

Minnesota Attorney General: Administrative Rules Proceedings

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Version 3
August 20, 2018

MINNESOTA STATE REGULATIONS

No[illegible] of filing by the Commissioner of Administra[illegible]

We have received on this date, stamped and filed 2 copies of Rules and Regulations pertaining to the State Building Code

5501, 5502, 5503 (Agency or Board) 5505, 5507 5508

Regulation No. UBC 605, 805, 905, 1105, 1205, 1305, 1711, 3304, 3802 58C 8806

Subject: all UBC except S.BC 8806

Light Ventilation and Sanitation

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NOV 18 1975

BY
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Stamped and filed with the Secretary of State Nov 18, 1975 8:00 Am

Rev. 9-72

In the matter of the Proposed Amendments to the State Fire Marshal's Rules and to the State Building Code

THE FOLLOWING RULES ARE ADOPTED:

UBC 605 Light, Ventilation, and Sanitation. All portions of Group A Occupancies customarily used by human beings and all dressing rooms shall be provided with light and ventilation by means of windows or skylights with an area not less than one-eighth of the total floor area, one-half of which shall be openable, or shall be provided with artificial light and a mechanically operated ventilating system. The mechanically operated ventilating system shall supply a minimum of five (5) cubic feet per minute of outside air with a total circulated of not less than 15 cubic feet per minute per occupant in all portions of the building and such system shall be kept continuously in operation during such time as the building is occupied. If the velocity of the air at the register exceeds ten (10) feet per second, the register shall be placed more than eight (8) feet above the floor directly beneath.

Lights in all parts of the building customarily used by human beings shall be on a separate circuit from that of the stage and shall be controlled from the box office. All lights in corridors, exit courts and exit passageways shall be protected by a wire cage.

All registers or vents supplying air backstage shall be equipped with automatic closing devices with fusible links. Such closing devices shall be located where the vents or ducts pass through the proscenium walls and shall be operated by fusible links located on both sides of the proscenium wall and both inside of and outside of the vent or duct.

There shall be provided in an approved location at least one lavatory for each two water closets for each sex, and at least one drinking fountain for each floor level.

For other requirements on water closets, see UBC 1711.

For additional sanitation facilities requirements, see UBC 1711(h).

UBC 805 Light, Ventilation, and Sanitation. All portions of Group C Occupancies shall be provided with light and ventilation, either natural or artificial, as specified in UBC 605.

For other requirements on water closets, see UBC 1711.

For additional sanitation facilities requirements, see UBC 1711(h).

UBC 905 Light, Ventilation, and Sanitation. All portions of Group D Occupancies customarily used by human beings shall be provided with light and ventilation by means of windows or skylights with an area equal to one-eighth of the total floor area, one-half of which shall be openable, or shall be provided with artificial light and a mechanically operated ventilating system as specified in UBC 605 and SBC 7720.

For other requirements on water closets, see UBC 1711.

For additional sanitation facilities requirements, see UBC 1711(h).

UBC 1005 Light, Ventilation, and Sanitation. All portions of Group E Occupancies customarily used by human beings shall be provided with light and ventilation by means of windows or skylights with an area equal to one-eighth of the total floor area, one-half of which shall be openable, or shall be provided with artificial light and a mechanically operated ventilating system as specified in UBC 605.

In all buildings used for the storing or handling of automobiles operated under their own power, and in all buildings where flammable liquids are used, exhaust ventilation shall be provided sufficient to produce one complete change of air every 15 minutes. Such exhaust ventilation shall be taken from a point at or near the floor level.

EXCEPTION: In public repair garages and aircraft hangars not exceeding an area of 5,000 square feet, the Building Official may authorize the omission of such ventilating equipment where, in his opinion, the building is supplied with unobstructed openings to the outer air which are sufficient to provide the necessary ventilation.

Every building or portion thereof where persons are employed shall be provided with at least one water closet. Separate facilities shall be provided for each sex when the number of employees exceeds four (4) and both sexes are employed. Such toilet facilities shall be located either in such building or conveniently in a building adjacent thereto on the same property.

All water closet rooms shall be provided with an exterior window at least three (3) square feet in area, fully openable; or a vertical duct not less than 100 square inches in area for the first toilet facility with an additional 50 square inches in area for the first toilet facility with an additional 50 square inches for each additional toilet facility; or a mechanically operated exhaust system, which is connected to the light switch, capable of providing a complete change of air every 15 minutes. Such systems shall be vented to the outside air and at the point of discharge shall be at least five (5) feet from any openable window.

For other requirements on water closets, see UBC 1711.

For additional sanitation facilities requirements, see UBC 1711(h).

UBC 1105 Light, Ventilation, and Sanitation. All portions of Group F Occupancies customarily used by human beings shall be provided with light and ventilation by means of windows or skylights with an area not less than one-eighth of the total floor area, one-half of which shall be openable, or shall be provided with artificial light and a mechanically operated ventilating system. In no case shall less than two changes of air per hour be provided.

In all buildings used for the storing or handling of automobiles operated under their own power, and in all buildings where flammable liquids are used, exhaust ventilation shall be provided sufficient to produce one complete change of air every 15 minutes. Such exhaust ventilation shall be taken from a point at or near the floor level.

EXCEPTION: In gasoline service stations without lubrication pits, storage garages and aircraft hangars not exceeding an area of 5,000 square feet, the Building Official may authorize the omission of such ventilating equipment where, in his opinion, the building is supplied with unobstructed openings to the outer air which are sufficient to provide the necessary ventilation.

Every building or portion thereof where persons are employed shall be provided with at least one water closet. Separate facilities shall be provided for each sex when the number of employees exceeds four (4) and both sexes are employed. Such toilet facilities shall be located either in such building or conveniently in a building adjacent thereto on the same property.

UBC 1105 (cont.)

Such water closet rooms in connection with food establishments where food is prepared, stored, or served, shall have a nonabsorbent interior finish on floors, walls, and ceilings and shall have hand washing facilities therein or adjacent thereto.

All water closet rooms shall be provided with an exterior window at least three (3) square feet in area, fully openable; or a vertical duct not less than 100 square inches in area for the first toilet facility with an additional 50 square inches for each additional toilet facility; or a mechanically operated exhaust system, which is connected to the light switch, capable of providing a complete change of air every 15 minutes. Such systems shall be vented to the outside air and at the point of discharge shall be at least five (5) feet from any openable window.

For other requirements on water closets, see UBC 1711.

For additional sanitation facilities requirements, see UBC 1711(h).

UBC 1205 Light, Ventilation, and Sanitation. All portions of Group G Occupancies customarily used by human beings shall be provided with light and ventilation as specified in UBC 1105.

Every building or portion thereof where persons are employed shall be provided with at least one water closet. Separate facilities shall be provided for each sex when the number of employees exceeds four (4) and both sexes are employed. Such toilet facilities shall be located either in such building or conveniently in a building adjacent thereto on the same property.

For other requirements on water closets, see UBC 1711.

For additional sanitation facilities requirements, see UBC 1711(h).

UBC 1305 (b) Sanitation. Every building shall be provided with at least one water closet. Every hotel and each subdivision thereof where both sexes are accommodated shall be provided with at least two water closets lcoated in such building, which shall be conspicuously marked one for each sex.

Every dwelling unit shall be provided with a kitchen equipped with a kitchen sink and with bathroom facilities consisting of a water closet, lavatory and either a bathtub or shower. Each plumbing fixture shall be equipped with running water necessary for its normal operation.

For other requirements on water closets, see UBC 1711.

For additional sanitation facilities requirements, see UBC 1711(h).

UBC 1405 (a) Light and Ventilation. All guest rooms, dormitories and habitable rooms within a dwelling unit shall be provided with natural light by means of windows or skylights with an area of not less than one-tenth of the floor area of such rooms with a minimum of ten (10) square feet. All bathrooms, water closet compartments, laundry rooms, and similar rooms shall be provided with natural ventilation by means of windows or skylights with an area of not less than one-tenth of the floor area of such rooms with a minimum of three (3) square feet.

Not less than one-half of the required window or skylight area shall be openable to provide natural ventilation.

In lieu of openable windows for natural ventilation, a mechanical ventilation system may be provided. Such system shall be capable of providing two air changes per hour in all guest rooms, dormitories, habitable rooms, and in public corridors. One-fifth of the air supply shall be taken from the outside. In bathrooms, water closet compartments, laundry rooms, and similar rooms, a mechanical ventilation system connected directly to the outside, capable of providing five (5) air changes per hour, shall be provided.

For the purpose of determining light and ventilation requirements, any room may be considered as a portion of an adjoining room when one-half of the area of the common wall is open and unobstructed and provides an opening of not less than one-tenth of the floor area of the interior room or 25 square feet, whichever is greater.

Required windows shall open directly onto a street or public alley or a yard or court located on the same lot as the building.

EXCEPTION: Required windows may open into a roofed porch where the porch:

1. Abuts a street, yard, or court; and
2. Has a ceiling height of not less than seven (7) feet; and
3. Has the longer side at least 65 percent open and unobstructed.

Every dwelling unit shall be provided with a kitchen equipped with a kitchen sink and with bathroom facilities consisting of a water closet, lavatory and either a bathtub or shower. Plumbing fixtures shall be provided with running water necessary for their operation.

For other requirements on water closets, see UBC 1711.

For additional sanitation facilities requirements, see UBC 1711(h).

UBC 1711 (b) Toilet Facilities. Toilet facilities and water closet compartments shall have a clear and unobstructed access of not less than 32 inches, and a clear space, unobstructed by door swing, grab bars and similar items, of not less than 32 inches shall be provided in front of the toilet stool.

EXCEPTIONS:

1. In Group I and J Occupancies, the water closet compartments may be 30 inches in width and may have a clear space in front of the toilet stool of not less than 24 inches.

2. Where more than one toilet compartment is provided, only one such compartment need comply within each toilet room for each sex.

UBC 1711 (c) Deleted in its entirety.

UBC 1711 (h) Sanitation Facilities. Sanitation facilities shall be provided for each Occupancy in accordance with Table 17-B and UBC Sections 605, 705, 805, 905, 1005, 1105, 1205, 1305 and 1405. Fixtures shall be provided for each sex in accordance with the percentage of occupants of each sex. When the percentage of each sex is not known, one-half for each sex shall be assumed.

Table No. 17-B REQUIRED SANITATION FIXTURES BASED ON OCCUPANCY AND OCCUPANT LOAD (1)(2)

OCCUPANCY	USE	S.F. per Occ.	WATER CLOSETS	URINALS	LAVATORIES	DRINKING FOUNTAINS	BATHTUBS OR SHOWERS	SINKS
Group A & B ASSEMBLY	Auditoriums 30 Bowling Alleys 30 Churches 60 Conference Rooms 80 Dance Floors 30 Dining, Drinking 30 Exhibit Rooms 80 Gymnasiums 30 Libraries 100 Lodge Rooms 80 Lounges 80 Rinks 30 Stadiums, Grandstands 80 Theaters 30 Waiting Rooms 80		Churches 1 for each 300 men 1 for each 300 women Other Occupants / Fixtures 1-100 / 1 101-200 / 2 201-400 / 3 Over 400 / 1 additional per each 500	(3)	Churches 1 for each 300 Other Occupants / Fixtures 1-200 / 1 201-400 / 2 401-750 / 3 Over 750 / 1 additional per each 500	1 for each 300	-	1 service sink
Group C SCHOOLS	Elementary 60 Secondary 60		Boys / Girls 1/ea. 60 / 1/ea. 60 1/ea. 90 / 1/ea. 30	1 for each 30	1 for each 60 1 for each 90	1 for each 75	-	1 service sink per floor
Group D INSTITUTIONAL	Prisons, Jails 100 Hospitals, Nursing Homes 100		1 for each cell 1 in ea. exercise room 1 for each 8 patients 1 in each waiting room Other 1 for each 25 men 1 for each 20 women	1 in ea. exercise room Other 1 for each 50	1 in each cell and exercise room 1 for each 10 patients Other 1 for each 10	1 for each 100	1 at each cell block floor 1 for each 20 Other 1 for each 10	1 service sink per floor

Table 17-B continued

Group E, F & G COMMERCIAL INDUSTRIAL	Aircraft Hangers Factories Municipal Buildings Office Buildings Sales Service Stations Storage Garages Warehouses	500 60 80 200 200 500 500 500	Factories, Warehouses Occupants / Fixtures 1-10 / 1 11-25 / 2 26-50 / 3 51-75 / 4 76-100 / 5 Over 100 / 1 addt'nl for ea. 30 Sales, Office, etc. Occupants / Fixtures 1-15 / 1 16-35 / 2 36-55 / 3 56-80 / 4 81-110 / 5 111-150 / 6 Over 150 / 1 addt'nl for ea.50	(3)	Factories, Warehouses Occupants / Fixtures 1-100(4) / 1-10* Over 100(5) / 1-15* Sales, Offices Occupants / Fixtures 1-15 / 1 16-35 / 2 36-60 / 3 61-90 / 4 91-120 / 5 Over 125 / 1 to 45	Factories Warehouses 1 for each 75 Sales, Offices 1 for each 150	-	1 service sink per floor
Group H RESIDENTIAL MULTIPLE	Dwelling Units, Apt. Motel, Hotel Units Rooming Houses Dormitories	- - 100 100	1 1 for each 8 1 for each 8 1 for each 8	(3)	1 1 for each 8 1 for each 8 1 for each 8	-	1 1 for each 8 1 for each 8 1 for each 8	1 kitchen sink 1 laundry tub for each 10 dwelling units or guest rooms
Group I DWELLINGS	Single Family	-	1	-	1	-	1	1 kitchen sink
Group J ACCESSORY	-	-	-	-	-	-	-	-
TEMPORARY FACILITIES	-	-	1 for each 30	1 for each 30	-	1 for each 100	-	-

Footnotes:

(1) Occupant load is computed using the equation: $\frac{A}{\text{S.F. per Occ.}}$ = Occupant Load A-Area of building
S.F. per Occ.-from Column 3 of this table

(2) Square feet per occupant is for computing the occupant load to determing plumbing fixtures required. See Table No. 33-A for square feet per occupant for computing the occupant load to determing exiting.

(3) Urinals may be furnished in place of water closets at the rate of one urinal for one water closet, but not to exceed one-third of the required water closets.

(4) 1 fixture for each 10 occupants.

(5) 1 fixture for each 15 occupants.

UBC 3303 (a) General. This section shall apply to every exit door serving an area having an occupant load of more than ten (10), or serving hazardous rooms or areas. Buildings or structures used for human occupancy, and each dwelling unit or guest room in Group H Occupancies, shall have at least one exit door which meets the requirements of subsection (d). Subsections (h) and (i) shall apply to all doors, regardless of occupant load.

UBC 3304 (a) General. This section shall apply to every corridor serving as a required exit for an occupant load of ten (10) or more persons. For the purposes of this section the term "corridor" shall include "exterior exit balcony" and any covered or enclosed exit passageway including walkways, tunnels, and malls. See subsection (b) for requirements in dwelling units where the occupant load is less than ten (10).

Foyers, lobbies and reception rooms meeting the construction requirements of corridors as specified in this section may be classified as corridors.

Partitions, rails, counters and similar space dividers not over five (5) feet in height above the floor shall not be construed to form corridors.

UBC 3304 (b) Width. Every corridor shall be not less in width than 44 inches. For special requirements for Group C and D Occupancies, see UBC Sections 3317 and 3318. Regardless of occupant load, corridors and hallways within a dwelling unit shall have a clear width of not less than 31 inches.

UBC Table 33-A Available Square Feet Per Occupant and Egress Facilities

Delete final column entitled "Egress by Means of a Ramp or an Elevator Must be Provided for the Physically Handicapped as Indicated."

Delete Footnotes 2, 3, 4, 5 and 6.

UBC 3802 (b) 6. In Group E, Divisions 1 and 2 Occupancies having an area of more than 1,500 square feet; in Group E, Division 3 Occupancies having an area of more than 3,000 square feet; and in Group E, Division 4 Occupancies more than one story in height, or exceeding 20,200 square feet in floor area located in Fire Zone No. 3. The area and height increases specified in Section No. 506 and No. 507 shall be permitted.

In rooms where flammable or combustible liquids are stored or handled in excess of the quantities set forth in Table No. 1-A, or any combination of flammable liquids totaling 240 gallons, as defined in the Fire Code.

For special provisions on hazardous chemicals and magnesium, and calcium carbide, see Fire Code.

Chapter 55

Facilities for the Handicapped

UBC 5501 Where Required.

(a) General. In addition to other provisions in this Code, facilities for the handicapped shall be provided in accordance with this chapter.

(b) Scope. Provisions of this chapter shall apply to buildings housing all occupancies except the following:

1. Group I and J Occupancies.

2. Temporary buildings.

3. Buildings not exceeding 150 square feet in floor area need not be provided with sanitation facilities for the handicapped specified in UBC 5503.

4. One story buildings, other than service stations, not exceeding 2,000 square feet in floor area need not be provided with sanitation facilities for the handicapped specified in UBC 5503 when approvde by the Building Official.

5. Floors of buildings not used by the general public and on which handicapped persons cannot be employed because of the nature of the work.

6. Group H Occupancies in which dwelling units are individually owned, sanitation facilities for the handicapped specified in UBC 5503, and other facilities for the handicapped specified in UBC 5504, need not be provided.

UBC 5502 Building Accessibility

(a) Definitions.

1. Ramp is a sloped walking surface within a building or attached to a building connecting levels of the building and may be part of an exit in accordance with UBC 3306.

2. Walk is a continuous, permanently defined pathway at grade between public ways and buildings, parking areas and buildings, or between buildings.

3. Slip-resistant is any surfacing of a floor, ramp, or walk which has an anti-slip coefficient of not less than 0.40 as defined in Research Paper No. RP-1879 of the National Bureau of Standards.

(b) Site Approaches. Access to building entrances shall be by walks. Such walks shall be of concrete, asphaltic paving or similar permanent material, with slip-resistant surface, and shall be not less than 48 inches wide with a slope not to exceed one vertical to 20 horizontal.

(c) Building Entrances. At least one required exit of the building shall be accessible for use as ingress for the handicapped, and shall be identified for such use. Such building entrance shall be at the main lobby or corridor, or shall be accessible thereto by ramp or elevator.

UBC 5502 (cont.)

(d) Access to Other Stories. Access for the handicapped to other stories or levels of the building used by the general public and/or employees shall be by elevator or ramp, except the following:

1. Group H Occupancies not exceeding three (3) stories in height.

2. Other Occupancies not exceeding two (2) stories in height, and where the total occupant load is less than 100 on all floors other than the main floor.

Such ramp shall have a slip-resistant surface. It shall have a landing at top and bototm, and where the rise exceeds three (3) feet vertically, it shall have an intermediate landing located not to exceed two (2) feet six (6) inches vertically. Bottom landing shall have a minimum dimension of six (6) feet measured in the direction of the ramp, and top and intermediate landings shall have a minimum dimension of five (5) feet measured in the direction of the ramp. Handrails and guardrails shall be provided as required for stairs.

(e) Automobile Parking Areas. Where automobile parking spaces are provided, at least one space per 50 spaces, or fraction thereof, shall be provided for the use of the handicapped, and shall be identified for such use. Such parking spaces shall be not less than 12 feet in width, and located as near as practicable to the building entrance specified in UBC 5502(c).

(f) Doors and Doorways. Doors and doorways serving buildings or portions thereof regulated by this chapter shall comply with the following:

1. Doorways or doors in an open position shall have a clear opening width of not less than 31 inches.

2. Doors shall be operable by a single effort with one hand.

3. In doorways consisting of two (2) door leafs, at least one door leaf shall comply with the provisions of this section. See UBC 3303(d) for minimum exit door width.

4. Where access regulated by this chapter is through two (2) or more sets of doors, as in a foyer, vestibules, or lobby, the space separating the doorways shall be not less than seven (7) feet.

5. The floor or landing at doorways shall be level with, or not more than one-half inch lower than, the threshold. Where the door swings over floor or landing such floor or landing shall extend not less than one foot beyond the door on the latch side.

6. In dwelling units specified in UBC 5503(a)1, entrances specified in UBC 5502(c), and toilet rooms or compartments specified in UBC 5503(c)1, door opening latch hardware shall have lever handles, and shall be not more than three (3) feet six (6) inches above the floor.

7. Doors serving toilet rooms or stalls shall be capable of being unlocked from either side.

UBC 5502 (cont.)

(g) Stair Tread Nosing. Risers shall be slanted to meet the tread nosing edge, or where the treads extend beyond vertical risers, nosing shall be rounded and not project beyond the risers more than one inch.

(h) Aisles and Lanes. Where pedestrian aisles or lanes are defined with directional barriers, rails, benches, merchandise, tables, seats or fences, at least one shall have not less than 31 inches clear width for use of the handicapped and shall be identified for such use.

UBC 5503 Sanitation Facilities. Sanitation facilities may include toilets (water closets), urinals, lavatories, bathtubs, showers, sinks, and similar plumbing fixtures.

For number and type of sanitation fixtures required in each occupancy, see Table 17-B.

(a) Where Required.

1. In Group H Occupancies having eight (8) or more dwelling units or guest rooms, sanitation facilities shall be provided in each dwelling unit in accordance with Table 55-A. In a multiple-building development, the dwelling units or guest rooms containing sanitation facilities shall not be located solely in one building.

2. In other buildings regulated by this chapter, at least one required toilet room for each sex shall have not less than one toilet and lavatory complying with this section, and where urinals are provided, not less than one urinal complying with this section. In buildings having more than one toilet room for each sex, not less than two (2) required toilet rooms for each sex shall comply with this section. Toilet rooms having plumbing fixtures required by this section shall be identified for use by the handicapped. Buildings having a posted room directory shall list the location of such toilet rooms in the directory.

(b) Location Other than Group H Apartment Occupancies. In buildings with an elevator or ramp, the sanitation facilities shall be located at any level served by elevator or ramp. Where sanitation facilities are required in buildings without an elevator or ramp, the sanitation facilities shall be conveniently located at the requried entrance level, accessible without leaving or re-entering the building.

(c) Sizes and Clearances.

1. Toilets. Toilet rooms or compartments shall have not less than 36 inches clear space at the front of the toilet and not less than 36 inches clear width between walls, free of door swing and other obstructions. Toilet seats shall be not less than 17 inches nor more than 20 inches above the floor.

Grab bars shall be provided at both sides or one side and rear of the toilet. Such grab bars shall be securely fastened to support a load of not less than 250 pounds. They shall have an outside diameter of 1½ inches and shall have 1½ inches clearance from walls and partitions.

A. A horizontal grab bar shall be mounted so that the lowest point is ten (10) inches above the toilet seat, and extends not less than six (6) inches in front of the toilet bowl. Grab bar shall be not less than twelve inches long.

B. A vertical grab bar shall be mounted 12 inches from the front of the toilet bowl extending from 12 inches above the height of the toilet seat to 30 inches above the toilet seat.

UBC 5503 (cont.)

2. Urinals. When provided, urinals shall have a clear access width of not less than 31 inches. The front lip of the bowl of wall-mounted urinals shall be not more than 18 inches above the floor.

3. Lavatories. Lavatories shall have a clear access width of not less than 31 inches, clear height of not less than 29 inches to the bottom of the fixture apron, clear height of not more than 34 inches to the rim of the fixture, and a clear depth of not less than 12 inches under the fixture exclusive of bowl and waste pipe. The water control valves shall have lever handles.

4. Bathtubs. When provided, and shower is not furnished, the bathtub shall be equipped with a flexible hose hand shower not less than six (6) feet in length, and a vertical height adjustment bar for the shower head of not less than four (4) feet in length. The bathtub shall have a seat, either folding, retractable or fixed, not less than 17 inches nor more than 20 inches above the tub floor and not less than 15 inches deep, and of water-resistive material.

