime or equivalent.



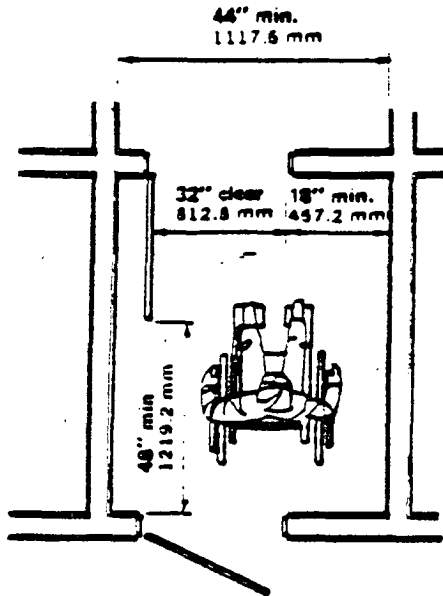
This diagram illustrates the specific requirements of these regulations and is intended only as an aid for building design and construction.



## Wheelchair Obstacles

Figure 33-1

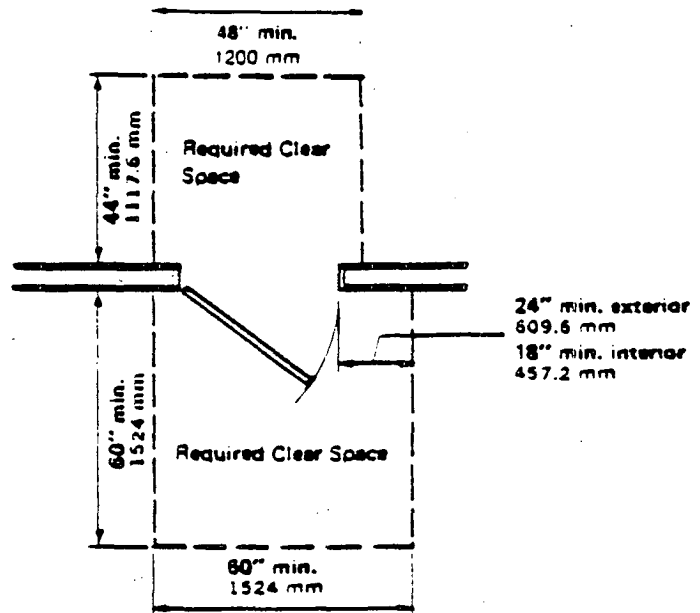
- 2-3301(m) 3 Recessed doormats must be adequately anchored to prevent interference with wheelchair traffic. (See above)
- 2-3303(e) Every required exit must be large enough to permit a door at least three feet wide and six feet, eight inches high. Exit doors shall open at least 90 degrees, and provide a clear width of at least 32 inches.
- 2-3303(i) 1 The floor or landing shall be no more than 1/2 inch lower than the doorway threshold. Changes in level between 1/4 inch and 1/2 inch must be beveled, with a slope no greater than 50%. A ramp must be provided if the change in level is greater than 1/2 inch.



Vestibule

FIGURE 33-5A

Space is necessary to allow backing and turning space for a wheelchair to clear the inswinging door.



