

Class 1-C.

12.103 Class 1 C occupancies shall include all class 1 occupancies not included in sub-classes 1 A and 1 B, including all places of assembly with a total capacity of 75 or more persons. All buildings used for such occupancies shall conform to the following requirements.

Construction Height and Area Allowable.

(a) The height, area and construction shall be as provided in Chapter IV for class 1 buildings with the following provisions:

No place of assembly with a seating capacity of more than 300 persons shall be permitted above the ground floor of any building, except buildings of type I or II construction.

(b) All class 1 C buildings shall front directly upon at least one public street.

Light and Ventilation

(c) Light and ventilation shall be as specified in Chapter V.

Exits.

(d) Exits shall be as specified in Chapter VI, with the following additional provisions:

Number.

1—Any place of assembly accommodating more than 200 persons shall be provided with 3 means of egress as remote from each other as practical.

Width of Exits.

2—The width of exits shall be as provided in Chapter VI.

Aisles.

3—Aisles in assembly halls shall conform to the requirements for Class 1 A occupancy.

Seating.

4—Seats in assembly halls shall be securely fastened together in groups of not less than four. Not more than 2 groups nor 14 seats shall be placed between any two aisles, and not more than 1 group nor seven seats shall be placed between any aisle and a wall.

Fire Protection.

(e) Fire extinguishing apparatus shall be provided as specified in Chapter XIII.

Special Hazards.

(f) Moving picture booths shall be constructed in conformity with the state law, Act 257, Public Acts of 1913.

Every boiler room or room containing a heating plant shall be separated from any Class 1 C occupancy by a one-hour fire separation and Class C fire door.

Section 12.2—CLASS 2, INSTITUTIONAL.

12.201 Class 2 A occupancies shall include all jails, reformatories, asylums, and other places where persons are forcibly detained.

Construction, Height and Area Allowable.

(a) All Class 2 A Buildings shall be of type I or II construction, and shall be separated from any other occupancy by an absolute fire separation.

Location.

(b) The location shall be as specified in Section 4.401.

Light and Ventilation.

(c) Light and ventilation shall be as specified in Chapter V.

Exits.

(d) The number, location and arrangement of exits shall be determined solely by the authorities having charge of such institutions.

Fire Protection.

(e) Fire extinguishing apparatus shall be provided as specified in Chapter XIII.

Special Hazards.

(f) Chimneys and heating appliances shall be installed as specified in Chapter XI.

Class 2 B.

12.202 Class 2 B occupancies shall include all hospitals, sanitariums, homes for children and aged, and all other Class 2 occupancies not included in sub-class 2 A. All Class 2 B occupancies shall conform to the following provisions.

Construction Height and Area Allowable.

(a) The height, area and construction shall be as provided in Chapter IV for Class 2 buildings.

Location.

(b) The location shall be as specified in Section 4.401.

Light and Ventilation.

(c) Light and ventilation shall be as specified in Chapter V.

Exits.

(d) Exits shall be provided as specified in Chapter VI, with the following additional provisions:

1—In hospitals, sanitariums or other places containing bedridden patients, ramps with a slope of not greater than 1 foot vertical to 10 feet horizontal, horizontal exits, or elevators shall be provided to adequately care for the exit requirements of the bedridden or otherwise helpless patients.

2—All attendants and patients in all institutional buildings shall be properly drilled as to procedure in case of fire.

3—Except where it is necessary to forcibly detain patients, all exit doors shall not be fastened against exit travel.

Fire Protection.

(e) Fire extinguishing equipment shall be provided as specified in Chapter XIII, with the following additional requirements. Any rooms or portions of any class 2 B building used for general repairing, paint shop, boiler room, or other hazardous use shall be provided with automatic sprinklers.

Approved fire extinguishers shall be provided in the following numbers: one in each kitchen, and one in heater room.

Special Hazards.

(f) Chimneys and heating appliances shall be installed as specified in Chapter XI.

Celluloid and nitro-cellulose products, calcium carbide, and acetylene shall not be used or stored in any Class 2 B buildings except that tartrums, provided they are used, handled and stored in accordance with the Regulations of the National Board of Fire Underwriters for Photographic and X-ray Nitro-cellulose film.

Section 12.3 CLASS 3—RESIDENTIAL.