   Grab bars shall be provided at one side of the bathtub. Such grab bars shall be securely fastened to support a load of not less than 250 pounds. They shall have an outside diameter of 1½ inches and shall have 1½ inches clearance from walls and partitions.

   A. A horizontal grab bar shall be mounted not less than four (4) inches nor more than six (6) inches above the rim of the bathtub. Grab bar shall be not less than 36 inches long.

   B. A vertical grab bar shall be mounted 30 inches from the end of the tub extending from a height of nine (9) inches to a height of three (3) feet six (6) inches above the rim of the tub.

   Water valves shall be single lever control, and shall be accessible from the seat.

5. Showers. When provided, the shower stall shall be accessible for the handicapped with a lip or curb at entry no higher than 1/2 inch above the floor of room or stall. The shower stall shall have a seat, either folding, retractable or fixed, not less than 17 inches nor more than 20 inches above the shower floor, and not less than 15 inches deep, and of water-resistive material. Grab bars shall be provided at two (2) sides of the shower compartment. Such grab bars shall be securely fastened to support a load of not less than 250 pounds. They shall have an outside diameter of 1½ inches and shall have 1½ inches clearance from walls and partitions.

   A. A vertical grab bar shall be mounted on the wall opposite the seat extending from a height of three (3) feet to a height of five (5) feet above the floor of the shower.

   B. A horizontal grab bar shall be mounted on the wall adjacent to the seat ten (10) inches above the seat. Grab bar shall be not less than 18 inches long.

   Water valves shall be single lever control and shall be accessible from the seat.

6. Kitchen Sinks. When provided, kitchen sinks shall have a clear access width of not less than 31 inches, clear height of not less than 29 inches to the bottom of the fixture apron, clear height of not more than 34 inches to the rim of the fixture, and clear depth of not less than 12 inches under the fixture exclusive of bowl and waste pipe. The water control valves shall have lever handles.

Table 55-A

Sanitation Facilities for the Handicapped

Number of Dwelling Units/ Guest Rooms in Building	Number of Dwelling Units/Guest Rooms requiring Sanitation Facilities
0 - 7	0
8 - 39	1
40 - 59	2
60 - 79	3
80 - 99	4
100 - 119	5
120 - 139	6
140 - 159	7
160 - 179	8
180 - 199	9
200 -	10 plus 1 per each 50 units exceeding 200

UBC 5504 Other Facilities.

(a) Kitchen Facilities. In dwelling units in which sanitation facilities for the handicapped are required, kitchen facilities shall be provided as follows:

1. Space. Clear space of not less than five (5) feet measured between walls, cabinets, appliances, or other obstructions shall be provided. Where cabinets have a base toe space of not less than six (6) inches deep and 8-3/4 inches high, the clear space may be measured from such toe space.

2. Range Controls. Range control handles shall be located at the front or side of the range.

3. Work Space. Work space shall have a clear access width of not less than 31 inches, clear height of not less than 29 inches to the bottom, clear height of not more than 34 inches to the top, and clear depth of not less than 12 inches under the work space. The work space shall have not less than four (4) square feet of area with a minimum dimension of 24 inches. It may be fixed, folding, or retractable.

(b) Toilet Room Accessories.

1. Mirror and/or shelves. Where mirrors and/or shelves are provided, at least one shall be mounted so that the bottom is no higher than 40 inches above the floor.

2. Towel Racks, Dispensers, Disposal Units. Where wall-mounted towel racks, dispensers, waste disposal containers or similar appliances are provided, at least one of each shall be mounted so that working height is no higher than 40 inches above the floor, and shall be free of interference by grab bars or other appliances or fixtures.

UBC 5505 Viewing Positions in Assembly Occupancies.

(a) Accessibility. Viewing positions required in this section shall be accessible for the handicapped by walk, ramp, or elevator, or combination thereof, through principle entrance.

(b) Number. Performance viewing positions in assembly occupancies with fixed seating shall be provided in accordance with Table 55-B.

(c) Space Requirements. One of the following shall be provided:

1. Clear spaces free of fixed or portable seats, or with removable fixed seats.

2. Spaces with readily removable portable seats.

(d) Location. Viewing positions shall be located at the main floor.

(e) Viewing positions shall have level floor surfaces.

Table 55-B

Viewing Positions

Motion Picture Auditoriums	
Occupant Load	Minimum Viewing Positions
500 and Less	4
Over 500	8

Other Assembly Occupancies	
500 and Less	4
501 - 1,000	12
1,001 - 1,500	16
Over 1,500	16 plus 1 per 500 additional

UBC 5506 Controls and Electrical Switches.

(a) Height. The top of controls for elevator controls, thermostats, manual fire alarms, and similar equipment in all buildings regulated by this chapter and electrical switches and receptacles in dwelling units regulated by this chapter shall be no higher than five (5) feet above the floor.

UBC 5507 Identification.

(a) Where Required. Spaces normally used by the general public, shall have tactile identification, such as raised or recessed letters, labels, or plaques. The tactile identification shall not be less than four (4) feet six (6) inches nor more than five (5) feet six (6) inches above the floor, mounted on the wall adjacent to the door of the space identified, on the side nearest the door handle.

(b) Floor Numbers at Elevators. Floor numbers shall be tactily identified for the visually handicapped by raised or recessed numbers attached to the elevator door jamb at each floor, not less than three (3) feet six (6) inches nor more than four (4) feet six (6) inches in height above the floor.

(c) Elevator Controls. Elevator controls shall have tactile identification by raised or recessed letters, labels, or plaques.

(d) Door Handles. Doors to stairs other than exit stairs, loading platforms, boiler rooms, stages, and exit doors shall have knurled or similarly marked door handles.

UBC 5508 Figures. Figures 55-1 through 55-18 of this chapter are illustrative. See appropriate chapter sections for specific provisions.

SBC 8806 2-F-1
Top and bottom landings shall be provided with hoistway access switches conforming to Rule 111.9b and 111.9c of ANSI A17.1 - 1971. The operation of the switch at the top floor shall be zoned to stop the top of the elevator car substantially level with the top floor.

SBC 8901 Reserve for future use.

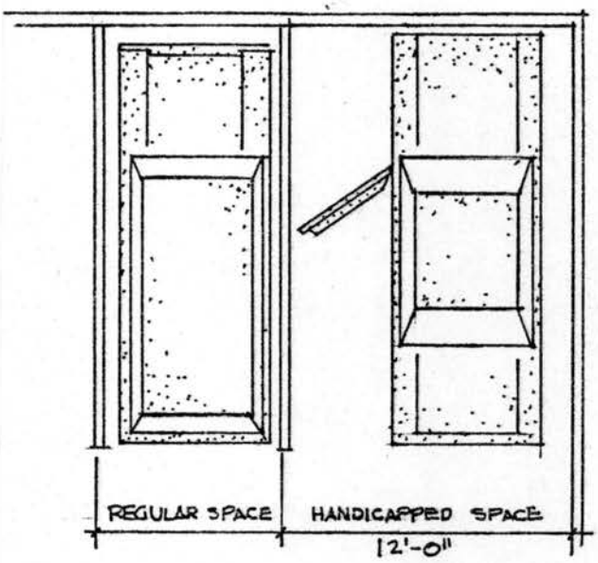
APPROVED AS TO FORM AND LEGALITY
NOV 17 1975 19
WARREN SPANNAUS, ATTORNEY GENERAL
BY /s/ Michael B. Miller
SPECIAL ASSISTANT ATTORNEY GENERAL

STATE OF MINNESOTA
DEPARTMENT OF STATE
FILED
NOV 18 1975 - 9:01 am
Joan Anderson Growe
Secretary of State

FILED
RICHARD L. BRUBACHER
Commissioner of Administration
NOV 18 1975
BY Edna Standenmaier
AUTH. SIGNATURE
9:50 A.M.

SBC 201 - UBC 1973 EDITION

SECTION 5502(e) AUTOMOBILE PARKING FACILITIES



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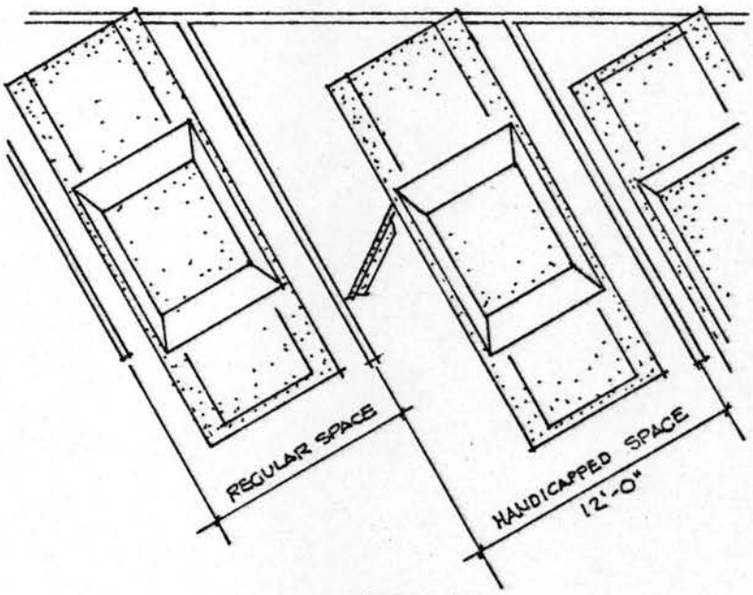

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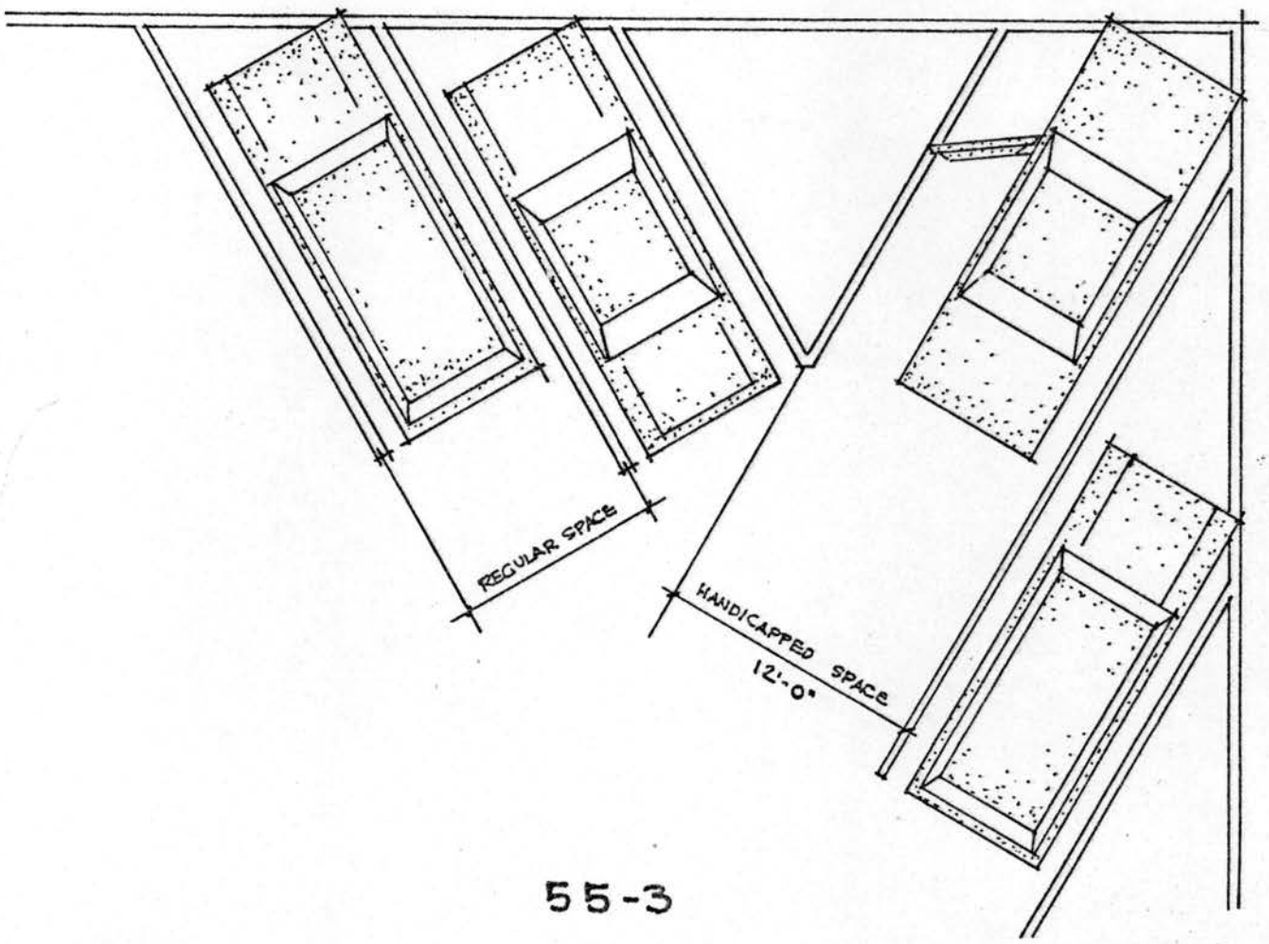

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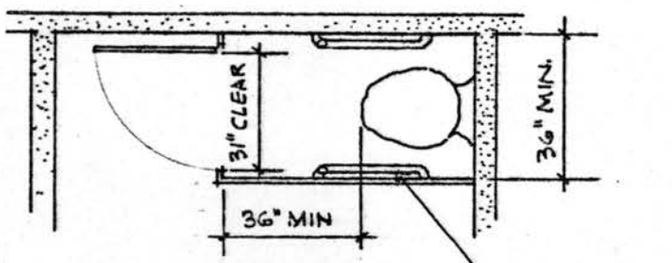
DRAWINGS NOT TO SCALE

SBC 201 - UBC 1973 EDITION
SECTION 5503 (c) SIZES AND CLEARANCES



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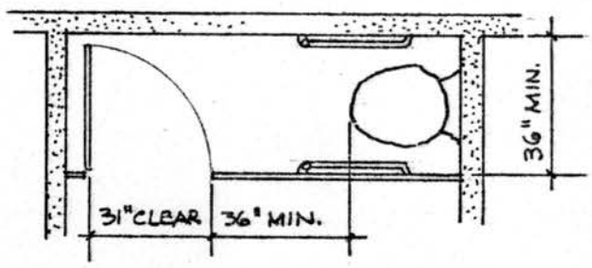

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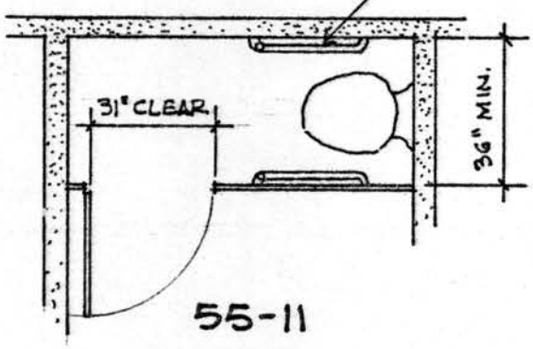
GRAB BARS



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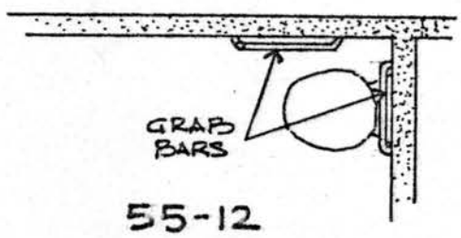

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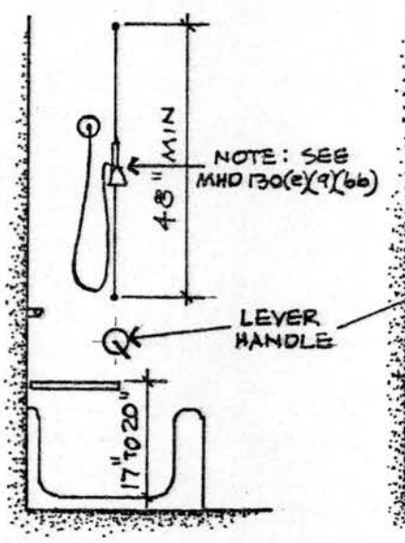

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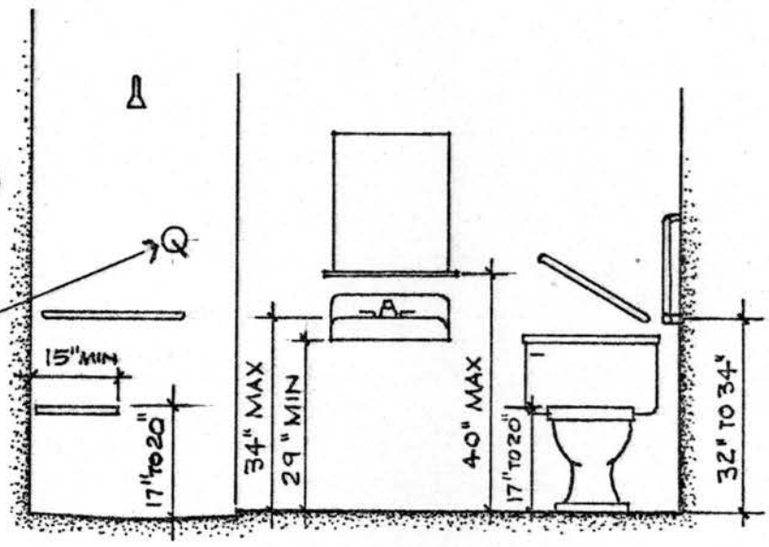

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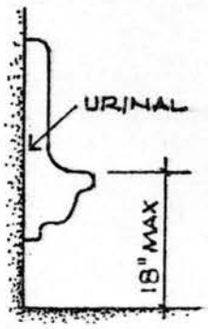
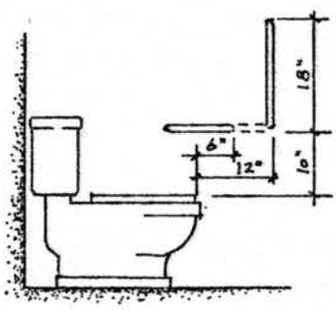


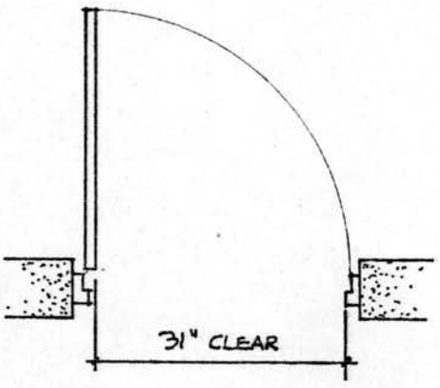
55-15 a



55-15 b

DRAWINGS NOT TO SCALE

SBC 201 - UBC 1973 EDITION
SECTION 5502(f) DOORS AND DOORWAYS



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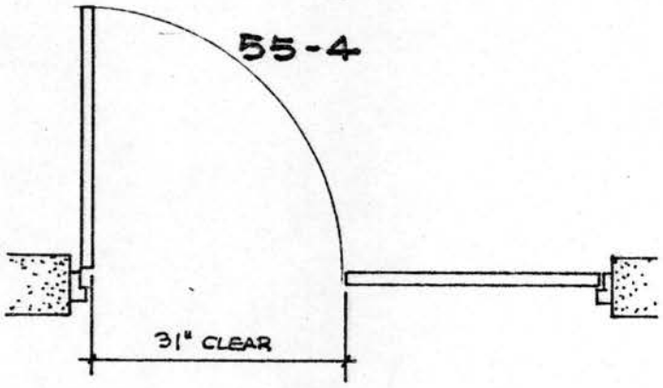

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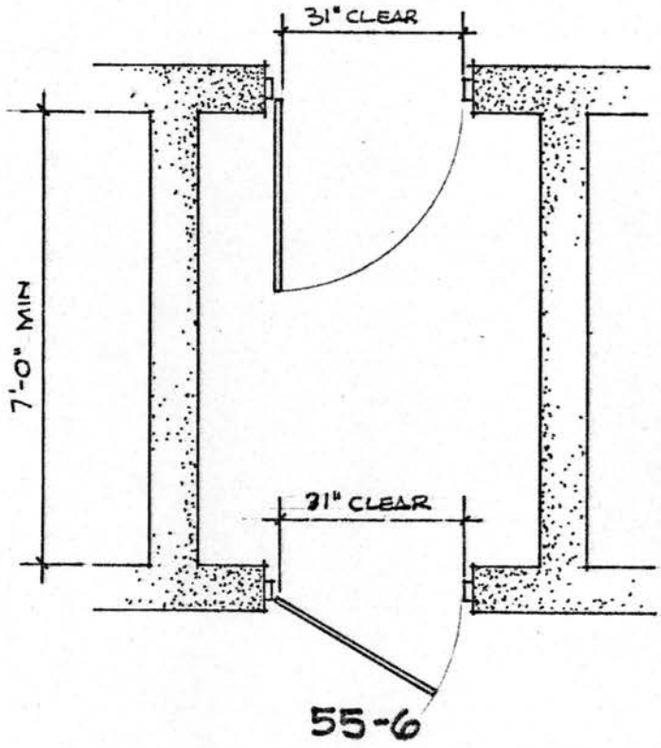
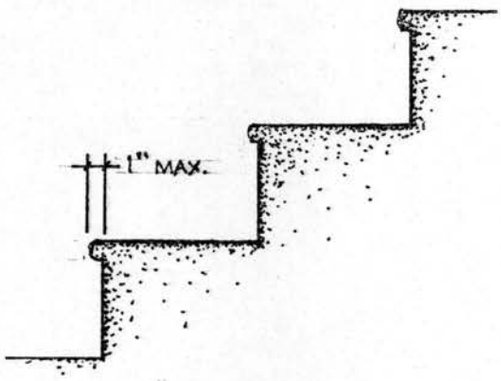