Level Floor or Landing

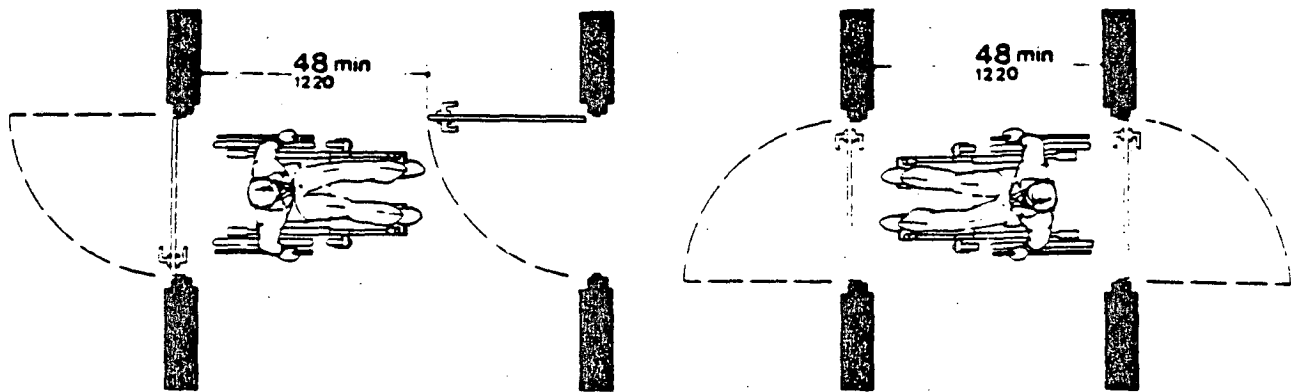
Figure 33-2

## Door Clearances

- 2-3303(i) 2 A level, clear area is to be created on each side of an exit door. The area should be at least 60 inches in the direction of the door swing, and 44 inches in the opposite direction of the door swing, as measured at right angles to the door in its closed position.
- 2-3303(i) 2.C The width of this level area must extend 24 inches past the strike edge of the door for the exterior door, and 18 inches past the strike edge for interior doors.
- 2-3303(i) 2.B In individual apartment house units, the level area must be 44 inches long, both in the direction, and opposite the direction, of the door swing, as measured at right angles to the plane of the door in its closed position.
- 2-3303(i)  
Exception 3 In apartments, private garages and sheds, where a door opens over a landing, the landing should be as long as the door width. Screen doors and storm doors may swing over stairs. The landing doesn't have to be as long as the screen doors and storm doors, but should be as long as the door width.

2-3301(i) 2.D

The space between two consecutive door openings in a vestibule, serving other than a required exit stairway, must have at least 48 inches of clear space from any door opening into the vestibule when the door is positioned at 90 degrees from its closed position. Doors in a series must swing either in the same direction or away from the space between the doors. (See below)



Two Hinged Doors in Series

Door Clearances

#### Type of Lock or Latch

Exit doors must open from the inside without a key, or any special knowledge or effort. Exit doors from buildings or rooms serving 10 or fewer occupants may have a night latch, dead bolt, or security chain, as long as the doors can still be opened from the inside without a key, special knowledge or effort. In addition, these devices are not to be mounted more than 48 inches above the floor. Manually operated edge bolts, surface-mounted flush bolts and surface bolts are prohibited. When exit doors are used in pairs and automatic flush bolts are used, the door leaf with the flush bolt must have no doorknob or surface-mounted hardware. The unlatching of any leaf must not require more than one operation.

2-3303(c)

2-3303(c) 3

Hand activated door opening hardware is to be between 30 and 44 inches above the floor. Latching and locking doors that are hand activated and in a path of travel should have lever type hardware, panic bars, push-pull activating bars, or other hardware that provides passage without grasping the hardware. Doors to individual units must operate similarly, except that when the bolt and unlatching operation is performed with a key from the corridor or exterior side of the door, large bow keys (2 inch full bow or 1-1/4 inch half bow) must be provided instead of lever type hardware on the corridor side. Separate dead lock activation on the room side of corridor doors must have a lever handle or large thumb turn in an easily reached location.

#### Hardware

2-3303(1) 1

Exit door hardware needs to be an approved type tested in accordance with the procedures established by State Fire Marshal Standards 33.2 and 33.3.

2-3303(1) 2

Maximum effort to operate doors must not exceed 8.5 pounds for exterior doors and 5 pounds for interior doors. This maximum effort is measured as the amount of push or pull applied at right angles to hinged doors, and at the center plane of sliding or folding doors. Compensating devices or automatic door openers may be used to meet these standards. When fire doors are required, the maximum effort to operate the door may be increased up to 15 pounds.

#### Construction

2-3303(m)

The bottom 10 inches of all doors, except automatic and sliding doors, must have a smooth, uninterrupted surface to allow the door to be opened by a wheelchair footrest without catching on or trapping the wheelchair.



## Corridors

2-3304(b) 1

Every corridor serving 10 or more occupants must be at least 44 inches wide. All corridors within apartment house units are to be at least 36 inches wide.

2-3304(b) 2

Corridors over 200 feet long require:



A minimum clear width of 60 inches; or



At a central location, a wheelchair turning or passing alcove that is at least 60 inches by 60 inches; or



At a central location, an intervening cross or tee corridor, at least 44 inches wide; or



A door at a central location.



# Inside the Apartment Unit

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## General

- 2-1213(a) 2 Every entry, opening or passage door of the apartment must have a minimum clear opening of 32 inches when the door is in a fully open position.

### Switches

- 3-380-8(c) The center of the grip of the operating handle of switches used to control lighting and receptable outlets, appliances, or cooling, heating, and ventilating equipment must be between three and four feet above the floor.