12.301 Class 3 A occupancies shall include all apartment houses or multiple dwellings providing living quarters for 3 or more families, hotels, lodging houses, dormitories and similar occupancies accommodating 11 or more persons. All Class 3 A occupancies shall conform to the following requirements.

Construction Height and Area Allowable.

(a) The height, area and construction of Class 3 A buildings shall be as provided in Chapter IV and such buildings shall also conform to the following requirements.

There shall be not more than 2 apartments on any floor of a Type VII, Frame, building.

Location.

(b) The location of Class 3 A buildings shall conform to the following requirements.

Front Yards.

1—Class 3 A buildings shall not be erected within 25 feet of any street line, unless the established building line is less, in which case the building may be erected on the established building line. See Chapter II for definition of "established building line."

Unenclosed porches may extend to within 15 feet of the street line.

Class 3 A buildings erected on lots fronting on two streets may be built to within 6 feet of the street line on one frontage.

2—Class 3 A buildings shall be provided with side yards as required in Section 4.401 (d).

Rear Yards.

3—Class 3 A buildings shall be erected so as to provide immediately behind such building a rear yard extending across the entire width of the lot. Such yard shall be at every point open and unobstructed from the ground to the sky. Every part of such yard shall be directly accessible from every other part thereof. The depth of said yard shall be measured at right angles from the line of the extreme rear part of the building. In the case of interior lots the rear yard space shall in no case be less than 16 feet deep for a 1 story building, 18 feet for a 2 story building, 20 feet for a 3 story building and shall be increased in depth by 4 feet for each additional story of the building above 3 stories, except that in case there is a public alley in the rear of said lot upon which the lot abuts for its full width, the measurement for yard space may be made to the center of such alley. In the case of a corner lot abutting on two streets, the rear yard space may be 6 feet less in depth than for interior lots. In the case of buildings in which the class 3 A occupancies are in the upper stories, the yard requirement may start at the level of the lowest story housing any class 3 A occupancy.

A one story private garage not exceeding 15 feet in height, if so located as not to interfere with the light or ventilation of the Class 3 A building, may be erected in the required rear yard space.

Courts.

4—Where courts are used for the purpose of providing the required light and ventilation they shall be of the following minimum dimensions. The minimum width of an outer court of a 1 story building shall be five feet, of a 2 story building 6 feet, of a 3 story building 7 feet, and shall increase in width 2 feet for each additional story above 3 stories. The least dimension of an inner court shall never be less than twice the minimum width for an outer court. The length of a court shall never be greater than 5 times its width. The minimum dimension of an inner court may be decreased in accordance with the following table, provided the area of the resulting court is 10 per cent greater than the square of the minimum dimensions above specified for inner courts and that the walls of such courts be constructed of sand lime or other light colored brick.

Table For Modified Inner Courts

One-story courts	25%
Two-story courts	20%
Three-story courts	10%

Courts shall be at every point open from the ground to the sky unobstructed, except that in the case of hotels courts may start at the floor level of the lowest bedroom story and in the case of other Class 3 A occupancies courts may start on the top of the lowest story used for class 3 A occupancy.

All inner courts extending through more than two stories shall be provided with a horizontal air intake at the bottom. Such intake shall always communicate directly with the street, front yard or rear yard and shall consist of a passageway not less than 3 feet in width and seven feet high, which passageway shall be left open or provided with a gate permitting free passage of air currents.

Light and Ventilation.

(c) Light and ventilation shall be as specified in Chapter V.

(d) Exits shall be provided as specified in Chapter VI.

Fire Protection.

(e) Fire extinguishing apparatus shall be provided as specified in Chapter XIII.

Special Hazards.

(f) Garages constructed in connection with and attached to, or as a part of, the same building with any Class 3 A occupancies shall conform to the following requirements.

The garage portion of such building shall be of Type I or II construction, shall be cut off from the remainder of the building by 4-hour fire resistive construction. Such separation shall be pierced by not more than 2 openings, each of which shall be protected by 2 Class A fire doors, one of which shall be automatic and the other self closing. The garage portion of such building shall be protected by an automatic sprinkler system and there shall be no opening connecting such garage portion with a boiler room. The garage portion, if below grade, shall be equipped with an exhaust system of mechanical ventilation, with exhaust vent at or near the floor level, providing 6 air changes per hour. All windows in the garage portion shall be fire windows.

Chimneys and heating appliances shall be installed in accordance with the provisions of Chapter XI.

Class 3 B.