55-6

SECTION 5502 (g) STAIR TREAD NOSING



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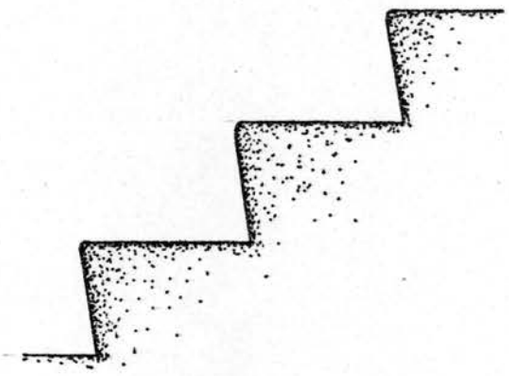
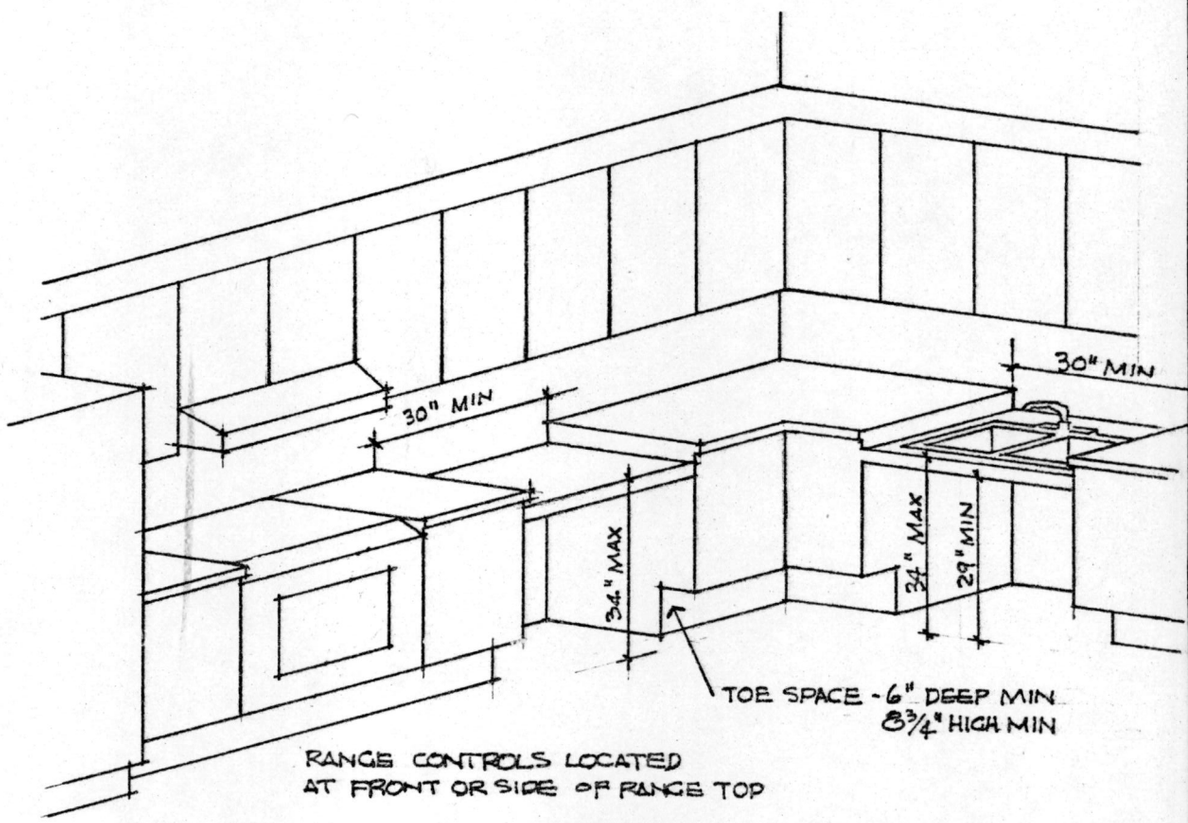


55-8

DRAWINGS NOT TO SCALE

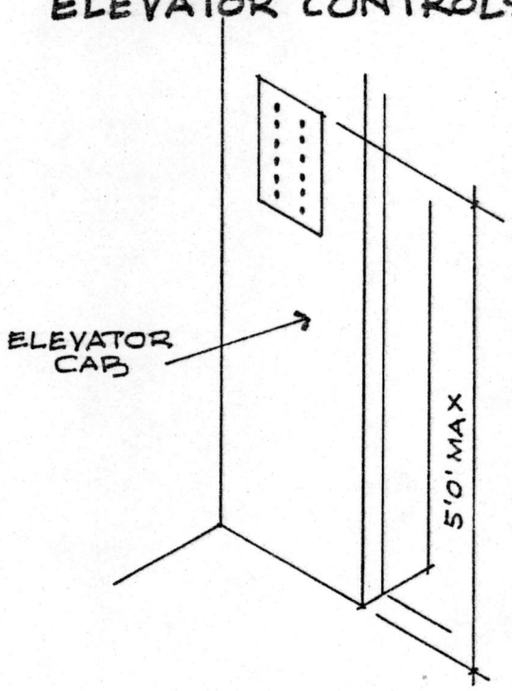
SBC 201 - UBC 1973 EDITION

SECTION 5504 (a) KITCHEN FACILITIES



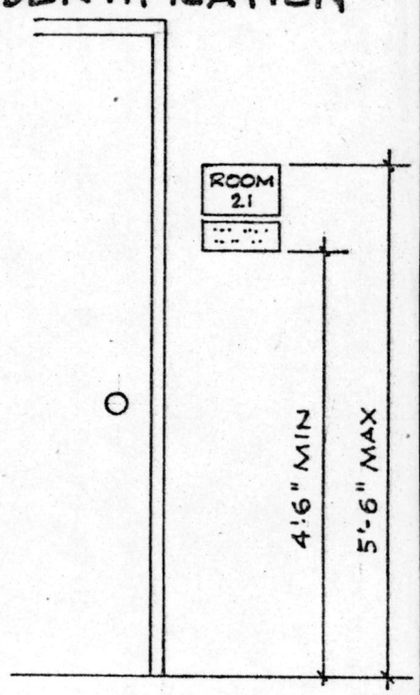
55-16

SECTION 5506 (b) ELEVATOR CONTROLS



55-17

SECTION 5507 IDENTIFICATION



55-18

DRAWINGS NOT TO SCALE

Building Code Division

PUBLIC HEARING

May 15, 1975

Set #2

STATEMENT OF COMPLIANCE WITH

MANUAL OF RULE MAKING PROCEDURES

I, Assistant Attorney General J. Michael Miles, do hereby declare that I have examined the proposed rules and all related documents and that, based on them and my personal familiarity with the applicable procedures, the Manual of Rule Making Procedures has been followed. Any exceptions are noted below.

J. Michael Miles
Assistant Attorney General

DATE: 11/6/75

Exhibit A

STATE OF MINNESOTA

COUNTY OF RAMSEY

BEFORE THE COMMISSIONERS OF

ADMINISTRATION AND PUBLIC SAFETY

In the matter of the Proposed Amendments to the State Fire Marshal's Rules and to the State Building Code

ORDER FOR HEARING

To effectively implement Minn. Stat. 1974, Section 16.86, Minn. Stat. 1974, Section 299F.43, Minn. Stat. 1974, Section 471.466, and Minn. Stat. 1974, Section 15.0412, Subdivision 4, the Commissioners of Administration and Public Safety deem it necessary to consider adoption of certain amendments to the State Building Code and the State Fire Marshal's Rules pursuant to the authority vested in the Commissioners by the Statutes cited above.

NOW, THEREFORE, IT IS ORDERED this 15th day of May, 1975, that a Public Hearing on the proposed amendments be held in Room 123, State Capitol, St. Paul, Minnesota, commencing at 9:00 a.m. and continuing until all local governmental units, representatives of associations and other interested groups or persons have had an opportunity to be heard.

IT IS FURTHER ORDERED, that notice of said hearing be given pursuant to the provisions of Minn. Stat. 1974, Section 15.0412, Subdivision 4, and to all representatives of associations or other interested groups or persons who have registered their names with the Secretary of State for that purpose and all persons who are presently members of the Minnesota Legislature.

Date: April 21, 1975

Edward E. Novak
Commissioner of Public Safety

Date: April 25, 1975

Richard L. Brubacher
Commissioner of Administration

Exhibit B

STATE OF MINNESOTA

COUNTY OF RAMSEY

BEFORE THE

COMMISSIONER OF ADMINISTRATION

In the matter of the Proposed Amendments to the State Fire Marshal's Rules and to the State Building Code

STATEMENT OF NEED

Pursuant to Minn. Stat. 1974, Section 16.86, the Commissioner of Administration is charged with the responsibility of applying the State Building Code to all local governmental units having building codes, with limited exceptions, and with the duty of amending the State Building Code from time to time to maintain the most modern code standards regarding the construction, addition to or alteration of building, including life safety.

Further, the Commissioner of Administration may hold public hearings at such times as interested parties petition for amendments to the State Building Code. Pursuant to Minn. Stat. 1974, Section 15.0412, Subdivisions 1 and 4, the Commissioner is empowered to promulgate reasonable substantive rules and may also amend rules as is deemed necessary upon a showing of need for the Amendment subsequent to a public hearing. Further, the Commissioner of Administration may hold Public Hearings at such times as interested parties petition for Amendments to the State Building Code. The above-captioned amendments that fall within the above mentioned conditions are deemed of sufficient importance to warrent consideration through the process of Public Hearing.

Date: April 25, 1975

Richard L. Brubacher
Commissioner of Administration

STATE OF MINNESOTA

COUNTY OF RAMSEY

BEFORE THE DEPARTMENT OF PUBLIC SAFETY

AND THE COMMISSIONER OF ADMINISTRATION

In the matter of the Proposed Amendments to the State Fire Marshal's Rules and to the State Building Code

NOTICE OF HEARING

Notice is hereby given that a public hearing will be held pursuant to Minn. Stat. 1974, Section 16.86, Minn. Stat. 1974, Section 299F.43, Minn. Stat. 1974, Section 471.466, and Minn. Stat. 1974, Section 15.0412, Subdivision 4, regarding the above-entitled matter, in Room 123, State Capitol, St. Paul, Minnesota, commencing at 9:00 a.m., May 15, 1975, and continuing until all local governmental units, all representatives of associations and other interested groups or persons have had an opportunity to be heard concerning the adoption of the proposed rules captioned above by submitting either oral or written data, statements, or arguments. Statements or briefs may be submitted without appearing at the hearing.

The proposed amendments may be obtained by sending written request to Herbert W. Meyer, State Building Inspector, 408 Metro Square Building, 7th and Robert Streets, St. Paul, Minnesota, 55101. The proposed amendments will also be available at the door on the date of the hearing. Telephone inquiries regarding the amendments should be directed to 612-206-4639.

A copy of the procedural rules for the hearing is attached. Testimony or other evidence to be submitted for consideration should be pertinent to the matter at hand and may be presented either orally or in writing at the public hearing or by mailing a statement to Herbert W. Meyer, State Building Inspector, at the above-mentioned address within 20 days following the conclusion of the subject hearing. If the person submitting a statement cannot be present to read his statement at the time of the hearing, the statement will be entered into the record. For those wishing to submit written statement or exhibits, it is requested that at least three (3) copies of such statement, exhibit, or summary be furnished at the hearing. It is suggested that to save time and avoid duplication, those organizations having a common viewpoint or interest in these proceedings join together where possible and present a single statement in behalf of such interests.

Date: 3/25/75

Edward E. Novak
Commissioner of Public Safety

Date: 3/26/75

Richard L. Brubacher
Commissioner of Administration

Index of Proposed Amendments to the State Building Code

Public Hearing, May 15, 1975

I.	SFM 299F.41	Deleting Rules SFM 500 through 568 Provisions for the Handicapped.	Page 1
II.	(a) SBC 8901	Deleting Special Provisions for the Handicapped.	1
	(b) SBC 201	Amending UBC Section 1711(b) Toilet Facilities, Relating to the Handicapped.	1
	(c) SBC 201	Deleting UBC Section 1711(c) Toilet Room Facilities, Relating to the Handicapped.	1
	(d) SBC 201	Deleting final column of UBC Table No. 33-A, Relating to the Handicapped.	1
	(e) SBC 201	Adopting new UBC Chapter 55 establishing provisions for the handicapped.	2
	(f) SBC 8901	Re-codification of SFM 500-568 Provisions for the Handicapped.	8
III.	SBC 201	UBC Sections 605, 805, 905, 1005, 1105, 1205, 1305(b), 1405(a), 1711(h), and Table No. 17-B establishing minimum sanitation facilities in all Occupancies.	10
IV.	SBC 201	UBC Section 2419(c) Providing for Engineered Unreinforced Masonry.	21
V.	SBC 201	UBC Sections 3303(d), 3304(a), and 3304(b) Providing for Minimum Door Widths.	36
VI.	SBC 201	UBC Sections 1602(d), 1603(d), 1604(a), 3802(b)6, 3802(b)8, and 3802(b)12, Providing for additional fire sprinkler protection in certain Occupancies. . . .	37
VII.	SBC 8806	Section 2-F-1 providing for access switch at elevators.	39
VIII.	MHD 123	Permitting ABS plastic pipe for building sewers.	40

Delete SFM 500 through 568.

Amend SBC 8901 to read as follows:

SBC 8901 ~~Special-Provisions-for-Handicapped-Persons.--Scope.--Rules-and-Regulations relating-to-public-buildings.--Providing-accessibility-and-usability features-for-physically-handicapped-persons-pursuant-to-Minnesota-Statute Section-73.57-et-seq,-as-amended,-and-as-published-by-the-Fire-Marshal's Division,-State-of-Minnesota,-is-hereby-included-in-this-Code-by-reference.~~

Reserve for future use.

Section 1711(b) of the 1973 Edition of the Uniform Building Code, Toilet Facilities, is amended to read as follows:

Section 1711(b) Toilet Facilities. Toilet facilities and water closet compartments shall have a clear and unobstructed access of not less than 32 inches, and a clear space, unobstructed by door swing, grab bars and similar items, of not less than 32 inches shall be provided in front of the toilet stool.

EXCEPTIONS: 1. In Group I and J Occupancies the water closet compartments may be 30 inches in width and may have a clear space in front of the toilet stool of not less than 24 inches. ~~Grab-bars-need-not-be provided-in-such-occupancies-nor-in-Group-H-Occupancy apartment-houses.~~

2. Where more than one toilet compartment is provided, only one such compartment need comply within each toilet room for each sex. ~~All-others-need-not-have grab-bars-and-clearances-may-be-as-specified-in Exception-No.-1.~~

Delete Section 1711(c), Toilet Room Facilities of the 1973 Edition of the Uniform Building Code.

Table 33-A Available Square Feet Per Occupant and Egress Facilities is amended by deleting the final column entitled "Egress by means of a ramp or an elevator must be provided for the Physically Handicapped as indicated", and by deleting footnotes 2, 3, 4, 5, and 6.

Amend Uniform Building Code, 1973 Edition by adding new chapter as follows:

CHAPTER 55 FACILITIES FOR THE HANDICAPPED

Section 5501 Where Required

(a) General. In addition to other provisions in this code, facilities for the handicapped shall be provided in accordance with this Chapter.

(b) Scope. Provisions of this Chapter shall apply to buildings housing all occupancies except the following:

1. Group I and J Occupancies.
2. Temporary Buildings
3. Buildings not exceeding 150 square feet in floor area need not be provided with sanitation facilities for the handicapped specified in Section 5503.
4. One story buildings, other than service stations, not exceeding 2000 square feet in floor area need not be provided with sanitation facilities for the handicapped specified in Section 5503 when approved by the Building Official.
5. Floors of buildings not used by the general public and on which handicapped persons cannot be employed because of the nature of the work.
6. Group H Occupancies in which dwelling units are individually owned, sanitation facilities for the handicapped specified in Section 5503, and other facilities for the handicapped specified in Section 5504, need not be provided.

Section 5502 Building Accessibility

(a) Definitions

1. Ramp is a sloped walking surface within a building or attached to a building connecting levels of the building and may be part of an exit in accordance with Section 3306.
2. Walk is a continuous, permanently defined pathway at grade between public ways and buildings, parking areas and buildings, or between buildings.
3. Slip-resistant is any surfacing of a floor, ramp, or walk which has an anti-slip coefficient of not less than 0.40 as defined in research paper No. RP-1879 of the National Bureau of Standards.

(b) Site Approaches. Access to building entrances shall be by walks. Such walks shall be of concrete, asphaltic paving or similar permanent material, with slip-resistant surface, and shall be not less than 48 inches wide with a slope not to exceed one vertical to 20 horizontal.

(c) Building Entrances. At least one required exit of the building shall be accessible for use as ingress for the handicapped, and shall be identified for such use. Such buildings entrance shall be at the main lobby or corridor, or shall be accessible thereto by ramp or elevator.

(d) Access to other Stories. Access for the handicapped to other stories of the building used by the general public and/or employees shall be by ramp with a slope not to exceed one vertical to 12 horizontal and a slip-resistant surface, or elevator, except the following:

1. Group H Occupancies not exceeding three stories in height.
2. Other Occupancies not exceeding two stories in height, or where the occupant load is less than 100 on floors other than the main floor.

(e) Automobile Parking Areas. Where automobile parking spaces are provided, at least one space per 50 spaces, or fraction thereof, shall be provided for the use of the handicapped, and shall be identified for such use. Such parking spaces shall be not less than 12 feet in width, and located as near as practicable to the building entrance specified in Section 5502(c).

(f) Doors and Doorways. Doors and doorways serving buildings or portions thereof regulated by this Chapter shall comply with the following:

1. Doorways or doors in an open position shall have a clear opening width of not less than 31 inches.
2. Doors shall be operable by a single effort with one hand.
3. In doorways consisting of two door leafs, at least one door leaf shall comply with the provisions of this Section. See Section 3303(d) for minimum exit door width.
4. Where access regulated by this Chapter is through two or more sets of doors, as in a foyer, vestibule, or lobby, the space separating the doorways shall be not less than seven feet.
5. The floor or landing at doorways shall be level with, or not more than one-half inch lower than, the threshold.
6. In dwelling units specified in Section 5503(a)-1, entrances specified in Section 5502(c), and toilet rooms or compartments specified in Section 5503(c)-1, door opening latch hardware shall have lever handles, and shall be not more than three feet six inches above the floor.
7. Doors serving toilet rooms or stalls shall be capable of being unlocked from either side.

(g) Stair Tread Nosing. Risers shall be slanted to meet the treads nosing edge, or where the treads extend beyond vertical risers, nosing shall be rounded and not project beyond the risers more than one inch.

(h) Aisles and Lanes. Where pedestrian aisles or lanes are defined with directional barriers, rails or fences, at least one shall have not less than 31 inches clear width for use of the handicapped and shall be identified for such use.

Section 5503 Sanitation Facilities. Sanitation facilities may include toilets, (water closets), urinals, lavatories, bathtubs, showers, sinks, and similar plumbing fixtures.

For number and type of sanitation facilities in each occupancy, see Table No. 17-B.

(a) Where Required.

1. In Group H Occupancies having eight or more dwelling units or guest rooms, a minimum of one, and not less than five percent of the dwelling units or guest rooms shall be provided with sanitation facilities in accordance with this section. In a multiple-building development housing Group H Occupancies, the sanitation facilities shall not be located solely in one building.
2. In other occupancies regulated by this Chapter, at least one toilet and lavatory in each toilet room shall be in accordance with this Section. Where urinals are provided, at least one in each toilet room shall be in accordance with this Section.

(b) Location, other than Group H Apartment Occupancies.

In buildings where an elevator and sanitation facilities are required, the sanitation facilities may be located at any level served by elevator. Where sanitation facilities are required in buildings without an elevator, the sanitation facilities shall be conveniently located at the required entrance level, accessible without leaving or re-entering the building.

(c) Sizes and Clearances.

1. Toilets. Toilet rooms or compartments shall have not less than 36 inches clear space at the front of the toilet and not less than 36 inches clear width between walls, free of door swing and other obstructions. Toilet seats shall be not less than 17 inches nor more than 20 inches above the floor.

   Grab bars shall be provided on both sides or one side and rear of toilet rooms or compartments. Such grab bars shall be securely fastened to support a 250 pound load. They shall be not less than 32 inches nor more than 34 inches above the floor, with an outside diameter of 1½ inches and 1½ inches clearance to wall or partition.

2. Urinals. When provided, urinals shall be unobstructed for handicapped access. The front lip of the bowl of wall-mounted urinals shall be not more than 18 inches above the floor.

3. Lavatories. Lavatories shall have a clear access width of not less than 30 inches, clear height of not less than 29 inches to the bottom of the fixture apron, clear height of not more than 34 inches to the rim of the fixture, and a clear depth of not less than 12 inches under the fixture exclusive of bowl and waste pipe.

   The water control valves shall have lever handles.

4. Bathtubs. When provided, and shower is not furnished, the bathtub shall be equipped with a flexible hose hand shower not less than 6 feet in length, and a vertical height adjustment bar for the shower head of not less than 4 feet in length. The bathtub shall have a seat, either folding, retractable or fixed, not less than 17 inches nor more than 20 inches high, and not less than 15 inches deep, and of water-resistive material.

   Water valves shall be single lever control, and shall be accessible from seat.

5. Showers. When provided, the shower stall shall be accessible for the handicapped with a lip or curb at entry no higher than ½ inch above floor of room or stall. The shower stall shall have a seat, either folding, retractable or fixed, not less than 17 inches nor more than 20 inches high, and not less than 15 inches deep, and of water-resistive material.

   Water valves shall be single lever control and shall be accessible from seat.

6. Kitchen sinks. When provided, kitchen sinks shall have a clear access width of not less than 30 inches, clear height of not less than 29 inches to the bottom of the fixture apron, clear height of not more than 34 inches to the rim of the fixture, and clear depth of not less than 12 inches under the fixture exclusive of bowl and waste pipe.

   The water control valves shall have lever handles.

Section 5504 Other Facilities

(a) Kitchen Facilities. In dwelling units in which sanitation facilities for the handicapped are required, kitchen facilities shall be provided as follows:

1. Space. Clear space of not less than 5 feet measured between walls, cabinets, appliances, or other obstructions shall be provided. Where cabinets have a base toe space of not less than 6 inches deep and 8 3/4 inches high, the clear space may be measured from such toe space.

2. Range Controls. Range control handles shall be located at the front or side of the range.

3. Work Space. Not less than 4 square feet of work space with a minimum width of 30 inches shall be provided. Such work space may be fixed, folding, or retractable, shall have handicapped accessibility, and the top shall be no higher than 34 inches above the floor.

(b) Toilet Room Accessories

1. Mirror and/or shelves. Where mirrors and/or shelves are provided, at least one shall be mounted so that the bottom is no higher than 40 inches above the floor.
2. Towel racks, Dispensers, Disposal Units. Where towel racks, dispensers, disposal units or similar appliances are provided, at least one of each shall be mounted so that working height is no higher than 40 inches above the floor, and shall be free of interference by grab bars or other appliances or fixtures.

Section 5505 Viewing Positions in Assembly Occupancies.

(a) Accessibility. Viewing positions required in this Section shall be accessible for the handicapped by walk, ramp, or elevator, or combination thereof.

(b) Number. Performance viewing positions in assembly occupancies with fixed seating shall be provided in accordance with table No. 55-A.

(c) Space Requirements. One of the following shall be provided:
1. Clear spaces free of fixed or portable seats, or with removable fixed seats.
2. Spaces with readily removable portable seats.

(d) Location. Viewing positions shall be located at the main floor.

Table No. 55-A Viewing Positions

Motion Picture Auditoriums	
Occupant Load	Minimum Viewing Positions
500 and less	2
over 500	4

Other Assembly Occupancies

500 and less	4
501 - 1000	12
1001 - 1500	16
over 1500	16 - plus 1 per 500 Additional

Section 5506 Controls and Electrical Switches.

(a) Height. The top of controls for thermostats, fire alarms, and similar equipment and electrical switches in dwelling units regulated by this Chapter shall be no higher than 5 feet above the floor.

(b) Elevator controls. Elevator controls shall have tactile identification in accordance with Section 5506.

Section 5507 Identification.

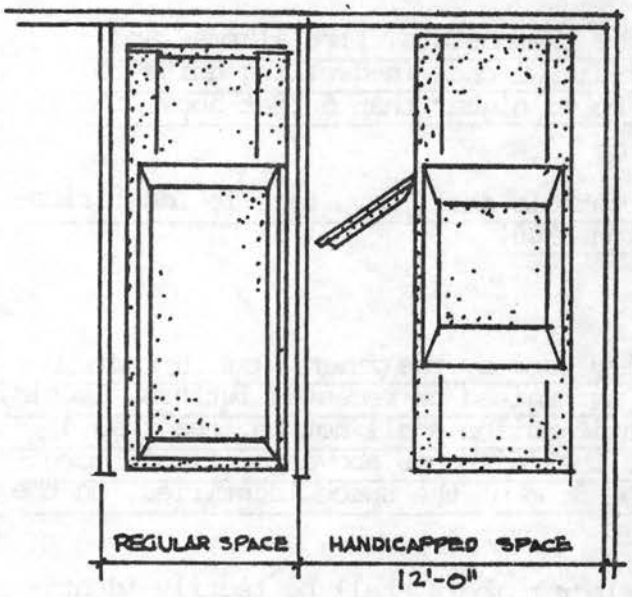
(a) Where required. Spaces normally used by the general public, shall tactile identification, such as raised or recessed letters, labels, or plaques. The tactile identification shall not be less than 4 feet 6 inches nor more than 5 feet 6 inches above the floor, mounted on the wall adjacent to the door of the space identified, on the side nearest the door handle.