### Electrical Outlets

- 3-210-25(e) The center of 15-, 20-, and 30-ampere electrical outlets must be installed at least 12 inches above the floor. This requirement does not apply to electrical outlets installed as a part of permanently installed baseboard heaters, outlets required in areas adjacent to sliding panels or walls, or other electrical convenience floor outlets. The requirement also does not apply to baseboard electrical outlets used in movable partitions, or in walls with windows.



## Kitchens

- 2-1213(b) 2 The design and construction of all U-shaped kitchens must provide a minimum clear space of 60 inches between cabinet fronts, counters, or walls. A minimum clear space of 48 inches is required for all other kitchen designs.

- 2-1213(b) 3 Counter tops at least 30 inches need to be provided for the kitchen sink. At least 30 inches shall be provided for a work space. Both the sink and work space counter areas shall be designed to enable repositioning to a minimum height of 28 inches. The sink and work surface counter areas may be a single integral unit or separate components.

Cabinets located directly under sink and work area counters designed for repositioning must be removable to accommodate wheelchair clearance.

The sides and back of adjacent cabinets, which may become exposed to moisture or food handling when a countertop is lowered, are to be constructed of durable nonabsorbent materials appropriate for such uses. Install finished flooring on the floor beneath such countertop.

- 2-1213(b) 3 Stone, cultured stone, and tiled countertops may be used without meeting these repositioning requirements.
- 2-1213(b) 4 Lower shelving and/or drawer space must be provided at a height of no more than 48 inches (1219.2 mm).

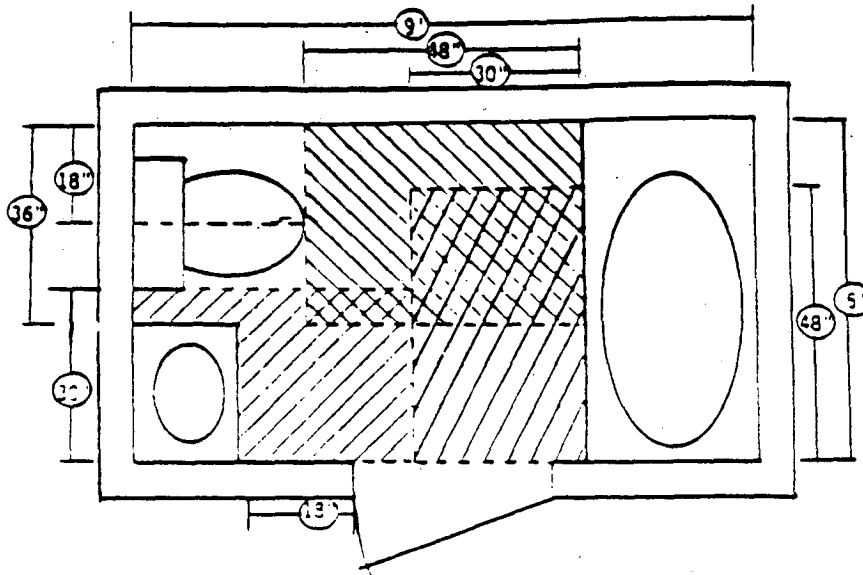


## Bathrooms

- 2-1213(d) 1 Bathroom entrance doorways need an 18 inch clear space from the side of the door's latch edge on the swing side.
- 2-1213(d) 3 At least 48 inches along the side of a bathtub or bathtub-shower is needed for maneuvering a wheelchair and for transferring to and from the bathing facilities. This space may include the maneuverable area under the lavatory.
- 2-1213(d) 4 The toilet can be located in a space 36 inches in clear width, as long as 48 inches of clear space is provided in front of the toilet. Space may include maneuverable space under a sink designed so as not to impede access. Doors must not infringe on these clearances.
- 2-1711(l) Walls within shower areas require a smooth, hard, nonabsorbent surface such as Portland cement, concrete, ceramic tile or other approved material, extending up the walls at least 70 inches above the drain. Materials other than structural elements used in such walls should be impervious to moisture.
- 2-1711(m) Doors and panels of shower and bathtub enclosures are to be constructed from approved shatter-resistant materials. Glazing used in doors and panels of showers and bathtubs must be fully tempered, laminated safety glass or approved plastic.
- 2-1711(n) When glass is used, it is to be at least 1/8 inch thick when fully tempered, or 1/4 inch when laminated, and must pass the test requirements of UBC Standard No. 54-2. Plastic used in doors and panels of showers and bathtub enclosures shall be shatter-resistant. Hinged shower doors must open outward.
- 2-2711(j) Compartment showers must be 42 inches wide and 48 inches deep with an entrance opening of 36 inches. When a threshold (a recessed drop) is used, it shall be a maximum of 1/2 inch in height and have a beveled or sloped angle not exceeding 45° from the horizontal. (See page 15)
- The shower floor needs to slope toward the rear to a drain located within 6 inches of the rear wall.
- 2-1711(i) 1.A A clear floor space 30 inches by 48 inches must be provided in front of a lavatory. This space is to adjoin or overlap an accessible route and shall extend into knee and toe space underneath the lavatory.