(b) Floor numbers at elevators. Floor numbers shall be tactily identified for the visually handicapped by raised or recessed numbers attached to the elevator door jamb at each floor, not less than 3 feet 6 inches nor more than 4 feet 6 inches in height above the floor.

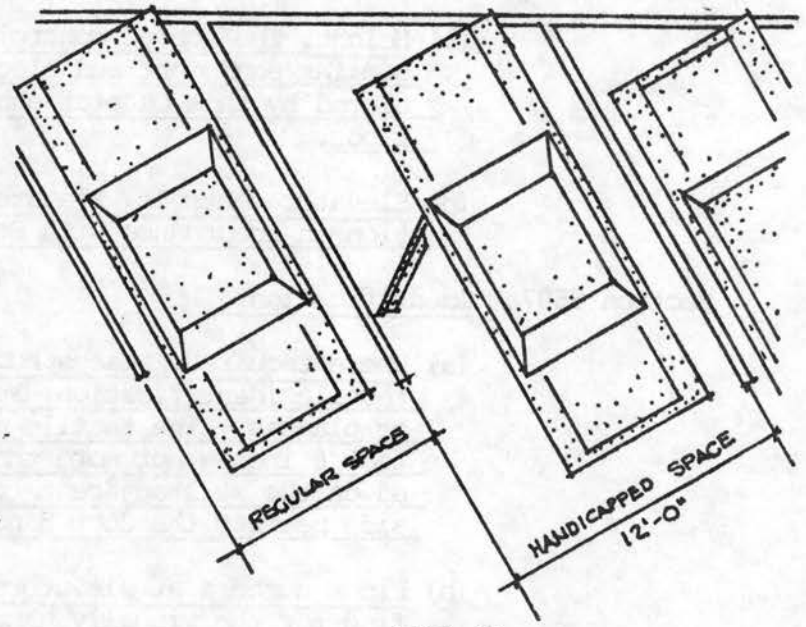
(c) Door handles. Doors to stairs, loading platforms, boiler rooms, stages, and exit doors shall have knurled or similarly marked door handles.

Section 5508 Figures. Figure No's 55-1 through 55-18 of this Chapter are for guidance only. See appropriate Chapter Sections for specific provisions.

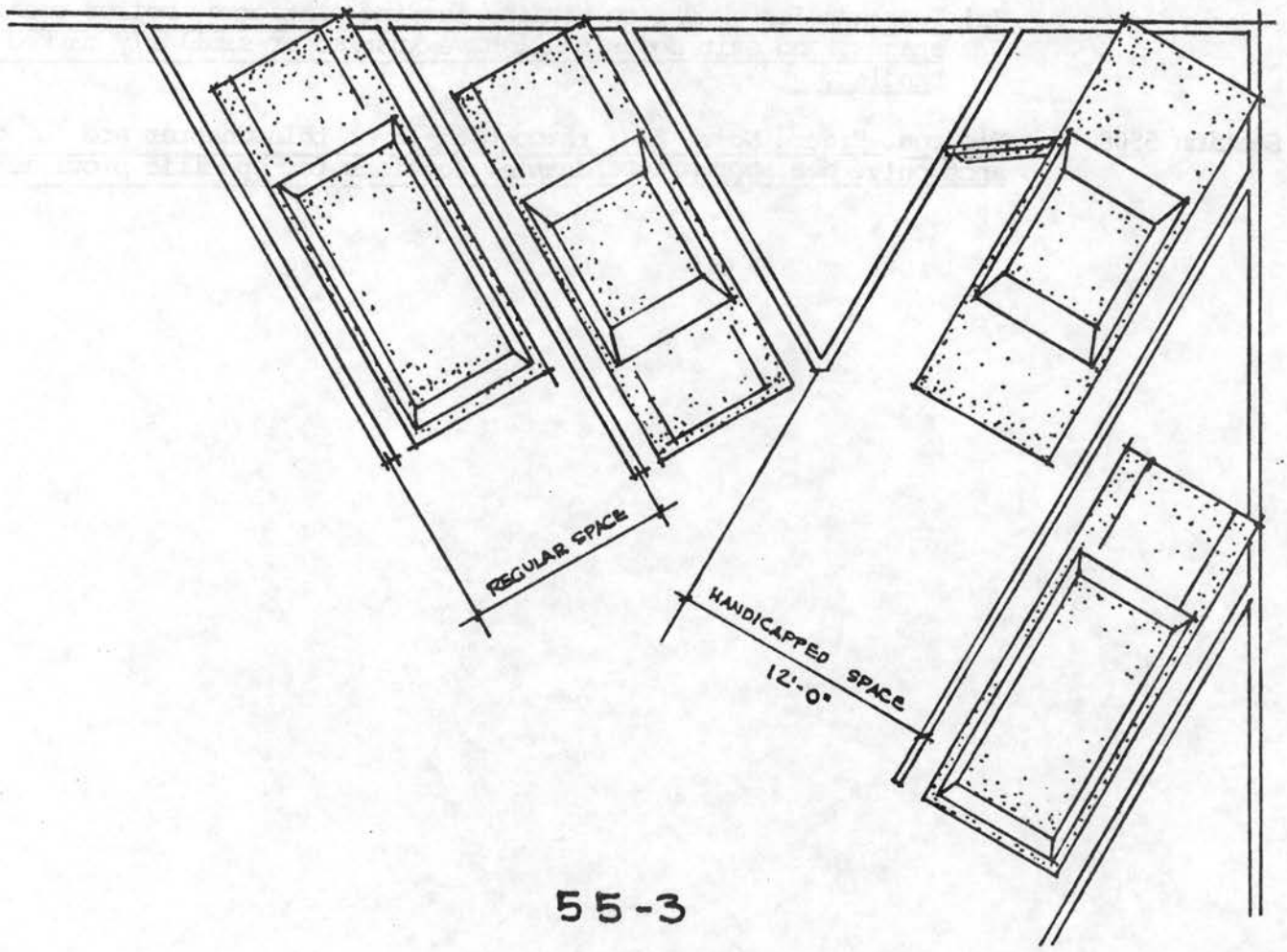
SBC 201 - UBC 1973 EDITION
SECTION 5502(e) AUTOMOBILE PARKING FACILITIES



55-1



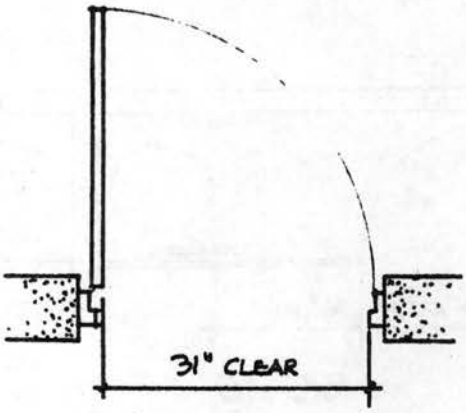
55-2



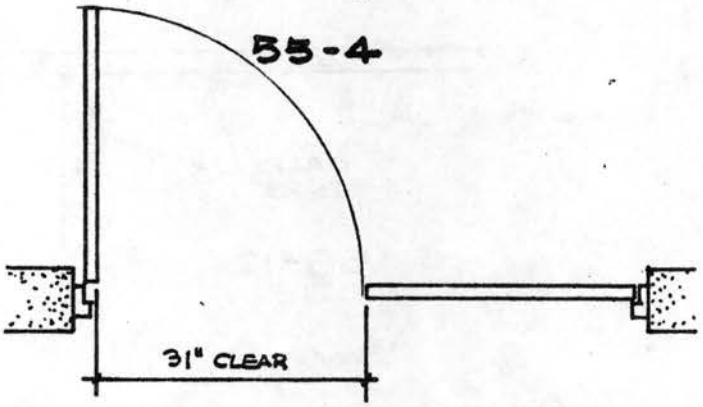
55-3

DRAWINGS NOT TO SCALE

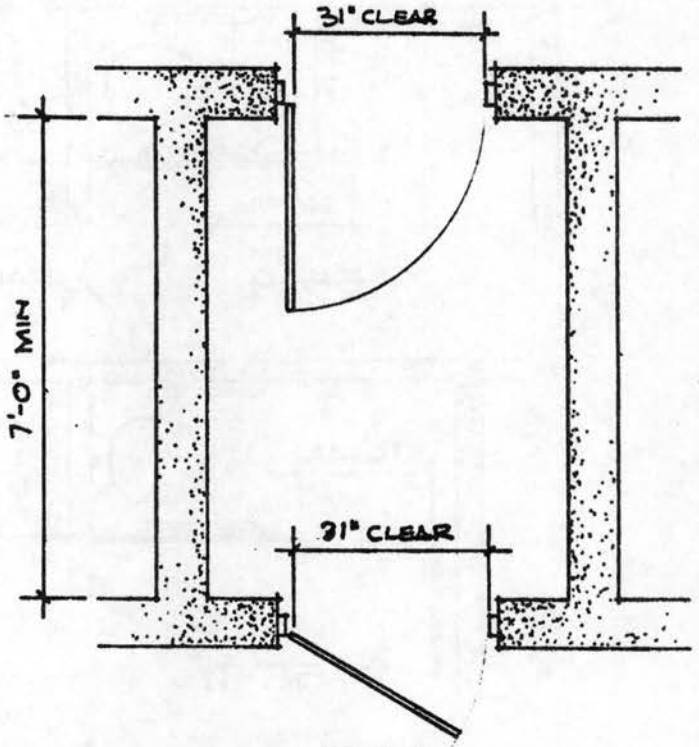
SEC 201 - UBC 1973 EDITION
SECTION 5502(f) DOORS AND DOORWAYS



55-4

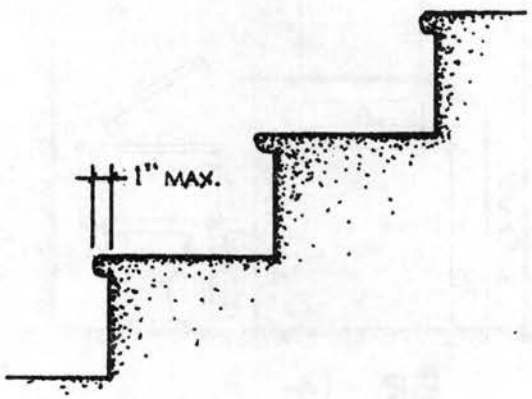


55-5

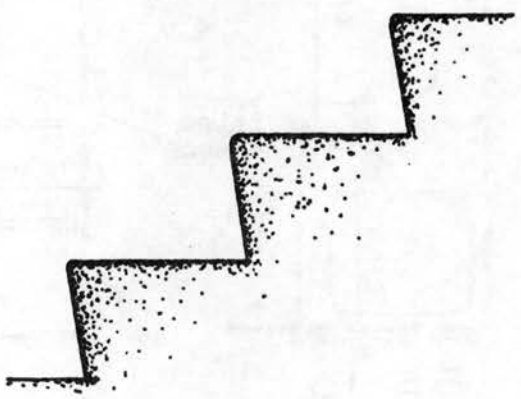


55-6

SECTION 5502 (g) STAIR TREAD NOSING



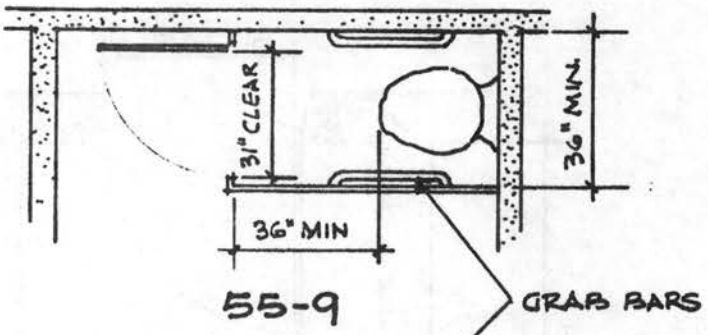
55-7



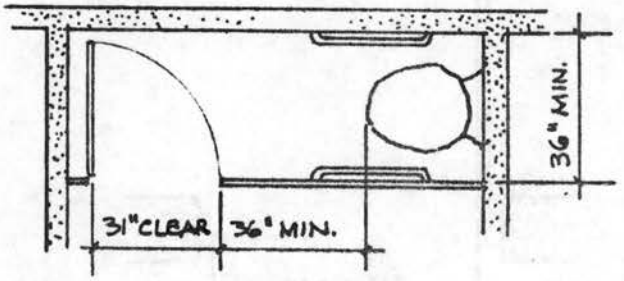
55-8

DRAWINGS NOT TO SCALE

SBC 201 - UBC 1973 EDITION
SECTION 5503 (c) SIZES AND CLEARANCES

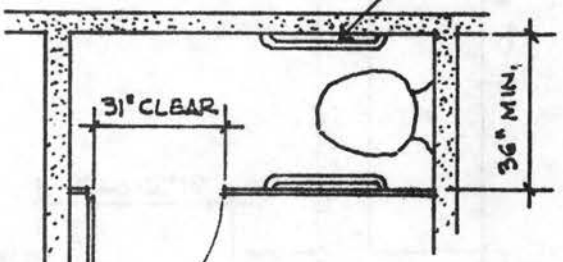


55-9

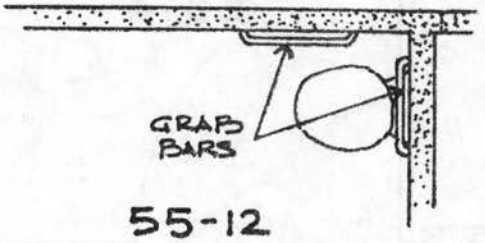


55-10

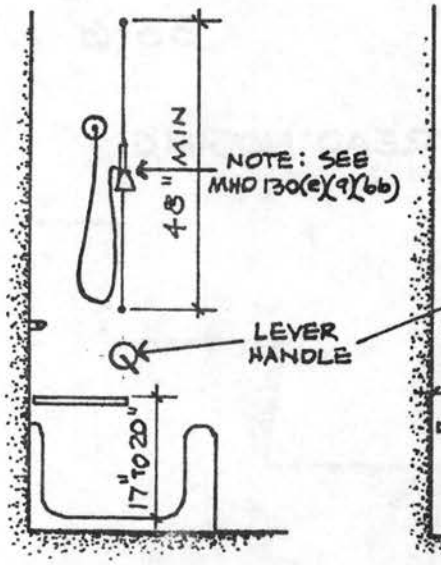
GRAB BARS



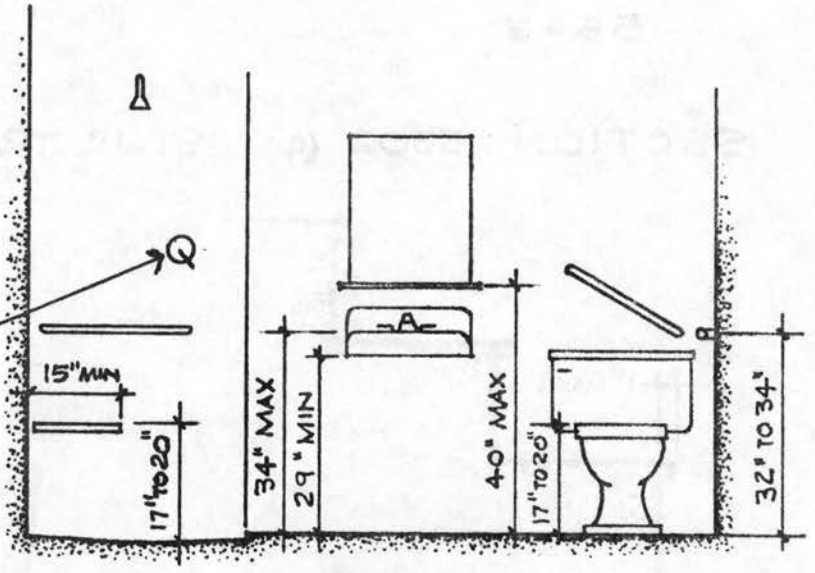
55-11



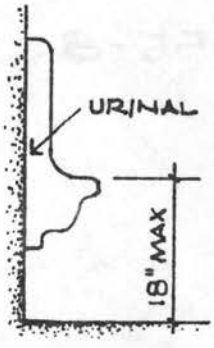
55-12



55-13



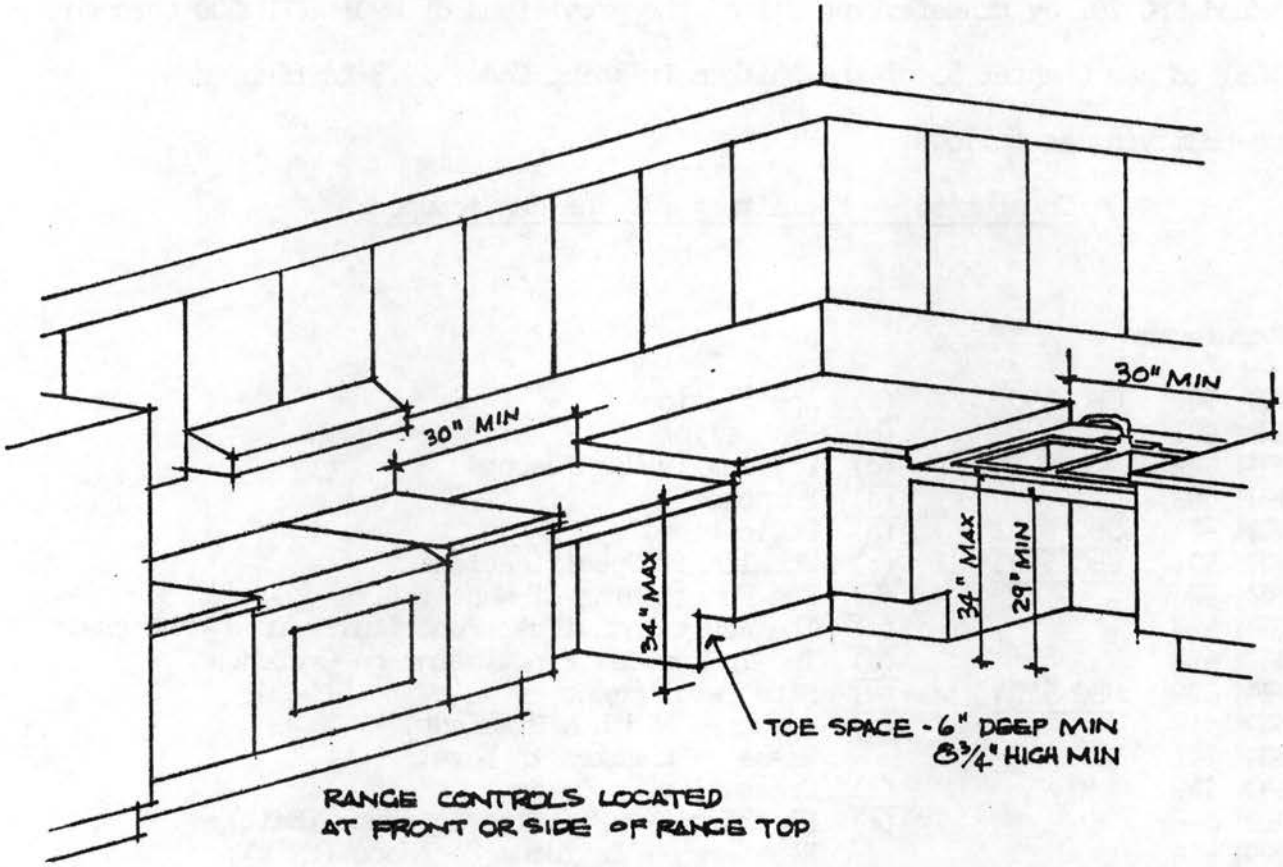
55-14



55-15

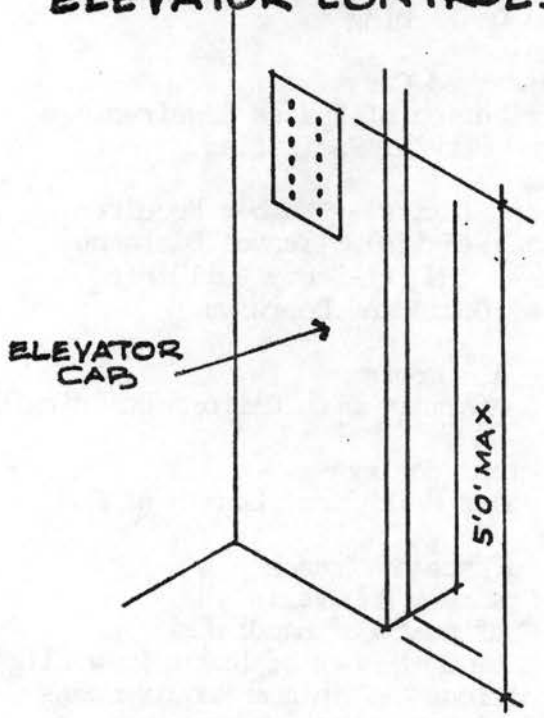
DRAWINGS NOT TO SCALE

SEC 201 - UBC 1973 EDITION
SECTION 5504 (a) KITCHEN FACILITIES



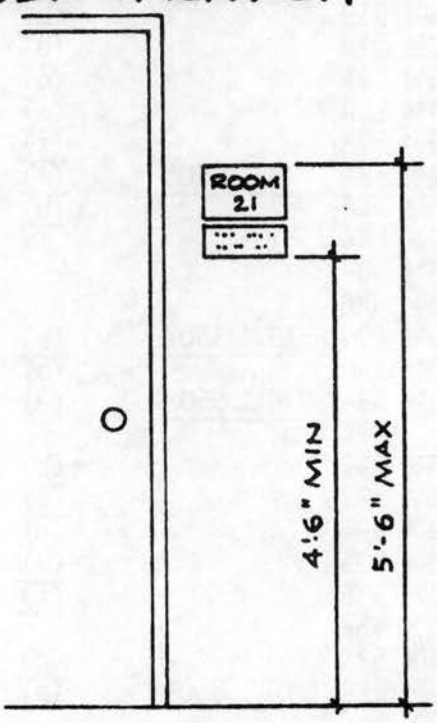
55-16

SECTION 5506 (b) ELEVATOR CONTROLS



55-17

SECTION 5507 IDENTIFICATION



55-18

DRAWINGS NOT TO SCALE

Amend SBC 201 by transferring all of the provisions of 8901 (SFM 500 through 568) to new Chapter 55 of the Uniform Building Code, 1973 Edition, and re-codifying as follows:

Chapter 55 Facilities for the Handicapped

Regulation			
~~SFM 500~~	UBC 5501	(a)	Application
~~SFM 501~~		(b)	Remodeling
~~SFM 502~~		(c)	Physically Handicapped
~~SFM 503~~		(d)	Purpose
~~SFM 504~~	UBC 5502	(a)	Definitions
~~SFM 505~~	UBC 5503	(a)	Wheelchair Specifications
~~SFM 506~~		(b)	The Functioning of Wheelchairs
~~SFM 507~~		(c)	The Adult Individual Functioning in a Wheelchair
~~SFM 508~~		(d)	The Individual Functioning on Crutches
~~SFM 509~~	UBC 5504	(a)	Site Development
~~SFM 510~~		(b)	Walks -- Width & Gradient,
~~SFM 511~~			~~Walks~~ Changes in Level
~~SFM 512~~		(c)	Crosswalks -- Curbs
~~SFM 513~~		(c)	Platform -- Building Entrance (Exit)
~~SFM 514~~			~~Platform~~ -- Building Entrance (Exit),
~~SFM 515~~			~~Platform~~ Long Sloping Walks,
~~SFM 516~~			~~Platform~~ Long Sloping Walks With Turns
~~SFM 517~~		(e)	Walk Construction Material
~~SFM 518~~	UBC 5505	(a)	Parking Facilities for Handicapped Required
~~SFM 519~~		(b)	Diagonal or Head-On Parking
~~SFM 520~~		(c)	Curbside Parking
~~SFM 521~~		(d)	Wheeling Behind Parked Cars
~~SFM 522~~		(e)	Number and Distribution of Spaces Required
~~SFM 523~~		(f)	Walks to and from Parking Facilities
~~SFM 524~~	UBC 5506	(a)	Pedestrian Ramps
~~SFM 525~~		(b)	Building Entrances (Exits)-- Number Required,
~~SFM 526~~			~~Building Entrances (Exits)~~ Travel Distance,
~~SFM 527~~			~~Entrances (Exits)~~ Multi-Story Buildings,
~~SFM 528~~			~~Entrances (Exits)~~ Doors and Doorways
~~SFM 529~~	UBC 5507	(a)	Interior Doors
~~SFM 530~~		(b)	Door Hardware -- All Doors
~~SFM 531~~	UBC 5508	(a)	Stair Steps -- Conformity with Uniform Building Code, ~~1967~~ 1973 Edition
~~SFM 532~~		(b)	Stair Steps -- Riser Nosings
~~SFM 533~~		(c)	Stair Steps -- Riser Height and Length of Run -- Exterior
~~SFM 534~~		(d)	Stair Steps
~~SFM 535~~		(e)	Stair Steps -- Surface of Treads
~~SFM 536~~		(f)	Stair Steps -- Stairway Handrails
~~SFM 537~~			Stair Steps -- Continuity of Handrails
~~SFM 538~~		(g)	Stair Steps -- Minimum Number of Steps in a Flight
~~SFM 539~~	UBC 5509	(a)	Seating Accommodations -- Minimum Requirements
~~SFM 540~~			Seating Accommodations -- Methodology
~~SFM 541~~		(b)	Seating Accommodations -- Aisles/Access Route
~~SFM 542~~	UBC 5510	(a)	Floors -- Common Level Throughout
~~SFM 543~~		(b)	Floors -- Carpeting

Regulation			
~~SFM 544~~		(c)	Floors -- Surface
~~SFM 545~~	UBC 5511	(a)	Toilet Rooms -- Number Required,
~~SFM 546~~			~~Toilet Rooms~~ Unobstructed Interior Space,
~~SFM 547~~			~~Toilet Rooms~~ Accessible Stalls Required
~~SFM 548~~		(b)	~~Toilet Rooms~~ -- Lavatory
~~SFM 549~~		(c)	~~Toilet Rooms~~ -- Mirrors & Shelves
~~SFM 550~~		(d)	~~Toilet Rooms~~ -- Urinals
~~SFM 551~~		(e)	~~Toilet Rooms~~ -- Dispenser-Disposal Units
~~SFM 552~~		(f)	Baths & Showers -- Number Required,
~~SFM 553~~			~~Baths & Showers~~ Approach to Bathtub,
~~SFM 554~~			~~Baths & Showers~~ Bathtub and Accessories
~~SFM 555~~			Showers Cubicles and Accessories
~~SFM 556~~	UBC 5512	(a)	Corridors, Hallways and Passageways
~~SFM 557~~		(b)	Corridors, Hallways and Passageways -- Floors,
~~SFM 558~~			~~Corridors, Hallways and Passageways~~ Handrails
~~SFM 559~~	UBC 5513	(a)	Water Fountains -- Usability Required
~~SFM 560~~		(b)	Water Fountains -- Spouts and Controls,
~~SFM 561~~			~~Water Fountains~~ Controls-Accessibility
~~SFM 562~~	UBC 5514	(a)	Public Telephones -- Usability Required
~~SFM 563~~		(b)	Public Telephones -- Number Required & Height Limitation
~~SFM 564~~	UBC 5515	(a)	Elevators -- Requirements
~~SFM 565~~		(b)	Elevators -- Minimum Specifications
~~SFM 566~~	UBC 5516		Switches and Controls
~~SFM 567~~	UBC 5517		Identification
~~SFM 568~~	UBC 5518		Hazards
			INDEX

Section 605 of the 1973 edition of the Uniform Building Code, Light, Ventilation and Sanitation is amended to read as follows:

Section 605 All portions of Group A Occupancies customarily used by human beings and all dressing rooms shall be provided with light and ventilation by means of windows or skylights with an area not less than one-eighth of the total floor area, one-half of which shall be openable, or shall be provided with artificial light and a mechanically operated ventilating system. The mechanically operated ventilating system shall supply a minimum of five cubic feet per minute of outside air with a total circulated of not less than 15 cubic feet per minute per occupant in all portions of the building and such system shall be kept continuously in operation during such time as the building is occupied. If the velocity of the air at the register exceeds 10 feet per second, the register shall be placed more than 8 feet above the floor directly beneath.

Lights in all parts of the building customarily used by human beings shall be on a separate circuit from that of the stage and shall be controlled from the box office. All lights in corridors, exit courts and exit passageways shall be protected by a wire cage.

All registers or vents supplying air backstage shall be equipped with automatic closing devices with fusible links. Such closing devices shall be located where the vents or ducts pass through the proscenium walls and shall be operated by fusible links located on both sides of the proscenium wall and both inside of and outside of the vent or duct.

There shall be provided in an approved location at least one lavatory for each two water closets for each sex, and at least one drinking fountain for each floor level.

For other requirements on water closets, see Section 1711.

For additional sanitation facilities requirements see Section 1711(h).

Section 805 of the 1973 Edition of the Uniform Building Code, Light, Ventilation and Sanitation is amended to read as follows:

Section 805 All portions of Group C Occupancies shall be provided with light and ventilation, either natural or artificial, as specified in Section 605.

~~Water closets shall be provided on the basis of the following ratio of water closets to the number of students:~~

	~~Boys~~	~~Girls~~
~~Elementary Schools~~	~~1:100~~	~~1:35~~
~~Secondary Schools~~	~~1:100~~	~~1:45~~

~~In addition, urinals shall be provided for boys on the basis of 1:30 in elementary and secondary schools.~~

~~There shall be provided at least one lavatory for each two water closets or urinals, and at least one drinking fountain on each floor for elementary and secondary schools.~~

For other requirements on water closets, see Section 1711.

For additional sanitation facilities requirements see Section 1711(h).

Section 905 of the 1973 edition of the Uniform Building Code, Light, Ventilation and Sanitation is amended to read as follows:

Section 905 All portions of Group D Occupancies custimarily used by human beings shall be provided with light and ventilation by means of windows or skylights with an area equal to one-eighth of the total floor area, one-half of which shall be openable, or shall be provided with artificial light and a mechanically operated ventilating system as specified in Section 605 and SBC 7720.

For other requirements on water closets, see Section 1711.

For additional sanitation facilities requirements see Section 1711(h).

Section 1005 of the 1973 edition of the Uniform Building Code, Light, Ventilation and Sanitation is amended to read as follows:

Section 1005 All portions of Group E Occupancies custimarily used by human beings shall be provided with light and ventilation by means of windows or skylights with an area equal to one-eighth of the total floor area, one-half of which shall be openable, or shall be provided with artificial light and a mechanically operated ventilating system as specified in Section 605.

In all buildings used for the storing or handling of automobiles operated under their own power, and in all buildings where flammable liquids are used, exhaust ventilation shall be provided sufficient to produce one complete change of air every 15 minutes. Such exhaust ventilation shall be taken from a point at or near the floor level.

EXCEPTION: In public repair garages and aircraft hangars not exceeding an area of 5000 square feet, the Building Official may authorize the omission of such ventilating equipment where, in his opinion, the building is supplied with unobstructed openings to the outer air which are sufficient to provide the necessary ventilation.

Every building or portion thereof where persons are employed shall be provided with at least one water closet. Separate facilities shall be provided for each sex when the number of employees exceeds four and both sexes are employed. Such toilet facilities shall be located either in such building or conveniently in a building adjacent thereto on the same property.

All water closet rooms shall be provided with an exterior window at least 3 square feet in area, fully openable; or a vertical duct not less than 100 square inches in area for the first toilet facility with an additional 50 square inches for each additional toilet facility; or a mechanically operated exhaust system, which is connected to the light switch, capable of providing a complete change of air every 15 minutes. Such systems shall be vented to the outside air and at the point of discharge shall be at least 5 feet from any openable window.

For other requirements on water closets, see Section 1711.

For additional sanitation facilities requirements see Section 1711(h).

Section 1105 of the 1973 edition of the Uniform Building Code, Light, Ventilation and Sanitation is amended to read as follows:

Section 1105 All portions of Group F Occupancies customarily used by human beings shall be provided with light and ventilation by means of windows or skylights with an area not less than one-eighth of the total floor area, one-half or which shall be openable, or shall be provided with artificial light and a mechanically operated ventilating system. In no case shall less than two changes of air per hour be provided.

In all buildings used for the storing or handling of automobiles operated under their own power, and in all buildings where flammable liquids are used, exhaust ventilation shall be provided sufficient to produce one complete change of air every 15 minutes. Such exhaust ventilation shall be taken from a point at or near the floor level.

EXCEPTION: In gasoline service stations without lubrication pits, storage garages and aircraft hangars not exceeding an area of 5000 square feet, the Building Official may authorize the omission of such ventilating equipment where, in his opinion, the building is supplied with unobstructed openings to the outer air which are sufficient to provide the necessary ventilation.

Every building or portion thereof where persons are employed shall be provided with at least one water closet. Separate facilities shall be provided for each sex when the number of employees exceeds four and both sexes are employed. Such toilet facilities shall be located either in such building or conveniently in a building adjacent thereto on the same property.

Such water closet rooms in connection with food establishments where food is prepared, stored, or served, shall have a nonabsorbent interior finish on floors, walls, and ceilings and shall have hand washing facilities therein or adjacent thereto.

All water closet rooms shall be provided with an exterior window at least 3 square feet in area, fully openable; or a vertical duct not less than 100 square inches in area for the first toilet facility with an additional 50 square inches for each additional toilet facility; or a mechanically operated exhaust system, which is connected to the light switch, capable of providing a complete change of air every 15 minutes. Such systems shall be vented to the outside air and at the point of discharge shall be at least 5 feet from any openable window.

For other requirements on water closets, see Section 1711.

For additional sanitation facilities requirements see Section 1711(h).

Section 1205 of the 1973 edition of the Uniform Building Code, Light, Ventilation and Sanitation is amended to read as follows:

Section 1205 All portions of Group G Occupancies customarily used by human beings shall be provided with light and ventilation as specified in Section 1105.

Every building or portion thereof where persons are employed shall be provided with at least one water closet. Separate facilities shall be provided for each sex when the number of employees exceeds four and both sexes are employed. Such toilet facilities shall be located either in such building or conveniently in a building adjacent thereto on the same property.

For other requirements on water closets, see Section 1711.

For additional sanitation facilities requirements see Section 1711(h).

Section 1305(b) of the 1973 edition of the Uniform Building Code, Light, Ventilation and Sanitation is amended to read as follows:

Section 1305(b) Sanitation. Every building shall be provided with at least one water closet. Every hotel and each subdivision thereof where both sexes are accommodated shall be provided with at least two water closets located in such building, which shall be conspicuously marked, one for each sex.

~~Additional water closets shall be provided on each floor for each sex at the rate of one for every additional 10 guests, or fractional part thereof, in excess of 10.~~

Every dwelling unit shall be provided with a kitchen equipped with a kitchen sink and with bathroom facilities consisting of a water closet, lavatory and either a bathtub or shower. Each plumbing fixture shall be equipped with running water necessary for its normal operation.

For other requirements on water closets, see Section 1711.

For additional sanitation facilities requirements see Section 1711(h).

Section 1405(a) of the 1973 edition of the Uniform Building Code, Light, Ventilation and Sanitation is amended to read as follows:

Section 1405(a) Light and Ventilation. All guest rooms, dormitories and habitable rooms within a dwelling unit shall be provided with natural light by means of windows or skylights with an area of not less than one-tenth of the floor area of such rooms with a minimum of 10 square feet. All bathrooms, water closet compartments, laundry rooms, and similar rooms shall be provided with natural ventilation by means of windows or skylights with an area of not less than one-tenth of the floor area of such rooms with a minimum of 3 square feet.

Not less than one-half of the required window or skylight area shall be openable to provide natural ventilation.

In lieu of openable windows for natural ventilation, a mechanical ventilation system may be provided. Such system shall be capable of providing two air changes per hour in all guest rooms, dormitories, habitable rooms, and in public corridors. One-fifth of the air supply shall be taken from the outside. In bathrooms, water closet compartments, laundry rooms, and similar rooms a mechanical ventilation system connected directly to the outside, capable of providing five air changes per hour, shall be provided.

For the purpose of determining light and ventilation requirements, any room may be considered as a portion of an adjoining room when one-half of the area of the common wall is open and unobstructed and provides an opening of not less than one-tenth of the floor area of the interior room or 25 square feet, whichever is greater.

Required windows shall open directly onto a street or public alley or a yard or court located on the same lot as the building.

EXCEPTION: Required windows may open into a roofed porch where the porch:
1. Abuts a street, yard, or court; and
2. Has a ceiling height of not less than 7 feet; and
3. Has the longer side at least 65 percent open and unobstructed.

Every dwelling unit shall be provided with a kitchen equipped with a kitchen sink and with bathroom facilities consisting of a water closet, lavatory and either a bathtub or shower. Plumbing fixtures shall be provided with running water necessary for their operation.

For other requirements on water closets, see Section 1711.

For additional sanitation facilities requirements, see Section 1711(h).

Section 1711 of the 1973 edition of the Uniform Building Code is amended by adding a new subsection as follows:

Section 1711(h) Sanitation Facilities. Sanitation facilities shall be provided for each occupancy in accordance with Table No. 17-B and Section Nos. 605, 705, 805, 905, 1005, 1105, 1205, 1305, and 1405.

Table No. 17-B REQUIRED SANITATION FIXTURES BASED ON OCCUPANCY AND OCCUPANT LOAD (1)(2)

OCCUPANCY	USE	S.F. per Occ.	WATER CLOSETS	URINALS	LAVATORIES	DRINKING FOUNTAINS	BATHTUBS OR SHOWERS	SINKS
Group A & B ASSEMBLY	Auditoriums Bowling Alleys Churches Conference Rooms Dance Floors Dining, Drinking Exhibit Rooms Gymnasiums Libraries Lodge Rooms Lounges Rinks Stadiums, Grandstands Theaters Waiting Rooms	30 30 60 80 30 30 80 30 100 80 80 30 80 30 80	Churches 1 for each 300 men 1 for each 300 women Other Occupants — Fixtures 1-100 — 1 101-200 — 2 201-400 — 3 Over 400 — 1 additional per each 500	(3)	Churches 1 for each 300 Other Occupants — Fixtures 1-200 — 1 201-400 — 2 401-750 — 3 Over 750 — 1 additional per each 500	1 for each 300	-	1 service sink
Group C SCHOOLS	Elementary Secondary	60 60	Boys — Girls 1/ea. 60 — 1/ea. 60 1/ea. 90 — 1/ea. 30	1 for each 30	1 for each 60 1 for each 90	1 for each 75	-	1 service sink per floor
Group D INSTITUTIONAL	Prisons, Jails Hospitals, Nursing Homes	100 100	1 for each cell 1 in ea. exercise room 1 for each 8 patients 1 in each waiting room Other 1 for each 25 men 1 for each 20 women	1 in ea. exercise room Other 1 for each 50	1 in each cell and exercise room 1 for each 10 patients Other 1 for each 10	1 for each 100	1 at each cell block floor 1 for each 20 Other 1 for each 10	1 service sink per floor

Table 17-B continued

Group E, F & G COMMERCIAL INDUSTRIAL	Aircraft Hangers Factories Municipal Buildings Office Buildings Sales Service Stations Storage Garages Warehouses	500 60 80 200 200 500 500 500	Factories, Warehouses Occupants / Fixtures 1-10 / 1 11-25 / 2 26-50 / 3 51-75 / 4 76-100 / 5 Over 100 / 1 addt'nl for ea. 30 Sales, Office, etc. Occupants / Fixtures 1-15 / 1 16-35 / 2 36-55 / 3 56-80 / 4 81-110 / 5 111-150 / 6	(3)	Factories, Warehouses Occupants / Fixtures 1-100 / 1-10* Over 100 / 1-15* Sales, Offices Occupants / Fixtures 1-15 / 1 16-35 / 2 36-60 / 3 61-90 / 4 91-120 / 5 Over 125 / 1 to 45	Factories Warehouses 1 for each 75 Sales, Offices 1 for each 150	-	1 service sink per floor
Group H RESIDENTIAL MULTIPLE	Dwelling Units, Apt. Motel, Hotel Units Rooming Houses Dormitories	- - 100 100	1 1 for each 8 1 for each 8 1 for each 8	(3)	1 1 for each 8 1 for each 8 1 for each 8	-	1 1 for each 8 1 for each 8 1 for each 8	1 kitchen sink 1 laundry tub for each 10 dwelling units or guest rooms
Group I DWELLINGS	Single Family	-	1	-	1	-	1	1 kitchen sink
Group J ACCESSORY	-	-	-	-	-	-	-	-
TEMPORARY FACILITIES	-	-	1 for each 30	1 for each 30	-	1 for each 100	-	-

Footnotes:

(1) Occupant load is computed using the equation: $\frac{A}{\text{S.F. per Occ.}}$ = Occupant Load A - area of building; S.F. per Occ. - from column 3 of this table

(2) Square feet per occupant is for computing the occupant load to determine plumbing fixtures required. See Table No. 33-A for square feet per occupant for computing the occupant load to determine exiting.

(3) Urinals may be furnished in place of water closets at the rate of one urinal for one water closet, but not to exceed one-third of the required water closets.

Section 2419(c) of the 1973 Edition of the Uniform Building Code is amended to read as follows:

Section 2419(c) Engineered Unreinforced Brick and Hollow Unit Masonry.

1. General.

A. Design. The design of load bearing unreinforced brick and hollow unit masonry walls or columns constructed of solid or hollow unit masonry units made from clay, shale or concrete may be based on a general structural analysis and the requirements of this subsection, providing the following conditions are satisfied.

1. Prior to issuance of a building permit the structural design calculations, signed by the person who prepared them shall be submitted to the Building Official, with a letter certifying that the design is in accordance with this Section.

2. A program of testing and inspection shall be submitted to the Building Official for approval prior to the issuance of a building permit. Test and inspection reports shall be submitted to the Building Official. Prior to final inspection the person who certified the design shall submit a letter to the Building Official certifying substantial compliance with this Section.

3. Where required there shall be special inspection as specified in Section 305 to insure that construction and workmanship requirements of this Section and Chapter are satisfied.

In determining the stresses in brick or hollow unit masonry, the effects of all dead and live loads shall be taken into account. Consideration shall be given to the effects of eccentricity of vertical load, the effects of lateral load, temperature, ~~changes, and other force shall be considered~~ restraint (fixity), nonuniform foundation pressure, deflection and other movements of members. All critical loading conditions shall be considered.

Stresses shall be calculated on actual rather than nominal dimensions. The provisions of this subsection for bearing walls, piers, pilasters and columns are applicable for elements laterally supported in such a manner as to prevent relative lateral displacement at the top and bottom of the elements and the structure as a whole. Floor-and-roof systems shall be designed as diaphragms to transfer lateral forces horizontally to the walls, and the walls shall resist the lateral forces in shear in the plane of the wall.

Where horizontal support does not prevent relative displacement of the top and bottom of vertical load-bearing elements, provisions shall be made to insure stability of the element and structure as a whole with a safety factor of not less than three. Such provisions shall be based upon a thorough analysis including the effects of buckling and secondary bending.

B. Combination of dissimilar units. In composite or faced walls or other structural members composed of different kinds or grades of units or mortars, the maximum stresses shall not exceed the allowable for the weakest of the combination of units and mortars of which the member is composed.

Exception: The maximum compressive stress permitted in composite walls or other structural members may be based upon prism tests.

In cavity walls composed of different kinds or grades of units or mortars, the maximum stress shall not exceed the allowable stresses for the weaker of the combinations of units or mortars where both wythes support vertical load; where only one wythe supports vertical load, maximum stessess shall not exceed the allowable stresses for the units and mortars of that wythe.

2. Materials. Except as may be otherwise provided herein, materials used in brick and hollow unit masonry shall conform to the standards and requirements specified in the Subsection.

A. Brick, solid clay, shale, or hollow unit masonry units. Brick and solid clay, shale or hollow masonry units shall comply with the requirements of Section 2403(b).

Brick used in load bearing or shear walls shall comply with the dimension and distortion tolerances specified for type FBS of U.B.C. Standard No. 24-1. Where such bricks do not comply with these requirements, the compressive strength of brick masonry shall be determined by prism tests. See Section 2419(c)3 B.

Hollow unit masonry units used in load bearing or shear walls shall comply with the requirements specified in UBC Standard No. 24-4 or 24-5.

B. Used brick. Used or salvaged brick shall not be permitted under the provisions of this Subsection.

C. Mortar. Mortar for use in engineered brick masonry shall conform to U.B.C. Standard No. 24-20, Type M, S, or N, except that it shall consist of a mixture of portland cement (Type I, II, III), hydrated lime (Type S--nonair entrained) and aggregate where values given in Tables No. 24-J and No. 24-K are used.

3. Brick Masonry strength.

A. General. The value of f'm used for determining the allowable stresses shall

be based on the specified minimum 28-day compressive strength of the masonry or on the specified minimum compressive strength at the earlier age at which the masonry may be expected to receive its full load. All plans, submitted for approval or used on the job, shall clearly show the specified strength of masonry (f'm) at an age for which all parts of the structure were designed.

B. Determination of brick masonry strength. The determination of the compressive strength of brick masonry (f'm) shall be made by one of the following methods: Method No. 1--Prism Tests. When the compressive strength of brick masonry is to be established by tests, the tests shall be made in accordance with the requirements of Section 2404(c)-2. In no case, however, shall a value of f'm in excess of 6000 pounds per square inch be used in the design.

Method No. 2--Brick Tests. When the compressive strength of the brick masonry is not determined by prism tests and the units, mortar and workmanship conform to all applicable requirements of this Subsection, the allowable stresses may be based upon an assumed value of f'm interpolated from the values in Table No. 24-J. Compressive strength tests of brick shall be conducted in accordance with U.B.C. Standard No. 24-25.

4. Hollow Unit.

A. General. The allowable compressive stresses for unreinforced hollow unit masonry shall be based upon the 28 day compressive strength of the masonry (f'm) or the strength of the masonry at the earlier age it is expected to carry full loading. All plans, submitted for approval or used on the job, shall clearly show the specified strength of masonry (f'm) at an age for which all parts of the structure were designed.

B. Determination of hollow unit masonry strength. The determination of the compressive strength of hollow unit masonry (f'm) shall be made in accordance with the requirements of section 2404(c) 2.

5. Allowable stresses.

A. Compressive stresses. Except as provided elsewhere in this Code, the average compressive stresses due to axial loads in unreinforced engineered brick masonry shall not exceed .20 f'm for walls, and 0.18 f'm for columns.

Except as provided elsewhere in this code the allowable compressive stresses in unreinforced hollow unit masonry shall not exceed the following values:

Axial	0.20 f'm
Flexural	0.30 f'm

B. Tensile and shearing stresses. Except as provided elsewhere in the Code, the allowable stresses in tension in flexure and shear in unreinforced brick masonry shall not exceed the values set forth in Table 24-K.

Except as provided elsewhere in this code the allowable stresses in shear and tension in flexure for unreinforced hollow unit masonry shall not exceed the values given in Table 24M.