## The Accessible Bathroom:

Design considerations for compliance using a minimum of floor space area.\*



\* This design example depicts one approach towards compliance and should not be construed as the only approach available.

### DOOR:

- Minimum clear opening of 32 inches.
- Due to the minimum of floor area used in this design example, the door must open away from the interior to prevent any infringement on the clear space required in front of the toilet.
- The 18-inch clear space to the side of the strike edge is as shown.

### LAVATORY:

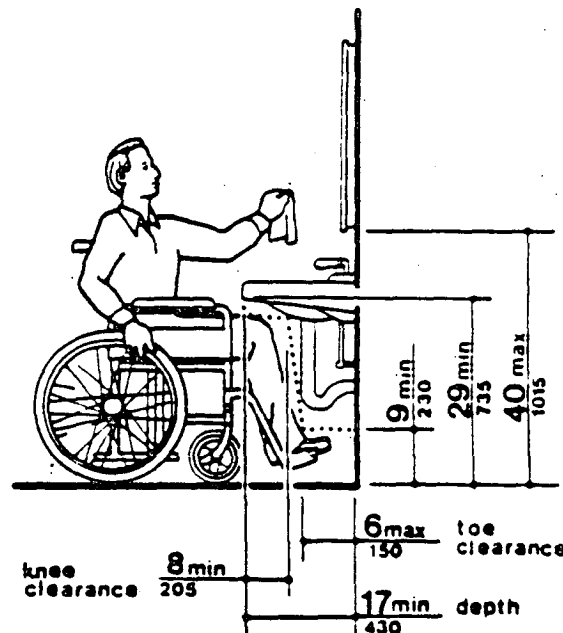
The 30" X 48" clear floor space requirement includes the area under the lavatory and overlaps a portion of the clear space requirements of the toilet (as shown).

### TOILET:

The 36" X 48" clear floor space requirement overlaps a portion of the clear space requirements of both the lavatory and the bathtub.