6. Design of unreinforced brick and hollow unit concrete masonry.

A. Slenderness ratio. The slenderness ratio of a loadbearing unreinforced brick masonry wall shall be taken as the ratio of its effective height to the effective thickness and shall not exceed 25.

The slender ratio of a load-bearing unreinforced hollow unit masonry wall shall be taken as the ratio of its effective height to effective thickness and shall not exceed 20.

The slenderness ratio of a column shall be the greater value obtained by dividing the effective height in any direction by the effective thickness in the corresponding direction and shall not exceed 20.

Where walls or columns meet all other requirements of this code, limits on slenderness ratios may be waived when approved after a review of a written justification.

B. Effective height of columns. Where a column is provided with lateral supports in the directions of both principal axes at both its top and bottom, the effective height in any direction shall be taken as the actual height.

Where a column is provided with lateral support in the directions of both principal axes at the bottom and in the direction of the top support shall be taken as the height between supports and its effective height at right angles to this shall be taken as twice its height above the lower support.

In the absence of lateral support at the top, the effective height of a column relative to both principal axes shall be taken as twice its height above the lower support.

C. Effective height of walls. Where a wall is laterally supported top and bottom, its effective height shall be taken as the actual height of the wall.

Where there is no lateral support at the top of a wall, its effective height shall be taken as twice the height of the wall above the bottom lateral support.

D. Effective thickness.

1. For unreinforced brick masonry for solid walls, the effective thickness shall be taken as the actual thickness.

2. For cavity walls loaded on both wythes, the effective thickness shall be taken as the square root of the sum of the squares of the actual thickness of both wythes. For cavity walls loaded on one wythe only, the effective thickness may be determined as for cavity walls loaded on both wythes, except that the effective thickness shall not exceed 1.5 times the actual thickness of the loaded wythe.

For columns, the effective thickness shall be taken as its actual thickness in the direction considered.

3. For unreinforced hollow unit masonry.

Except for cavity walls, the effective thickness of a wall without pilasters shall be its actual thickness.

For a wall supported at vertical intervals and stiffened by and properly bonded into pilasters at regular intervals, the effective thickness to be assumed in calculation its slenderness ratio shall be the value given by multiplying its actual thickness between pilasters by the corresponding coefficient in Table 24 N.

where: $\frac{T_P}{T_W}$ = $\frac{\text{Pilaster thickness}}{\text{Wall thickness}}$

and where linear interpolation between the values of the coefficients given in the table shall be permitted but not extrapolation outside the limits given. For cavity walls loaded on both wythes the effective thickness shall be determined from the following formula:

$$T = 2/3\ (T_O - W_C)$$

where T_O = overall thickness of wall, including width of cavity,

W_C = width of cavity

For cavity walls loaded on one wythe only, the effective thickness shall be taken as that for the loaded wythe only, using the procedures as provided for elsewhere in this code.

The effective thickness of a column or pier in any direction shall be its actual thickness in the direction considered.

E. Eccentricity normal to plane of member.

1. Unreinforced brick masonry

In calculating the virtual eccentricity of loads on walls, or columns, consideration shall be given to the effects of lateral load, eccentricity of vertical load, and the deflection, thermal and other movements of members.

In solid walls, columns and cavity walls loaded on both wythes, the eccentricity of the load shall be considered with respect to the centroidal axis of the member.

In cavity walls located on one wythe, the eccentricity of the load shall be considered with respect to the centroidal axis of the loaded wythe.

2. Unreinforced hollow unit masonry.

In walls, column and cavity walls loaded on both wythes, the eccentricity of the load shall be considered with respect to the center of resistance of the member, taking into account variation in moduli of elasticity of members composed of different materials. In cavity walls loaded on one wythe, the eccentricity of the load shall be considered with respect to the centroidal axis of the loaded wythe.

In design of unreinforced masonry the effective area for stress calculations shall be based on the net cross-sectional area of masonry except as noted otherwise.

F. Allowable vertical loads:

1. Unreinforced brick masonry

Axial loads on walls. Allowable axial loads on unreinforced brick masonry walls shall be computed by the following formula:

$$P = c\ (0.20\ f'm)\ A_g$$

WHERE:

c= Stress reduction factor given in Table No. 24-L corresponding to the slenderness ratio and

A_g= Actual gross cross-sectional area of the wall.

Where both wythes of a cavity wall support vertical load A_g shall be taken as gross cross-sectional area of wall minus area of cavity between wythes. Where only one wythe supports vertical load, A_g shall be taken as gross cross-sectional area of the loaded wythe.

Axial loads on columns. Allowable axial loads on unreinforced brick masonry columns shall be computed by the following formula:

$$P = c\ (0.18\ f'm)\ A_g$$

WHERE:

c= Stress reduction factor given in Table NO. 24-L corresponding to the slenderness ratio and

A_g= Actual gross cross-sectional area of the column.

Eccentric load. Where the virtual eccentricity of vertical and horizontal loads normal to the plane of the member does not exceed one-third the thickness, the allowable vertical load on unreinforced brick masonry walls and columns shall be computed in accordance with this Subsection, where the stress reduction factor corresponds to the slenderness ratio and eccentricity.

Where virtual eccentricity exceeds one-third the thickness, the maximum

tensile stress in the masonry, assuming linear stress distribution, shall not exceed the values given in Table No. 24-K or the member shall be designed in accordance with the requirements of Section 2418.

2. Unreinforced hollow unit masonry axial loads on walls and columns.

Allowable axial loads on unreinforced hollow unit masonry walls shall be computed by the following formula:

$$P = 0.20\ f'm \quad X \quad \left[1 - \left(\frac{h}{40t}\right)^3 \quad \frac{A_n}{\quad}\right]$$

Allowable axial loads on unreinforced hollow unit masonry columns shall be computed by the following formula:

$$P = 0.18\ f'm \quad X \quad \left[1 - \left(\frac{h}{30}\right)^3 \quad \frac{A_n}{\quad}\right]$$

Where h = Effective height

t = Effective thickness

$\frac{A_n}{\quad}$ = net cross-sectional area for hollow units,

gross cross-sectional area for solid units.

Where both wythes of a cavity wall support vertical load, A_n shall be the net cross-sectional area of the loaded wythe

Eccentric Loads. Where the virtual eccentricity does not exceed 1/3 the thickness for members of solid units or the value which will produce tension in members of hollow units, the fiber stresses, f_a and f_m, shall be determined by recognized straight line theory. Where the virtual eccentricity in members of solid units produces tension in the wall, the cross-section used for determining fiber stresses shall be based on a cracked section with the assumption that the masonry does not resist tension. Members shall be so proportioned that the quantity.

$$\frac{f_a}{F_a} + \frac{f_m}{F_m} \text{ shall not exceed } 1$$

Where f_a = computed axial stress

F_a = allowable axial stress

f_m - computed flexural compressive stress

F_m = allowable flexural compressive stress 0.30 f'm

Where the virtual eccentricity exceeds the limits of Section 2419(d) 5.G.1. the fiber stress shall be determined by recognized straight line theory on the uncracked mortar bedded area. Members shall be so proportioned that

f_m = 0.75 f_a shall not exceed F_t

Where Fa - computed axial stress

f_m - computed flexural compressive stress

F_t = allowable tensile stress given in Table 24M

G. Concentrated loads. The bearing stress under beams, lintels and girders and from similar concentrated loads supported on unreinforced masonry shall not exceed the values set forth in Table No. 24-H for reinforced masonry.

H. Shear walls. Eccentricity parallel to plane of wall. The eccentricity parallel to the plane of the wall of vertical and horizontal loads acting on shear walls shall not exceed an amount which will produce tension in unreinforced brick or hollow unit masonry. Where the eccentricity exceed this amount, the wall shall be designed in accordance with the requirements of Section 2418.

Intersecting Walls— Any reasonable assumption may be adopted for computing relative flexural stiffness of walls for the distribution of moment due to wind load. T-beam action may be assumed where a shear wall intersects another wall or walls, provided the effective flange width shall not exceed one sixth of the total wall height above the level being analyzed and its overhanging width on either side of the shear wall shall not exceed six times the thickness of the intersected wall. Where shear walls intersect a wall or walls to form L or C sections, the effective overhanging flange width shall not exceed one sixteenth of the total wall height above the level being analyzed nor six times the thickness of the intersected wall. Limits on effective flange width may be waived when approved after a review of a written justification.

Allowable horizontal shear on unreinforced brick masonry.

The horizontal component of forces acting on a shear wall shall not exceed the product of the actual gross cross-sectional area of the wall paralled to the horizontal force times the allowable shear given in Table NO. 24-K. The overhanging portion of the flange of the shear wall shall not be considered to be effective in computing the shear resistance of the wall.

Allowable compressive stress. The maximum allowable flexural compressive stress in shear walls resulting from horizontal and vertical loads shall not exceed 0.25 f'm multiplied by the stress reduction factor of Table No. 24-L for an eccentricity of zero.

Anchorage of diaphragms. Anchorage of diaphragms to walls shall be in accordance with Section 2313 and shall be sufficient to transmit all forces.

7. Construction.

A. General. In addition to the construction requirements of Sections 2410(b), 2412(b) and (c), and 2416, unreinforced brick masonry designed in accordance with Section 2419(c) shall also comply with the requirements of this Subsection.

B. Mortar joints. All brick shall be laid with full head and bed joints and all interior joints that are designed to receive mortar shall be filled. The average thickness of head and bed joints shall not exceed ½ inch.

C. Bonding unreinforced load-bearing walls and shear walls. Where two unreinforced load-bearing walls meet or intersect, or where shear walls intersect a wall (see Section 2419(c) 5H), the intersections shall be bonded by laying in a true bond at least 50 percent of the units at the intersection or the intersecting walls shall be regularly toothed or blocked with 8-inch maximum offsets and the joints provided with metal anchors having a minimum section of 1/4 inch by 1-½ inches with ends bent up at least 2 inches, or with cross pins to form anchorage. Such anchors shall be at least 2 feet long and the maximum spacing shall be 4 feet.

TABLE 24M

ALLOWABLE STRESSES IN SHEAR AND TENSION IN FLEXURE
FOR UNREINFORCED CONCRETE MASONRY (1)

Allowable Stresses	Masonry Construction of: Hollow units Type M or S Mortar	Hollow units Type N Mortar	Grouted or Solid Units Types M or S Mortar	Grouted or Solid Units Type N Mortar
Shear, psi	34(4)	23(4)	34	23
Tension in Flexure: (5)				
Normal to bed joints (2)	23(4)	16(4)	39	27
Parallel to bed joints (3)	46(4)	32(4)	78	54

(1) See Section 2419(d)4.

(2) Direction of stress is normal to bed joints; vertically in normal masonry construction.

(3) Direction of stress is parallel to bed joints; horizonally in normal masonry construction. If masonry is laid in stack bond, tensile stresses in the horizontal direction shall not be permitted in the masonry (see section 2417(1).

(4) Net mortar bedded area.

(5) For computing flexural resistance due to horizontal load, the section modulus of a cavity wall shall be assumed to be equal to the sum of the section moduli of each wythe.

TABLE 24N
COEFFICIENTS FOR STIFFENED WALLS

Ratio: Pilaster Spacing (O.C.) / Pilaster Width	$\frac{T_P}{T_W} = 1$	$\frac{T_P}{T_w} = 2$	$\frac{T_P}{T_w} = 3$
6	1.0	1.4	2.0
8	1.0	1.3	1.7
10	1.0	1.2	1.4
15	1.0	1.1	1.2
20 or more	1.0	1.0	1.0

Section 3303(d) of the 1973 Edition of the Uniform Building Code is amended to read as follows:

Section 3303(d) Width and Height. Every required exit door, and at least one door serving a dwelling unit, shall be of a size as to permit the installation of a door not less than 3 feet in width and not less than 6 feet 8 inches in height. When installed in exit doorways, exit doors shall be capable of opening at least 90 degrees and shall be so mounted that the clear width of the exitway is not less than 28 inches. In computing the exit width required by Section 3302(b), the net dimension of the exitway shall be used.

All doors within a dwelling unit, excepting those serving closets or similar spaces, shall have a clear opening width, in an open position, of not less than 31 inches.

Section 3304(a) of the 1973 Edition of the Uniform Building Code is amended to read as follows:

Section 3304(a) General. This Section shall apply to every corridor serving as a required exit for an occupant load of 10 or more persons. For the purposes of this Section the term "corridor" shall include "exterior exit balcony" and any covered or enclosed exit passageway including walkways, tunnels and malls. See Subsection (b) for requirements in dwelling units where the occupant load is less than 10.

Foyers, lobbies and reception rooms meeting the construction requirements of corridors as specified in this Section may be classified as corridors.

Partitions, rails, counters and similar space dividers not over 5 feet in height above the floor shall not be construed to form corridors.

Section 3304(b) of the 1973 Edition of the Uniform Building Code is amended to read as follows:

Section 3304(b) Width. Every corridor shall be not less in width than 44 inches. For special requirements for Group C and D Occupancies, see Section 3317 and 3318. Regardless of occupant load, corridors and hallways within a dwelling unit shall have a clear width of not less than 31 inches.

Add new Subsection 1602(d) to read as follows:

Section 1602(d) Special Requirements. For automatic fire extinguishing systems in Group E, Division 4, Group F and Group H Occupancies, see Section 3802(b)6, 8, and 12.

Add new Subsection 1603(d) to read as follows:

Section 1603(d) Special Requirements. For automatic fire extinguishing systems in Group E, Division 4, Group F and Group H Occupancies, see Section 3802(b)6, 8, and 12.

Add new Subsection 1604(a) to read as follows:

Section 1604(a) Special Requirements. For automatic fire extinguishing systems in Group E, Division 4, Group F and Group H Occupancies, see Section 3802(b)6, 8 and 12.

Amend Section 3802(b)6 to read as follows:

Section 3802(b)6 In Group E, Divisions 1 and 2 Occupancies having an area of more than 1500 square feet; in Group E, Division 3 Occupancies having an area of more than 3000 square feet; and in Group E, Division 4 Occupancies more than one story in height, or exceeding 20,200 square feet in floor area located in Fire Zone No. 3. The area and height increases specified in Section No. 506 and No. 507 shall be permitted.

In rooms where flammable or combustible liquids are stored or handled in excess of the quantities set forth in Table No. 10-A, or any combination of flammable liquids totaling 240 gallons, as defined in the Fire Code.

For special provisions on hazardous chemicals and magnesium, and calcium carbide, see Fire Code.

Amend Section 3802(b)8 to read as follows:

Section 3802(b)8 In retail sales rooms classed as Group F, Division 2 Occupancies where the floor area exceeds 12,000 square feet on any floor or 42,000 square feet on all floors; however, the area and height increases specified in Sections 506(c) and 507 shall be permitted. In Group F Occupancies exceeding 13,500 square feet in floor area located in Fire Zone No. 1 or No. 2, or when of Type V construction exceeding 10,500 square feet of floor area located in Fire Zone No. 2, or exceeding 20,200 square feet in floor area located in Fire Zone No. 3. The area and height increases specified in Section No. 506 and No. 507 shall be permitted.
EXCEPTION: Open parking garages.

Add new Subsection 3802(b)12 to read as follows:

Section 3802(b)12 In Group H Hotel Occupancies exceeding 20,200 square feet in floor area or other Group H Occupancies exceeding three (3) stories in height. The area and height increases specified in Section No. 506 and No. 507 shall be permitted.

Proposed Code Amendment

MINNESOTA BUILDING CODE DIVISION
DEPARTMENT OF ADMINISTRATION
127 UNIVERSITY AVE.
ST. PAUL, MINNESOTA 55103
TELEPHONE 612/296-3705

DATE REC'D
DATE OF PUBLIC HRG.
DATE OF ADOPTION

Proponent Glenn A. Erickson Title City Architect

Address 445 City Hall City St. Paul State Minnesota Zip 55102

Proposed amendment to the State Building Code. Section SBC 8806-2-F-1

(Check one)

- [x] Change subsection to read as follows
- [ ] Delete subsection and sustitute as follows
- [ ] Add new subsection to read as follows
- [ ] Delete subsection without substitution

Insert here the specific code change, with the exact wording proposed. Present wording of the section of the code is to be shown, with all wording that is to be deleted to be shown with a line drawn through the words. All proposed new wording is to be underscored.

Top and bottom landings shall be provided with hoistway access switches conforming to Rule 111. 9b and 111. 9c of ANSI A17. 1-1971. The operation of the switch at the top floor shall be zoned to stop the top of the elevator car substantially level with the top floor.

(Use additional pages if necessary)

SUPPORTING STATEMENTS:

(Use additional pages if necessary)

Proposed Code Amendment

MINNESOTA BUILDING CODE DIVISION
DEPARTMENT OF ADMINISTRATION
127 UNIVERSITY AVE.
ST. PAUL, MINNESOTA 55103
TELEPHONE 612/296-3705

DATE REC'D _____
DATE OF PUBLIC HRG. _____
DATE OF ADOPTION _____

Proponent URBAN J SCHAAF Title Manufacturer's Representative

Address 480 Quebec Ave. South City Golden Valley State Mn Zip 55426

Proposed amendment to the Minnesota Plumbing Code. Section MHD 123 Material Table 123 (C)(3)VI

(Check one)

[X] Change subsection to read as follows [ ] Delete subsection and sustitute as follows

[ ] Add new subsection to read as follows [ ] Delete subsection without substitution

Insert here the specific code change, with the exact wording proposed. Present wording of the section of the code is to be shown, with all wording that is to be deleted to be shown with a line drawn through the words. All proposed new wording is to be underscored.

Table 123(C)(3) Standards for Plumbing Materials -

VI. PLASTIC PIPE AND FITTINGS
DRAIN, WASTE AND VENT

6A Acrylonitrile-Butadiene-Styrene (ABS)....D2651
Type 1, Schedule 40.....

6B Polyvinyl Chloride (pvc).....D2665
Schedule 40 Unthreaded.....
Schedule 80 can be threaded
BUILDING SEWER.....

6C(1) Styrene-Rubber.....D2852

6C(2) Polyvinyl Chloride (pvc).....D3033
D3034

6C(3) Acrylonitrile-Butadiene-Styrene (ABS)..D2751-73

123 (d) Piping System Materials
(4) Building Sewers
(gg) Plastic 6A, 6B, 6C(1), 6C(2), 6C(3) Laid on a continuous granular bed in yard areas.

(Use additional pages if necessary)

SUPPORTING STATEMENTS:

(1) Acrylonitrile-Butadiene-Styrene (ABS) Schedule 40 has been an approved material for Drain-Waste-and Vent along with Polyvinyl-Chloride (pvc).

(2) PVC has now been accepted for building sewers - ASTM D3033, D3034. ABS - ASTM - D2751-73 has same wall thickness requirement as D3033.

(3) Would allow for continuity in plumbing. ABS Schedule 40 drain waste and vent under the slab, then to ABS D2751-73 in yard area without a transition fitting to PVC.

(Use additional pages if necessary)

STATE OF MINNESOTA

COUNTY OF RAMSEY

BEFORE THE

DEPARTMENT OF PUBLIC SAFETY AND THE

COMMISSIONER OF ADMINISTRATION

In the matter of the Proposed Amendments to the State Fire Marshal's Rules and to the State Building Code

AFFIDAVIT

Herbert W. Meyer, being duly sworn, on oath deposes and says:

1) That he is an employee of the Department of Administration of the State of Minnesota.

2) That on the 1st day of April, 1975, he requested from the Secretary of State's office for the State of Minnesota current list of all representatives of associations and other interested groups or persons who had registered their names with the Secretary of State for the purpose of obtaining notices of public hearings relating to the promulgation of regulations pursuant to Minn. Stat. 15.0412.

3) That on the 3rd day of April, 1975, in response to the above request, the Secretary of State provided him with such a list, a copy of which is attached hereto and incorporated by reference.

Further affiant sayeth not.

Herbert W. Meyer

Herbert W. Meyer
State Building Inspector
Minnesota Department of Administration

Subscribed to and sworn to before me this 1st day of April, 1975.

CYNTHIA L. CLAASON
NOTARY PUBLIC - MINNESOTA
RAMSEY COUNTY
My Commission Expires Feb. 23, 1982

Cynthia L. Claason

Exhibit E

STATE OF MINNESOTA

COUNTY OF RAMSEY

In the matter of the Proposed Amendments to the State Fire Marshal's Rules and to the State Building Code

CERTIFICATE

I hereby certify that the attached 418 labels and 4 sheets constitute the complete list of persons, associations, and other interested groups who as of 9:00 o'clock a .m. this 3rd day of April, 1975, have requested pursuant to Minn. Stat. 1974, Section 15.0421, that their names be placed on file with the Secretary of State for the purpose of receiving notice of public hearing on proposed rules on the subject captioned above.

Joan Anderson Growe

Joan Anderson Growe
SECRETARY OF STATE

By: Gail Dunn

STATE OF MINNESOTA

COUNTY OF RAMSEY

BEFORE THE

COMMISSIONER OF ADMINISTRATION

AND THE DEPARTMENT OF PUBLIC SAFETY

In the matter of the Proposed Amendments to the State Fire Marshal's Rules and to the State Building Code

AFFIDAVIT OF MAILING

Herbert W. Meyer, being first duly sworn, deposes and says:
That on the 5th day of April, 1975, at the City of St. Paul, County of Ramsey, State of Minnesota, he served the attached Notice of Hearing by depositing in the United States mail at said City of St. Paul, a true and correct copy thereof, properly enveloped, with postage prepaid, to all local governmental units, all persons and associations at the addresses listed on the attached Certificate regarding the Secretary of State, members of the Minnesota legislature, and other interested individuals.

Herbert W. Meyer

Herbert W. Meyer
State Building Inspector
Minnesota Department of Administration

Subscribed and sworn to before me
this 5th day of April, 1975.

CYNTHIA L. CLAASON
NOTARY PUBLIC - MINNESOTA
RAMSEY COUNTY
My Commission Expires Feb. 28, 1978

Cynthia L. Claason

Exhibit B

STATE OF MINNESOTA

COUNTY OF RAMSEY

BEFORE THE

COMMISSIONER OF ADMINISTRATION

In the matter of the Proposed Amendments to the State Fire Marshal's Rules and to the State Building Code

APPOINTMENT

Herbert W. Meyer is hereby appointed to serve as hearing officer on behalf of the Commissioner of Administration in the above-captioned matter, said hearing to be held on May 15, 1975, and continue until all representatives of associations or other interested groups or persons have had an opportunity to be heard.

This appointment is made pursuant to Minn. Stat. 1974, Section 16.86, Subdivision 4.

Date: April 25, 1975

Richard L. Brubacher
Commissioner of Administration

STATE OF MINNESOTA

COUNTY OF RAMSEY

BEFORE THE DEPARTMENT OF PUBLIC SAFETY

AND THE COMMISSIONER OF ADMINISTRATION

In the matter of the Proposed Amendments to the State Fire Marshal's Rules and to the State Building Code

FINDINGS OF FACT

The above-entitled matter came on for hearing before the Department of Public Safety and the Commissioner of Administration of the State of Minnesota on the 15th day of May, 1975, at 9:00 a.m., in Room 123, State Capitol, St. Paul, Minnesota, after proper notice required by Minn. Stat. 1974, Section 15.0412, Subdivision 4 was served upon all persons, associations and other interested groups registered with the Secretary of State for that purpose.

After affording interested persons an opportunity to present written and oral data, statements and arguments, having heard all the testimony, having considered all of the evidence adduced and upon the records, files and proceedings herein, I find the following regarding the proposed amendments:

1. Amendment to SFM 299F.41 deleting SFM 500 through 568, Provisions for Handicapped Facilities.

   Amendment to SBC 8901 deleting Special Provisions for the Handicapped.

   Mr. Gordon Bluhm, Chairman of the General Design Committee of the Northstar Chapter of the International Conference of Building Officials, testified of the need to delete the State Fire Marshal's Rules for Handicapped Facilities, SFM 299F.41 and SBC 8901 to eliminate duplication of requirements if the new UBC Chapter 55 is adopted. Mr. Donald Olson of the Minneapolis Building Department concurred. No evidence contrary to the amendments was adduced. The deletion is editorial in nature because retention of the rules would be in conflict with new rules to be adopted herein. The Building Code Standards Committee recommended adoption. The amendment to SFM 299F.41 deleting SFM 500 through 568, Provisions for Handicapped Facilities, is required based on the above testimony. The amendment to SBC 8901 deleting Special Provisions for the Handicapped is necessary to eliminate duplication.

2. Amendment to SBC 201 deleting portions of UBC 1711(b), Toilet Facilities Relating to the Handicapped.

   Amendment to SBC 201 deleting UBC 1711(c) and renumbering the balance of UBC 1711.

   Amendment to SBC 201 deleting the final column of UBC Table 33-A.

2. (cont.)

Mr. Gordon Bluhm, Building Official of Olmsted County, and Mr. Donald Olson, Code Coordinator for the City of Minneapolis, testified in favor of the amendments, and that additional amendments should be made to these sections. They held that this section is really directed at handicapped accessibility although it is not so titled. The Building Code Standards Committee recommended that the amendment should be adopted as presented, considering it to be editorial to avoid conflict with the proposed rules for the handicapped, UBC Chapter 55, and that further changes to the sections were not justified. No testimony opposing the amendments was presented. The amendments to SBC 201 deleting portions of UBC 1711(b), deleting UBC 1711(c), and deleting the final column of UBC Table 33-A is necessary to avoid conflict and duplication of requirements in various sections of the code.

3. Amendment to SBC 201, new UBC Chapter 55, Facilities for the Handicapped.

The following persons testified in favor of the proposed adoption of the amendment to SBC 201 to provide a new Chapter 55 in the Uniform Building Code:

Mr. Gordon Bluhm representing the Northstar Chapter of the International Conference of Building Officials, said the Chapter is in favor of the amendment as the new Chapter 55 will clarify, remove duplication and centralize provisions for the handicapped which will assist local officials in enforcing the provisions.

Mr. Donald Olson, Code Coordinator for the City of Minneapolis, supported the amendment, but had some specific changes to suggest which are outlined below.

Foster Dunwiddie, Chairman of the Division's Advisory Handicap Committee and representative of the Minnesota Society of Architects, spoke in favor of the amendment. He reviewed the activities of the Advisory Committee which had studied the matter for over two years and recommended that the proposed Chapter 55 be heard and considered for adoption. He stated that the Committee felt that the requirements were reasonable, could be interpreted and used by local building officials to provide adequate architectural barrier free facilities, and would accomplish the basic purpose of the legislative intent to provide accessibility and useability of buildings by the handicapped.

Kent Riedesel, representing H.U.D., stated that the proposed Chapter 55 is compatible with H.U.D. regulations.

Mr. Joe Weis, a private developer and a representative of the Minnesota Apartment Association and Minnesota Housing Institute, as well as a member of the Handicap Advisory Committee, stated that these groups wholeheartedly support the handicap provisions with some exceptions, which are outlined below.

Mr. Glenn Erickson representing the Division of Housing and Building Code Enforcement of the City of St. Paul, went on record that their Division supports the proposed changes which are long overdue and will be reasonable and enforceable by municipal building officials.

Ms. Mary O'Hara, chairperson of the Citizen's Committee on Improved Housing for Handicapped People stated the Committee supports the amendment, as they receive calls every day looking for buildings that are useable and accessible for the handicapped. She also spoke of the great need for kitchens designed and built for use by the handicapped.

Mr. Michael Bjerksett, secretary of the National Handicapped Housing Institute and member of the Advisory Board of the American Public Transit Association, spoke of his difficulties as a handicapped person in finding buildings that are accessible and useable by the handicapped. He stated that from eight years experience of being dependent on a wheelchair for mobility, he has confronted

many architectural barriers in buildings. He has concluded that such architectural barriers are the single most important obstacle to his and other wheelchair occupants' independent functioning in society. He stated that it is time to have architecturally barrier free buildings so that the disabled can function as independently as able-bodied persons can. Mr. Bjerksett further stated that with proper housing for the handicapped that the dwelling units could be marketed among the handicapped. He stated that barrier free design is here to stay, and that the disabled have rights guaranteed by the U.S. Constitution and Minnesota laws to have free access to all public accommodations and to be able to live in barrier free housing.

Mr. Judd Jacobson, member of the Governor's Committion on Employment of Handicapped Persons and the National Advisory Committee, stated that he has been paralyzed for thirty one years and with barrier free buildings, he is on an equal footing with able-bodied persons in living from day to day and engaging in business in competition with able-bodied persons.

Mr. Jerry Koskovich, consulting engineer and member of the Handicap Advisory Committee, stated that the present regulations are unworkable, and that the new Chapter 55 can be readily understood and properly administered.

Mr. Edward Baker of the Minneapolis Building Owners and Managers Association stated that the provisions are rational, and will result in only minor increases in construction costs and minor problems in design of barrier free buildings.

Mr. Michael Niemeyer, Minnesota Society of Architects Task Force on Building Codes, supported the amendment but felt that architects should have greater flexibility and leeway in design by using performance-oriented criteria.

Mr. William Betzler, representing the Minnesota Apartment Association, stated that they endorse the code amendments relating to handicap accessibility with certain modifications. The Association also feels that apartment owners providing barrier free housing should be given a tax incentive. This would require legislation. Mr. Betzler also stated that the Association would cooperat- with persons encouraging the marketing and use of barrier free housing in any way possible, to identify persons in need of such housing.

Mr. William Hopkins, Minnesota Society for Crippled Children and Adults, outlined his many years of work to secure barrier free buildings and stated that he strongly supports the proposed amendments, but had some clarifying language to propose for certain sections. These suggestions are outlined in the special section below.

Mr. Gary Fletcher of Northwestern Bell Telephone Company supported the amendment, but requested that national standards be followed in providing telephone facilities that are to be accessible to persons confined to wheelchairs.

Mr. Joe Prause, Coon Rapids Building Official, supported the amendment, but asked for an interpretation and clarification of several sections.

Mr. Zolly Baratz, apartment owner and manager, questioned the increased costs of apartments built with barrier free facilities.

Mr. Sol Jacobs, Minneapolis Building Inspector, stated that the proposed amendment should be adopted to provide building officials with a code that is workable and capable of being interpreted and enforced at the municipal level.

Although generally in support of the proposed Chapter 55, several speakers questioned certain sections and suggested modifications. Those sections and speakers are as follows:

A. UBC 5502(d) - Access to Other Stories. Don Olson stated that the proposed language needs clarification and better definition.

B. UBC 5502(f) - Doors and Doorways. Don Olson and William Hopkins testified for additional width.

C. UBC 5502(h) - Aisles and Lanes. Don Olson suggested the need to include aisles formed by benches, tables, portable seats or merchandise.

D. UBC 5503(a)1 - Sanitation Facilities, Where Required. The following persons supported the proposed 5% requirement for apartment buildings: Kent Riedesel, Glenn Erickson, Michael Bjerksett, Judd Jacobson and Jerry Koskovich. Michael Niemeyer felt that no ratio should be established. Joe Weis and William Betzler proposed 2% and only for buildings with 24 or more units. Table 55-A was suggested and prepared based on the 5% which clarifies and provides a better means of understanding the proportions for various sized apartment buildings.

E. UBC 5503(a)2 - Where Required. Don Olson and Ed Baker stated that requiring one handicap facility in each toilet room in multi-story and large buildings would be excessive and costly. The Building Owners and Managers Association submitted written comments of the same nature.

F. UBC 5302(b) - Location other than Group H Apartments. Don Olson questioned the clarity and suggested that the facility could be on any floor level served by a ramp or elevator.

G. UBC 5503(c) - Sizes and Clearances. Don Olson recommended using present State Fire Marshal's language for grab bars.

H. UBC 5505(b) - Number of Viewing Positions. William Hopkins recommended an increase in viewing positions for motion picture auditoriums.

No testimony was presented in opposition to adopting the proposed Chapter 55 except as outlined above. The Building Code Standards Committee recommended adoption with some editorial corrections and modifications as suggested by testimony which clarify and improve the provisions to provide better accessibility and useability by the handicapped. The Building Code Standards Committee based their recommendation to adopt on the testimony presented and also on recognition of the legislative history pertaining to handicapped persons outlined herein.

In 1967, the Minnesota Legislature (Minn. Stat. 1967, Section 73.57, et. seq.) directed the State Fire Marshal to promulgate rules making public buildings constructed or remodeled thereafter, accessible and useable by the physically handicapped. The legislation further asserted that the rules be those set forth in American Standards Specification for Making Buildings and Facilities Accessible and Useable by the Physically Handicapped, published by the American Standards Association (A.S.A.).

In 1969, the Legislature amended Minn. Stat. 73.59, Subdivision 1 by deleting reference to the A.S.A. Standard.

Subsequently, the State Fire Marshal promulgated Rules and Regulations Providing Accessibility and Useability Features for the Physically Handicapped in Public Buildings, SFM 500 - 568.

In 1971, the Legislature (Minn. Stat. 471.465) directed that the rules relating to the physically handicapped apply to all buildings other than farm buildings, farm dwellings, and other one and two-family dwellings, and delegated the administration and enforcement of the rules to the local authority.

In 1974, the Legislature (Minn. Stat. 471.465) provided for the promulgation of rules for facilities for the handicapped by the Commissioner of Administration to the exclusion of other rules and with administration and enforcement by the Commissioner of Administration and local authority.

We find that the proposed UBC Chapter 55 as modified by the Building Code Standards Committee is necessary to comply with the legislative intent to assist handicapped persons in having architecturally barrier free buildings in Minnesota.

4. UBC Sections 605, 805, 905, 1005, 1105, 1205, 1305(b), 1405(a), 1711(h) and Table 17-B.

Mr. Donald Olson supported the amended sections which delineate where and when sanitation facilities are required in the various Occupancies regulated by the code. He also suggested an exemption for minor accessory uses and one addition to the table for occupancy over 150 in sales, offices, etc in Table 17-B. Mr. Charles Dornack supported the amendments but recommended that the facilities should be separated for the sexes. No testimony was offered opposing the amendments or suggested changes.

The Building Code Standards Committee recommended the adoption of the amendments to these sections of the Uniform Building Code. The amendments are necessary to provide clear and definite provisions outlining when, where, and how many sanitation facilities are required in various Occupancies.

5. UBC Sections 3304(a) and 3304(b) Providing for Minimum Doorway Widths in Residential Occupancies.

Mr. Donald Olson, Code Coordinator, City of Minneapolis, testified that the intent of the amendment could be served by further modification to show clearly that the entry doorway of a dwelling unit must be 36 inches wide and all other doors serving habitable spaces be 31 inches wide. Mr. Wilt Berger, Minneapolis architect, testified that existing wording may be adequate. Mr. Gordon Bluhm, Building Official for Olmsted County, testified that having all doorways 31 inches wide cannot be justified except under the handicapped provisions.

The Building Code Standards Committee concurred that clarification of exit doorway width for dwelling units should be established, and recommended adoption. UBC 3304(a) and 3304(b) are necessary to provide adequate minimum width of doorways.

6. UBC Sections 1602(d), 1603(d), 1604(a), 3802(b)6, 3802(b)8, and 3802(b)12 - Providing for Additional Fire Sprinkler Protection in Certain Occupancies.

Mr. Orville Mertz, Fire Chief of the City of Rochester, spoke in favor of the amendments, and submitted Exhibit "L". Chief Mertz represented the Minnesota Fire Chiefs Association and the City of Rochester. He outlined many authorities and written material supporting the use of sprinklers as proposed in the amendments. He testified that the protection required by the amendments is especially significant in communities with limited fire fighting personnel and equipment, and that fire sprinklers provide life safety beyond any alternate means or methods. Chief Mertz testified that the amendments will effectively accomplish the following ten things:

(1) Extend the useful life of older buildings.
(2) Reduce death and injury and property loss in large commercial and residential occupancies.
(3) Reduce the costs of municipal fire protection.

(4) Give architects and builders a freedom of design concepts not realized before.
(5) Eliminate many of the costly fire protection features now found in building codes because sprinkler systems will make them redundant.
(6) Reduction in fire protection maintenance costs.
(7) Insurance costs will be reduced.
(8) Reduction of building costs.
(9) People will no longer be in a race with death when a building is involved in a fire. They will be safe where they are.
(10) Reduction of restrictions on building materials and assemblies.

Chief Mertz also stated that a fire chief and his community have only four things to consider in solving a fire problem, especially when the contemplated building size and contents exceed the capabilities of the local fire department to cope with fires in such buildings. The four factors to be considered are:

(1) Beef up the fire department and water supplies to cope with the hazard.
(2) Deny permission to build the structure.
(3) Require automatic sprinklers.
(4) Write off the building, its contents and the people who may be caught in the building should fire develop.

Chief Mertz also submitted a written statement and additional material to substantiate his oral comments at the hearing.

D.E. Leonard, Duluth Fire Chief, submitted Exhibit "J" in which he and the Fire Department support the proposed amendments which would provide increased life safety protection for all occupants. They also consider the additional protection afforded by sprinklers to be a great asset to the protection of life and property, and that any increase in cost is heavily offset by the protection afforded human life.

Robert Buresh, Fire Chief of the City of Edina, testified in support of the amendments and said that the amendments would recognize that fire protection as proposed does not necessarily result in increases of fire personnel and equipment. He stated that present requirements presume a fully manned and trained fire department which is not the case in many communities.

Mr. Sol Jacobs, Minneapolis Building Inspector, felt that the cost may be excessive and recommended that action on the amendments should be delayed until the Division's Fire and Life Safety Advisory Committee has reviewed them and made recommendations.

Mr. Zolly Baratz, apartment owner and manager, questioned whether fire sprinklers are the only way to provide safety.

Mr. L. G. Anderson of Cedar-Riverside Associates, Inc., spoke against the amendments and submitted a written statement outlining his views. He felt that the amendments are punitive without compensating benefits. He also felt that they disregard present life safety features in the code and should have additional study.

Mr. Glenn Erickson, Building Official, City of St. Paul, testified that developing communities with less than adequate fire protection should not depend on the Building Code to resolve their problems for them, and the amendments should not be adopted until they have been evaluated more thoroughly.

Mr. Wilton Berger, architect, testified that the amendments should be rejected because the increased safety ratio is not warranted by the increased costs.

Mr. Jerry Koskovich, consulting engineer, stated that the Fire and Life Safety Committee was only studying high-rise buildings and their problems and not the Occupancies covered under the proposed amendments. Mr. Koskovich favored adoption of the amendments.

Mr. R. E. Otness of Draper and Kramer Realtors, wrote opposing sprinklers in apartment buildings because of possible increased construction costs.

Mr. Richard C. Larson of the Minneapolis Housing and Redevelopment Authority, wrote opposing sprinklers in three story apartments because he felt it would increase construction costs.

Mr. C. M. Niemeyer of Ralph Rapson and Associates, Inc., Architects, wrote in opposition to the proposed amendments. He felt that the amendments were vague and unclear as to the way to perform under them. Mr. Niemeyer particularly opposed more restrictions on high-rise apartment buildings than now required in the code. He also felt that new technological solutions may be available in the near future and further study should be made before adoption. He also questioned increased costs with an example quoted which is not mathematically correct.

The Building Code Standards Committee recommended adoption of UBC Section 3802(b)6 based on the affirmative testimony by the fire service, and no oral or written opposition to that Section. They recommended that the other sections be held pending establishment of national consensus standards by the model code groups, and other national agencies that will provide acceptable uniform standards of fire and life safety protection in such occupancies. We concur with the Committee's recommendations and find that adoption of UBC 3802(b)6 is necessary to provide adequate fire protection in Group E, Division 4 Occupancies (repair garages) located in Fire Zone 3 areas such as residential and similar districts.

7. SBC 8806, Section 2-F01 - Providing Access Switch at Elevators.

Mr. Glenn Erickson, Building Official, City of St. Paul, testified that the purpose of the amendment is to require existing switching be set to stop the elevator cab top, when needed, reasonably level with the floor for safe access.

No testimony was presented opposing the amendment. Mr. D. Beck felt it should be held for action by the National Elevator Code Committee.

The Building Code Standards Committee recommended adoption of the amendment. SBC 8806, Section 2-F-1 should be adopted to protect elevator inspectors.

THE FOLLOWING AMENDMENTS ARE NOT ADOPTED:

1. SBC 8901, recodifying SFM 500-568

2. UBC 1602(d), fire sprinkler protection

3. UBC 1603(d), fire sprinkler protection

4. UBC 1604(a), fire sprinkler protection

5. UBC 2419(c), Providing for Engineered Unreinforced Masonry

6. UBC 3303(d), Minimum Doorway Widths in Residential Occupancies

7. UBC 3802(b)8, fire sprinkler protection

8. UBC 3802(b)12, fire sprinkler protection

9. MHD123, ABS Plastic Pipe for Building Sewers

Date: October 7, 1975

Richard L. Brubacher
COMMISSIONER OF ADMINISTRATION

STATE OF MINNESOTA

COUNTY OF RAMSEY

BEFORE THE DEPARTMENT OF PUBLIC SAFETY

AND THE COMMISSIONER OF ADMINISTRATION

In the matter of the Proposed Amendments to the State Fire Marshal's Rules and to the State Building Code

ORDER ADOPTING RULES

The above-entitled matter came on for hearing before the Department of Public Safety and the Commissioner of Administration of the State of Minnesota on the 15th day of May, 1975, at 9:00 a.m., in Room 123, State Capitol, St. Paul, Minnesota, after proper notice required by Minn. Stat. 1974, Section 15.0412, Subdivision 4 was served upon all persons, associations and other interested groups registered with the Secretary of State for that purpose.

After affording interested persons an opportunity to present written and oral data, statements and arguments, having heard all of the testimony, having considered all of the evidence adduced and upon the records, files and proceedings herein, and applicable statutory standards or criteria, and having confirmed the need for the above-captioned rules:

NOW, THEREFORE, IT IS ORDERED that the following rules are adopted this _____ day of September, 1975, pursuant to the authority vested in me by Minn. Stat. 1974, Section 327.33, Subdivision 3.

UBC 605 Light, Ventilation, and Sanitation. All portions of Group A Occupancies customarily used by human beings and all dressing rooms shall be provided with light and ventilation by means of windows or skylights with an area not less than one-eighth of the total floor area, one-half of which shall be openable, or shall be provided with artificial light and a mechanically operated ventilating system. The mechanically operated ventilating system shall supply a minimum of five (5) cubic feet per minute of outside air with a total circulated of not less than 15 cubic feet per minute per occupant in all portions of the building and such system shall be kept continuously in operation during such time as the building is occupied. If the velocity of the air at the register exceeds ten (10) feet per second, the register shall be placed more than eight (8) feet above the floor directly beneath.

Lights in all parts of the building customarily used by human beings shall be on a separate circuit from that of the stage and shall be controlled from the box office. All lights in corridors, exit courts and exit passageways shall be protected by a wire cage.

UBC 605 (cont.)
All registers or vents supplying air backstage shall be equipped with automatic closing devices with fusible links. Such closing devices shall be located where the vents or ducts pass through the proscenium walls and shall be operated by fusible links located on both sides of the proscenium wall and both inside of and outside of the vent or duct.

There shall be provided in an approved location at least one lavatory for each two water closets for each sex, and at least one drinking fountain for each floor level.

For other requirements on water closets, see UBC 1711.

For additional sanitation facilities requirements, see UBC 1711(h).

UBC 805 Light, Ventilation, and Sanitation. All portions of Group C Occupancies shall be provided with light and ventilation, either natural or artificial, as specified in UBC 605.

For other requirements on water closets, see UBC 1711.

For additional sanitation facilities requirements, see UBC 1711(h).

UBC 905 Light, Ventilation, and Sanitation. All portions of Group D Occupancies customarily used by human beings shall be provided with light and ventilation by means of windows or skylights with an area equal to one-eighth of the total floor area, one-half of which shall be openable, or shall be provided with artificial light and a mechanically operated ventilating system as specified in UBC 605 and SBC 7720.

For other requirements on water closets, see UBC 1711.

For additional sanitation facilities requirements, see UBC 1711(h).

UBC 1005 Light, Ventilation, and Sanitation. All portions of Group E Occupancies customarily used by human beings shall be provided with light and ventilation by means of windows or skylights with an area equal to one-eighth of the total floor area, one-half of which shall be openable, or shall be provided with artificial light and a mechanically operated ventilating system as specified in UBC 605.

In all buildings used for the storing or handling of automobiles operated under their own power, and in all buildings where flammable liquids are used, exhaust ventilation shall be provided sufficient to produce one complete change of air every 15 minutes. Such exhaust ventilation shall be taken from a point at or near the floor level.

EXCEPTION: In public repair garages and aircraft hangars not exceeding an area of 5,000 square feet, the Building Official may authorize the omission of such ventilating equipment where, in his opinion, the building is supplied with unobstructed openings to the outer air which are sufficient to provide the necessary ventilation.

Every building or portion thereof where persons are employed shall be provided with at least one water closet. Separate facilities shall be provided for each sex when the number of employees exceeds four (4) and both sexes are employed. Such toilet facilities shall be located either in such building or conveniently in a building adjacent thereto on the same property.

UBC 1005 (cont.)
All water closet rooms shall be provided with an exterior window at least three (3) square feet in area, fully openable; or a vertical duct not less than 100 square inches in area for the first toilet facility with an additional 50 square inches in area for the first toilet facility with an additional 50 square inches for each additional toilet facility; or a mechanically operated exhaust system, which is connected to the light switch, capable of providing a complete change of air every 15 minutes. Such systems shall be vented to the outside air and at the point of discharge shall be at least five (5) feet from any openable window.

For other requirements on water closets, see UBC 1711.

For additional sanitation facilities requirements, see UBC 1711(h).

UBC 1105 Light, Ventilation, and Sanitation. All portions of Group F Occupancies customarily used by human beings shall be provided with light and ventilation by means of windows or skylights with an area not less than one-eighth of the total floor area, one-half of which shall be openable, or shall be provided with artificial light and a mechanically operated ventilating system. In no case shall less than two changes of air per hour be provided.

In all buildings used for the storing or handling of automobiles operated under their own power, and in all buildings where flammable liquids are used, exhaust ventilation shall be provided sufficient to produce one complete change of air every 15 minutes. Such exhaust ventilation shall be taken from a point at or near the floor level.

EXCEPTION: In gasoline service stations without lubrication pits, storage garages and aircraft hangars not exceeding an area of 5,000 square feet, the Building Official may authorize the omission of such ventilating equipment where, in his opinion, the building is supplied with unobstructed openings to the outer air which are sufficient to provide the necessary ventilation.

Every building or portion thereof where persons are employed shall be provided with at least one water closet. Separate facilities shall be provided for each sex when the number of employees exceeds four (4) and both sexes are employed. Such toilet facilities shall be located either in such building or conveniently in a building adjacent thereto on the same property.

Such water closet rooms in connection with food establishments where food is prepared, stored, or served, shall have a nonabsorbent interior finish on floors, walls, and ceilings and shall have hand washing facilities therein or adjacent thereto.

All water closet rooms shall be provided with an exterior window at least three (3) square feet in area, fully openable; or a vertical duct not less than 100 square inches in area for the first toilet facility with an additional 50 square inches for each additional toilet facility; or a mechanically operated exhaust system, which is connected to the light switch, capable of providing a complete change of air every 15 minutes. Such systems shall be vented to the outside air and at the point of discharge shall be at least five (5) feet from any openable window.