### BATHTUB:

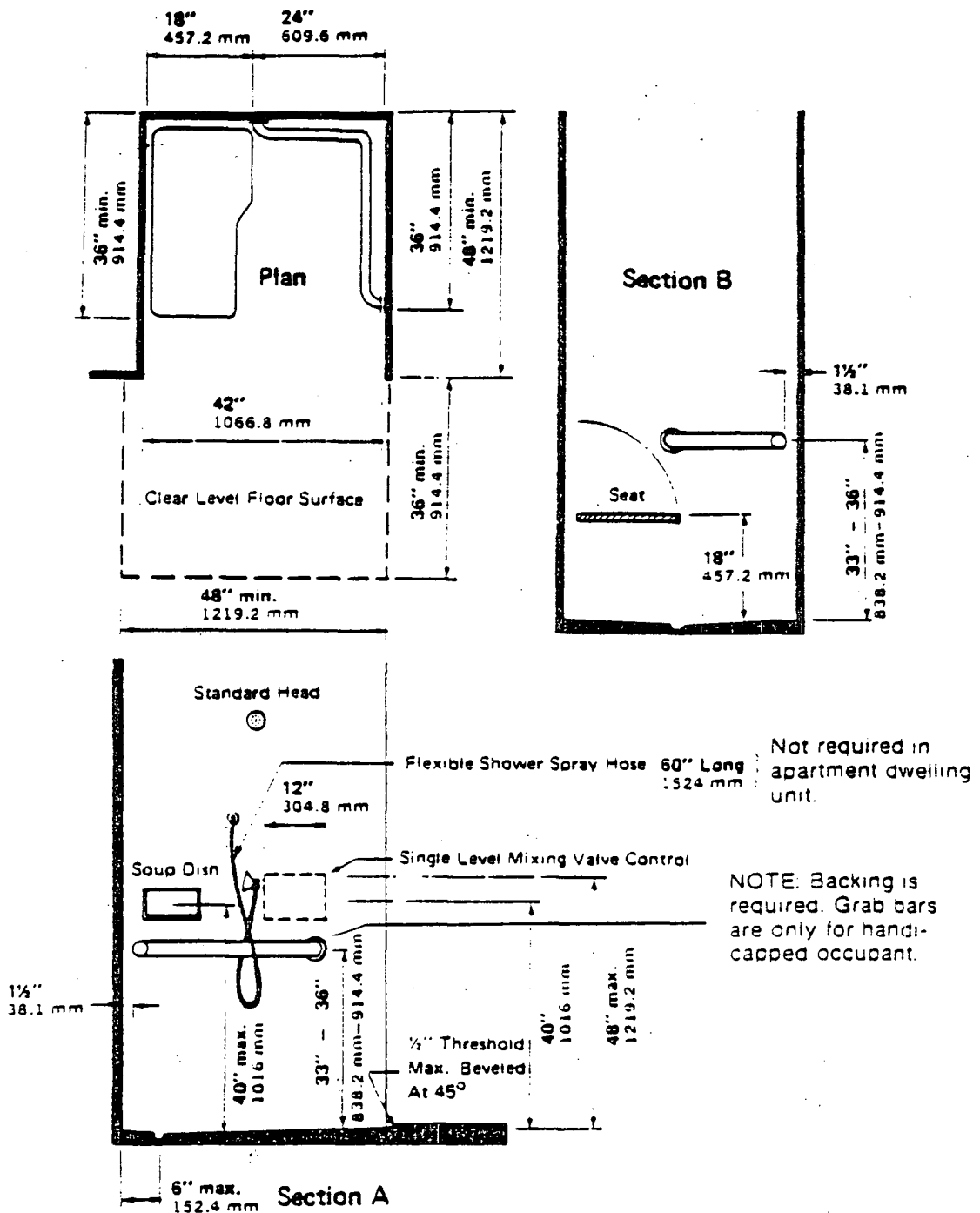
A clear floor space of at least 48" (example has 60 inches) was provided in front of the bathtub for the maneuvering of a wheelchair (which implies a minimum width requirement of 30" perpendicular to the tub).



5-1504

The lavatory must be mounted with a clearance of at least 29 inches from the floor to the bottom of the apron with knee clearance under the front lip extending a minimum of 30 inches in width with 8 inches minimum depth at the top. Toe clearance is the same width and must be a minimum of 9 inches from the floor and a minimum of 17 inches deep from the front of the lavatory. (See above)

Faucet controls are to be operable with one hand and require no more than 5 lbs. of force to activate. Examples of acceptable designs are lever-operated and push-type controlled mechanisms.



## Shower Stall

Figure 17-2

This diagram illustrates the specific requirements of these regulations and is intended only as an aid for building design and construction.

## Accessible Showers

- 2-1213(d) 5 Exception 5 Grab bars do not need to be provided. However, support backing must be built in accordance with grab bar height and length requirements to allow for future installation of grab bars.
- 2-1711(h) 1 Support backing needs to be placed on each side, or on one side and the back of the toilet, 33 inches above and parallel to the floor. Support backing at the side shall be at least 42 inches long, with the front end 24 inches in front of the toilet. Support backing at the back must be at least 36 inches long.
- 2-1711(h) 2 Should the builder install grab bars, the diameter or width of the gripping surface is to be 1-1/4 to 1-1/2 inches, or the shape must provide an equivalent gripping surface. When grab bars are mounted adjacent to a wall, the space between the wall and the grab bars is to be 1-1/2 inches.
- 2-1711(h) 3 The structural strength of grab bars, tub and shower seats, fasteners and mounting devices must withstand at least 250 pounds of lateral load.
- 2-1711(h) 3.E Grab bars can not rotate within their fittings.
- 2-1711(h) 4 A grab bar and any wall or surface adjacent to it must be free of any sharp or abrasive elements. Edges must have a minimum radius of 1/8 inch.



Further questions about these regulations can be directed to the California Department of Housing and Community Development, 6007 Folsom Boulevard, Sacramento, CA 95819. Handicapped regulations for public buildings and publicly funded living accommodations, hotels and motels are under the jurisdiction of the Office of the State Architect, Handicapped Access Compliance Unit, 1500 Fifth Street, Sacramento, CA 95814. Questions regarding handicapped parking regulations should be directed to local building and planning departments.