For other requirements on water closets, see UBC 1711.

For additional sanitation facilities requirements, see UBC 1711(h).

UBC 1205 Light, Ventilation, and Sanitation. All portions of Group G Occupancies customarily used by human beings shall be provided with light and ventilation as specified in UBC 1105.

Every building or portion thereof where persons are employed shall be provided with at least one water closet. Separate facilities shall be provided for each sex when the number of employees exceeds four (4) and both sexes are employed. Such toilet facilities shall be located either in such building or conveniently in a building adjacent thereto on the same property.

For other requirements on water closets, see UBC 1711.

For additional sanitation facilities requirements, see UBC 1711(h).

UBC 1305 (b) Sanitation. Every building shall be provided with at least one water closet. Every hotel and each subdivision thereof where both sexes are accommodated shall be provided with at least two water closets lcoated in such building, which shall be conspicuously marked one for each sex.

Every dwelling unit shall be provided with a kitchen equipped with a kitchen sink and with bathroom facilities consisting of a water closet, lavatory and either a bathtub or shower. Each plumbing fixture shall be equipped with running water necessary for its normal operation.

For other requirements on water closets, see UBC 1711.

For additional sanitation facilities requirements, see UBC 1711(h).

UBC 1405 (a) Light and Ventilation. All guest rooms, dormitories and habitable rooms within a dwelling unit shall be provided with natural light by means of windows or skylights with an area of not less than one-tenth of the floor area of such rooms with a minimum of ten (10) square feet. All bathrooms, water closet compartments, laundry rooms, and similar rooms shall be provided with natural ventilation by means of windows or skylights with an area of not less than one-tenth of the floor area of such rooms with a minimum of three (3) square feet.

Not less than one-half of the required window or skylight area shall be openable to provide natural ventilation.

In lieu of openable windows for natural ventilation, a mechanical ventilation system may be provided. Such system shall be capable of providing two air changes per hour in all guest rooms, dormitories, habitable rooms, and in public corridors. One-fifth of the air supply shall be taken from the outside. In bathrooms, water closet compartments, laundry rooms, and similar rooms, a mechanical ventilation system connected directly to the outside, capable of providing five (5) air changes per hour, shall be provided.

For the purpose of determining light and ventilation requirements, any room may be considered as a portion of an adjoining room when one-half of the area of the common wall is open and unobstructed and provides an opening of not less than one-tenth of the floor area of the interior room or 25 square feet, whichever is greater.

Required windows shall open directly onto a street or public alley or a yard or court located on the same lot as the building.

UBC 1405 (a) (cont.)
EXCEPTION: Required windows may open into a roofed porch where the porch:

1. Abuts a street, yard, or court; and
2. Has a ceiling height of not less than seven (7) feet; and
3. Has the longer side at least 65 percent open and unobstructed.

Every dwelling unit shall be provided with a kitchen equipped with a kitchen sink and with bathroom facilities consisting of a water closet, lavatory and either a bathtub or shower. Plumbing fixtures shall be provided with running water necessary for their operation.

For other requirements on water closets, see UBC 1711.

For additional sanitation facilities requirements, see UBC 1711(h).

UBC 1711 (b) Toilet Facilities. Toilet facilities and water closet compartments shall have a clear and unobstructed access of not less than 32 inches, and a clear space, unobstructed by door swing, grab bars and similar items, of not less than 32 inches shall be provided in front of the toilet stool.

EXCEPTIONS:

1. In Group I and J Occupancies, the water closet compartments may be 30 inches in width and may have a clear space in front of the toilet stool of not less than 24 inches.

2. Where more than one toilet compartment is provided, only one such compartment need comply within each toilet room for each sex.

UBC 1711 (c) Deleted in its entirety.

UBC 1711 (h) Sanitation Facilities. Sanitation facilities shall be provided for each Occupancy in accordance with Table 17-B and UBC Sections 605, 705, 805, 905, 1005, 1105, 1205, 1305 and 1405. Fixtures shall be provided for each sex in accordance with the percentage of occupants of each sex. When the percentage of each sex is not known, one-half for each sex shall be assumed.

Table No. 17-B REQUIRED SANITATION FIXTURES BASED ON OCCUPANCY AND OCCUPANT LOAD (1)(2)

OCCUPANCY	USE	S.F. per Occ.	WATER CLOSETS	URINALS	LAVATORIES	DRINKING FOUNTAINS	BATHTUBS OR SHOWERS	SINKS
Group A & B ASSEMBLY	Auditoriums Bowling Alleys Churches Conference Rooms Dance Floors Dining, Drinking Exhibit Rooms Gymnasiums Libraries Lodge Rooms Lounges Rinks Stadiums, Grandstands Theaters Waiting Rooms	30 30 60 80 30 30 80 30 100 80 80 30 80 30 80	Churches 1 for each 300 men 1 for each 300 women Other Occupants / Fixtures 1-100 / 1 101-200 / 2 201-400 / 3 Over 400 / 1 additional per each 500	(3)	Churches 1 for each 300 Other Occupants / Fixtures 1-200 / 1 201-400 / 2 401-750 / 3 Over 750 / 1 additional per each 500	1 for each 300	-	1 service sink
Group C SCHOOLS	Elementary Secondary	60 60	Boys / Girls 1/ea. 60 / 1/ea. 60 1/ea. 90 / 1/ea. 30	1 for each 30	1 for each 60 1 for each 90	1 for each 75	-	1 service sink per floor
Group D INSTITUTIONAL	Prisons, Jails	100	1 for each cell 1 in ea. exercise room Other 1 for each 25 men 1 for each 20 women	1 in ea. exercise room Other 1 for each 50	1 in each cell and exercise room 1 for each 10 patients Other 1 for each 10	1 for each 100	1 at each cell block floor 1 for each 20 Other 1 for each 10	1 service sink per floor
	Hospitals, Nursing Homes	100	1 for each 8 patients 1 in each waiting room Other 1 for each 25 men 1 for each 20 women					

Table 17-B continued

Group E, F & G COMMERCIAL INDUSTRIAL	Aircraft Hangers Factories Municipal Buildings Office Buildings Sales Service Stations Storage Garages Warehouses	500 60 80 200 200 500 500 500	Factories, Warehouses Occupants / Fixtures 1-10 / 1 11-25 / 2 26-50 / 3 51-75 / 4 76-100 / 5 Over 100 / 1 addt'nl for ea. 30 Sales, Office, etc. Occupants / Fixtures 1-15 / 1 16-35 / 2 36-55 / 3 56-80 / 4 81-110 / 5 111-150 / 6 Over 150 / 1 addt'nl for ea.50	(3)	Factories, Warehouses Occupants / Fixtures 1-100(4) / 1-10* Over 100(5) / 1-15* Sales, Offices Occupants / Fixtures 1-15 / 1 16-35 / 2 36-60 / 3 61-90 / 4 91-120 / 5 Over 125 / 1 to 45	Factories Warehouses 1 for each 75 Sales, Offices 1 for each 150	-	1 service sink per floor
Group H RESIDENTIAL MULTIPLE	Dwelling Units, Apt. Motel, Hotel Units Rooming Houses Dormitories	- - 100 100	1 1 for each 8 1 for each 8 1 for each 8	(3)	1 1 for each 8 1 for each 8 1 for each 8	-	1 1 for each 8 1 for each 8 1 for each 8	1 kitchen sink 1 laundry tub for each 10 dwelling units or guest rooms
Group I DWELLINGS	Single Family	-	1	-	1	-	1	1 kitchen sink
Group J ACCESSORY	-	-	-	-	-	-	-	-
TEMPORARY FACILITIES	-	-	1 for each 30	1 for each 30	-	1 for each 100	-	-

Footnotes:

(1) Occupant load is computed using the equation: $\frac{A}{\text{S.F. per Occ.}}$ = Occupant Load A-Area of building
S.F. per Occ.-from Column 3 of this table

(2) Square feet per occupant is for computing the occupant load to determing plumbing fixtures required. See Table No. 33-A for square feet per occupant for computing the occupant load to determing exiting.

(3) Urinals may be furnished in place of water closets at the rate of one urinal for one water closet, but not to exceed one-third of the required water closets.

(4) 1 fixture for each 10 occupants.

(5) 1 fixture for each 15 occupants.

UBC 3303 (a) General. This section shall apply to every exit door serving an area having an occupant load of more than ten (10), or serving hazardous rooms or areas. Buildings or structures used for human occupancy, and each dwelling unit or guest room in Group H Occupancies, shall have at least one exit door which meets the requirements of subsection (d). Subsections (h) and (i) shall apply to all doors, regardless of occupant load.

UBC 3304 (a) General. This section shall apply to every corridor serving as a required exit for an occupant load of ten (10) or more persons. For the purposes of this section the term "corridor" shall include "exterior exit balcony" and any covered or enclosed exit passageway including walkways, tunnels, and malls. See subsection (b) for requirements in dwelling units where the occupant load is less than ten (10).

Foyers, lobbies and reception rooms meeting the construction requirements of corridors as specified in this section may be classified as corridors.

Partitions, rails, counters and similar space dividers not over five (5) feet in height above the floor shall not be construed to form corridors.

UBC 3304 (b) Width. Every corridor shall be not less in width than 44 inches. For special requirements for Group C and D Occupancies, see UBC Sections 3317 and 3318. Regardless of occupant load, corridors and hallways within a dwelling unit shall have a clear width of not less than 31 inches.

UBC Table 33-A Available Square Feet Per Occupant and Egress Facilities

Delete final column entitled "Egress by Means of a Ramp or an Elevator Must be Provided for the Physically Handicapped as Indicated."

Delete Footnotes 2, 3, 4, 5 and 6.

UBC 3802 (b) 6. In Group E, Divisions 1 and 2 Occupancies having an area of more than 1,500 square feet; in Group E, Division 3 Occupancies having an area of more than 3,000 square feet; and in Group E, Division 4 Occupancies more than one story in height, or exceeding 20,200 square feet in floor area located in Fire Zone No. 3. The area and height increases specified in Section No. 506 and No. 507 shall be permitted.

In rooms where flammable or combustible liquids are stored or handled in excess of the quantities set forth in Table No. 1-A, or any combination of flammable liquids totaling 240 gallons, as defined in the Fire Code.

For special provisions on hazardous chemicals and magnesium, and calcium carbide, see Fire Code.

Chapter 55

Facilities for the Handicapped

UBC 5501 Where Required.

(a) General. In addition to other provisions in this Code, facilities for the handicapped shall be provided in accordance with this chapter.

(b) Scope. Provisions of this chapter shall apply to buildings housing all occupancies except the following:

1. Group I and J Occupancies.

2. Temporary buildings.

3. Buildings not exceeding 150 square feet in floor area need not be provided with sanitation facilities for the handicapped specified in UBC 5503.

4. One story buildings, other than service stations, not exceeding 2,000 square feet in floor area need not be provided with sanitation facilities for the handicapped specified in UBC 5503 when approvde by the Building Official.

5. Floors of buildings not used by the general public and on which handicapped persons cannot be employed because of the nature of the work.

6. Group H Occupancies in which dwelling units are individually owned, sanitation facilities for the handicapped specified in UBC 5503, and other facilities for the handicapped specified in UBC 5504, need not be provided.

UBC 5502 Building Accessibility

(a) Definitions.

1. Ramp is a sloped walking surface within a building or attached to a building connecting levels of the building and may be part of an exit in accordance with UBC 3306.

2. Walk is a continuous, permanently defined pathway at grade between public ways and buildings, parking areas and buildings, or between buildings.

3. Slip-resistant is any surfacing of a floor, ramp, or walk which has an anti-slip coefficient of not less than 0.40 as defined in Research Paper No. RP-1879 of the National Bureau of Standards.

(b) Site Approaches. Access to building entrances shall be by walks. Such walks shall be of concrete, asphaltic paving or similar permanent material, with slip-resistant surface, and shall be not less than 48 inches wide with a slope not to exceed one vertical to 20 horizontal.

(c) Building Entrances. At least one required exit of the building shall be accessible for use as ingress for the handicapped, and shall be identified for such use. Such building entrance shall be at the main lobby or corridor, or shall be accessible thereto by ramp or elevator.

UBC 5502 (cont.)

(d) Access to Other Stories. Access for the handicapped to other stories or levels of the building used by the general public and/or employees shall be by elevator or ramp, except the following:

1. Group H Occupancies not exceeding three (3) stories in height.

2. Other Occupancies not exceeding two (2) stories in height, and where the total occupant load is less than 100 on all floors other than the main floor.

Such ramp shall have a slip-resistant surface. It shall have a landing at top and bototm, and where the rise exceeds three (3) feet vertically, it shall have an intermediate landing located not to exceed two (2) feet six (6) inches vertically. Bottom landing shall have a minimum dimension of six (6) feet measured in the direction of the ramp, and top and intermediate landings shall have a minimum dimension of five (5) feet measured in the direction of the ramp. Handrails and guardrails shall be provided as required for stairs.

(e) Automobile Parking Areas. Where automobile parking spaces are provided, at least one space per 50 spaces, or fraction thereof, shall be provided for the use of the handicapped, and shall be identified for such use. Such parking spaces shall be not less than 12 feet in width, and located as near as practicable to the building entrance specified in UBC 5502(c).

(f) Doors and Doorways. Doors and doorways serving buildings or portions thereof regulated by this chapter shall comply with the following:

1. Doorways or doors in an open position shall have a clear opening width of not less than 31 inches.

2. Doors shall be operable by a single effort with one hand.

3. In doorways consisting of two (2) door leafs, at least one door leaf shall comply with the provisions of this section. See UBC 3303(d) for minimum exit door width.

4. Where access regulated by this chapter is through two (2) or more sets of doors, as in a foyer, vestibules, or lobby, the space separating the doorways shall be not less than seven (7) feet.

5. The floor or landing at doorways shall be level with, or not more than one-half inch lower than, the threshold. Where the door swings over floor or landing such floor or landing shall extend not less than one foot beyond the door on the latch side.

6. In dwelling units specified in UBC 5503(a)1, entrances specified in UBC 5502(c), and toilet rooms or compartments specified in UBC 5503(c)1, door opening latch hardware shall have lever handles, and shall be not more than three (3) feet six (6) inches above the floor.

7. Doors serving toilet rooms or stalls shall be capable of being unlocked from either side.

UBC 5502 (cont.)

(g) Stair Tread Nosing. Risers shall be slanted to meet the tread nosing edge, or where the treads extend beyond vertical risers, nosing shall be rounded and not project beyond the risers more than one inch.

(h) Aisles and Lanes. Where pedestrian aisles or lanes are defined with directional barriers, rails, benches, merchandise, tables, seats or fences, at least one shall have not less than 31 inches clear width for use of the handicapped and shall be identified for such use.

UBC 5503 Sanitation Facilities. Sanitation facilities may include toilets (water closets), urinals, lavatories, bathtubs, showers, sinks, and similar plumbing fixtures.

For number and type of sanitation fixtures required in each occupancy, see Table 17-B.

(a) Where Required.

1. In Group H Occupancies having eight (8) or more dwelling units or guest rooms, sanitation facilities shall be provided in each dwelling unit in accordance with Table 55-A. In a multiple-building development, the dwelling units or guest rooms containing sanitation facilities shall not be located solely in one building.

2. In other buildings regulated by this chapter, at least one required toilet room for each sex shall have not less than one toilet and lavatory complying with this section, and where urinals are provided, not less than one urinal complying with this section. In buildings having more than one toilet room for each sex, not less than two (2) required toilet rooms for each sex shall comply with this section. Toilet rooms having plumbing fixtures required by this section shall be identified for use by the handicapped. Buildings having a posted room directory shall list the location of such toilet rooms in the directory.

(b) Location Other than Group H Apartment Occupancies. In buildings with an elevator or ramp, the sanitation facilities shall be located at any level served by elevator or ramp. Where sanitation facilities are required in buildings without an elevator or ramp, the sanitation facilities shall be conveniently located at the requried entrance level, accessible without leaving or re-entering the building.

(c) Sizes and Clearances.

1. Toilets. Toilet rooms or compartments shall have not less than 36 inches clear space at the front of the toilet and not less than 36 inches clear width between walls, free of door swing and other obstructions. Toilet seats shall be not less than 17 inches nor more than 20 inches above the floor.

Grab bars shall be provided at both sides or one side and rear of the toilet. Such grab bars shall be securely fastened to support a load of not less than 250 pounds. They shall have an outside diameter of 1½ inches and shall have 1½ inches clearance from walls and partitions.

A. A horizontal grab bar shall be mounted so that the lowest point is ten (10) inches above the toilet seat, and extends not less than six (6) inches in front of the toilet bowl. Grab bar shall be not less than twelve inches long.

B. A vertical grab bar shall be mounted 12 inches from the front of the toilet bowl extending from 12 inches above the height of the toilet seat to 30 inches above the toilet seat.

UBC 5503 (cont.)

2. Urinals. When provided, urinals shall have a clear access width of not less than 31 inches. The front lip of the bowl of wall-mounted urinals shall be not more than 18 inches above the floor.

3. Lavatories. Lavatories shall have a clear access width of not less than 31 inches, clear height of not less than 29 inches to the bottom of the fixture apron, clear height of not more than 34 inches to the rim of the fixture, and a clear depth of not less than 12 inches under the fixture exclusive of bowl and waste pipe. The water control valves shall have lever handles.

4. Bathtubs. When provided, and shower is not furnished, the bathtub shall be equipped with a flexible hose hand shower not less than six (6) feet in length, and a vertical height adjustment bar for the shower head of not less than four (4) feet in length. The bathtub shall have a seat, either folding, retractable or fixed, not less than 17 inches nor more than 20 inches above the tub floor and not less than 15 inches deep, and of water-resistive material.

   Grab bars shall be provided at one side of the bathtub. Such grab bars shall be securely fastened to support a load of not less than 250 pounds. They shall have an outside diameter of 1½ inches and shall have 1½ inches clearance from walls and partitions.

   A. A horizontal grab bar shall be mounted not less than four (4) inches nor more than six (6) inches above the rim of the bathtub. Grab bar shall be not less than 36 inches long.

   B. A vertical grab bar shall be mounted 30 inches from the end of the tub extending from a height of nine (9) inches to a height of three (3) feet six (6) inches above the rim of the tub.

   Water valves shall be single lever control, and shall be accessible from the seat.

5. Showers. When provided, the shower stall shall be accessible for the handicapped with a lip or curb at entry no higher than 1/2 inch above the floor of room or stall. The shower stall shall have a seat, either folding, retractable or fixed, not less than 17 inches nor more than 20 inches above the shower floor, and not less than 15 inches deep, and of water-resistive material. Grab bars shall be provided at two (2) sides of the shower compartment. Such grab bars shall be securely fastened to support a load of not less than 250 pounds. They shall have an outside diameter of 1½ inches and shall have 1½ inches clearance from walls and partitions.

   A. A vertical grab bar shall be mounted on the wall opposite the seat extending from a height of three (3) feet to a height of five (5) feet above the floor of the shower.

   B. A horizontal grab bar shall be mounted on the wall adjacent to the seat ten (10) inches above the seat. Grab bar shall be not less than 18 inches long.

   Water valves shall be single lever control and shall be accessible from the seat.

6. Kitchen Sinks. When provided, kitchen sinks shall have a clear access width of not less than 31 inches, clear height of not less than 29 inches to the bottom of the fixture apron, clear height of not more than 34 inches to the rim of the fixture, and clear depth of not less than 12 inches under the fixture exclusive of bowl and waste pipe. The water control valves shall have lever handles.

Table 55-A

Sanitation Facilities for the Handicapped

Number of Dwelling Units/ Guest Rooms in Building	Number of Dwelling Units/Guest Rooms requiring Sanitation Facilities
0 - 7	0
8 - 39	1
40 - 59	2
60 - 79	3
80 - 99	4
100 - 119	5
120 - 139	6
140 - 159	7
160 - 179	8
180 - 199	9
200 -	10 plus 1 per each 50 units exceeding 200

UBC 5504 Other Facilities.

(a) Kitchen Facilities. In dwelling units in which sanitation facilities for the handicapped are required, kitchen facilities shall be provided as follows:

1. Space. Clear space of not less than five (5) feet measured between walls, cabinets, appliances, or other obstructions shall be provided. Where cabinets have a base toe space of not less than six (6) inches deep and 8-3/4 inches high, the clear space may be measured from such toe space.

2. Range Controls. Range control handles shall be located at the front or side of the range.

3. Work Space. Work space shall have a clear access width of not less than 31 inches, clear height of not less than 29 inches to the bottom, clear height of not more than 34 inches to the top, and clear depth of not less than 12 inches under the work space. The work space shall have not less than four (4) square feet of area with a minimum dimension of 24 inches. It may be fixed, folding, or retractable.

(b) Toilet Room Accessories.

1. Mirror and/or shelves. Where mirrors and/or shelves are provided, at least one shall be mounted so that the bottom is no higher than 40 inches above the floor.

2. Towel Racks, Dispensers, Disposal Units. Where wall-mounted towel racks, dispensers, waste disposal containers or similar appliances are provided, at least one of each shall be mounted so that working height is no higher than 40 inches above the floor, and shall be free of interference by grab bars or other appliances or fixtures.

UBC 5505 Viewing Positions in Assembly Occupancies.

(a) Accessibility. Viewing positions required in this section shall be accessible for the handicapped by walk, ramp, or elevator, or combination thereof, through principle entrance.

(b) Number. Performance viewing positions in assembly occupancies with fixed seating shall be provided in accordance with Table 55-B.

(c) Space Requirements. One of the following shall be provided:

1. Clear spaces free of fixed or portable seats, or with removable fixed seats.

2. Spaces with readily removable portable seats.

(d) Location. Viewing positions shall be located at the main floor.

(e) Viewing positions shall have level floor surfaces.

Table 55-B

Viewing Positions

Motion Picture Auditoriums	
Occupant Load	Minimum Viewing Positions
500 and Less	4
Over 500	8

Other Assembly Occupancies	
500 and Less	4
501 - 1,000	12
1,001 - 1,500	16
Over 1,500	16 plus 1 per 500 additional

UBC 5506 Controls and Electrical Switches.

(a) Height. The top of controls for elevator controls, thermostats, manual fire alarms, and similar equipment in all buildings regulated by this chapter and electrical switches and receptacles in dwelling units regulated by this chapter shall be no higher than five (5) feet above the floor.

UBC 5507 Identification.

(a) Where Required. Spaces normally used by the general public, shall have tactile identification, such as raised or recessed letters, labels, or plaques. The tactile identification shall not be less than four (4) feet six (6) inches nor more than five (5) feet six (6) inches above the floor, mounted on the wall adjacent to the door of the space identified, on the side nearest the door handle.

(b) Floor Numbers at Elevators. Floor numbers shall be tactily identified for the visually handicapped by raised or recessed numbers attached to the elevator door jamb at each floor, not less than three (3) feet six (6) inches nor more than four (4) feet six (6) inches in height above the floor.

(c) Elevator Controls. Elevator controls shall have tactile identification by raised or recessed letters, labels, or plaques.

(d) Door Handles. Doors to stairs other than exit stairs, loading platforms, boiler rooms, stages, and exit doors shall have knurled or similarly marked door handles.

UBC 5508 Figures. Figures 55-1 through 55-18 of this chapter are illustrative. See appropriate chapter sections for specific provisions.

SBC 8806 2-F-1
Top and bottom landings shall be provided with hoistway access switches conforming to Rule 111.9b and 111.9c of ANSI A17.1 - 1971. The operation of the switch at the top floor shall be zoned to stop the top of the elevator car substantially level with the top floor.

SBC 8901 Reserve for future use.

Date: October 7, 1975

Richard L. Brubacher

Richard L. Brubacher
Commissioner of Administration