12.302 Class 3 B occupancies shall include single and two family residences and terraces or row houses, defined as follows:

SINGLE RESIDENCES: A detached residence building with accommodations for but one family.

DOUBLE RESIDENCE: Attached single residence buildings, two in number, with accommodations for but one family in each.

DUPLEX RESIDENCE: (Income or two family flat) A residence building containing two families living in separate apartments one above another.

TERRACES: (Row houses) Attached single residence buildings, built in groups of three or more, and separated as specified in paragraph (a) of this section.

Class 3 B occupancies shall include all other miscellaneous residence occupancies not included in Class A.

Construction, Height and Area Allowable.

(a) The construction, height and area shall be specified as in Chapter IV for Class 3 buildings with the following additional provisions.

General Construction Requirements.

1—The general provisions of this Code shall govern the construction of Class 3 B buildings, with the following specific requirements.

Footings.

2—Footings for all Class 3 B buildings shall extend at least 4 inches on each side of the walls they support, and be not less than 6 inches in depth. Footings of less projection may be used if the resultant soil pressures do not exceed 2.3 of that specified in Section 7.401. In no case shall the bearing value of the soil, as given in Section 7.401 be exceeded, and where it is necessary to increase the spread or area of the footings the depth shall be increased proportionately. Pier or column footings shall be not less than 24 inches square and 12 inches in depth.

The bottom of all footings for exterior walls shall be at least 3 1/2 feet below the grade line.

Foundation Walls.

3—Foundation walls for class 3 B buildings shall conform to the requirements of Section 8.303.

Masonry Walls and Partitions.

4—Masonry construction shall conform to the requirements of Section 8.4, except that masonry interior bearing or non-bearing partitions in Class 3 B buildings, not over 2 stories in height, may be of not less than the following thicknesses:

Minimum Thickness of Interior Partitions	
No. of Stories	1st Story
1	4"
2	8"

Masonry bearing or non-bearing interior partitions, which do not extend above the level of the first floor, may be not less than 4 inches in thickness.

Such partitions shall be laterally supported at intervals of not to exceed 9 feet vertically and 20 feet horizontally.

The allowable stresses permitted under Section 8.402 shall not be exceeded and all such 4 and 6 inch partitions shall be reinforced where concentrated loads occur.

Wood Frame Construction.

5—Wood frame construction shall conform to the requirements of Section 8.7 with the following additional provisions.

Frame Exterior Bearing Walls and Bearing Partitions.

6—Wood studing shall be not less than 2 inches by 4 inches spaced not to exceed 16 inches on centers. The greater dimension shall be at right angles to the wall. Three studs shall be provided at all corners and intersections with partitions, ledger or ribbon boards used to support joists shall be not less than 1 inch by 4 inches, shall be cut into the studs and securely nailed at each stud. All exterior stud walls shall be sheathed with wood sheathing, not less than 9/16 inches in actual thickness laid tight and nailed at intervals of not to exceed 4 inches on each stud, or equivalent construction. Such sheathing shall be in addition to any veneering of masonry, stucco or siding.

Masonry veneer on frame construction shall be not less than 2 1/4 inch thick for a height of 12 feet and not less than 3 3/4 inches thick for a height of 24 feet. Gable ends not more than 5 feet in average height may be veneered in addition to the above allowable heights. Such veneering shall be tied to the wall with rust-proof metal ties spaced 1 for every 2 square feet of wall surface. Such ties shall be not thinner than 24 U. S. Gauge metal and not less than 3/4 inch in width. Such veneer shall have a full bearing on a masonry foundation wall.

Openings in frame exterior or bearing walls shall be bridged at the top by headers, which shall consist of two timbers set on edge of two inch thickness and of the following depth:

Span Length	Nominal Depth
3 feet or less	4 inches
4 1/2 feet or less	6 inches
7 feet or less	8 inches
9 feet or less	10 inches

Headers for spans in excess of 9 feet and headers supporting concentrated loads shall be designed in accordance with Section 8.7. All openings over 3 feet in width shall be framed around with double studs. The short stud on each side shall form a good bearing for header timbers and such short studs shall have a solid bearing on the sole plate.

Frame bearing walls or partitions shall be provided at the top with double plates, each at least 2 inches thick and of the same width as the studs. When studs are placed directly below each joist, or other load applied to the plate, a single plate may be used.

Frame Floor Construction.

7—The design of all floor construction shall be in accordance with the provisions of Section 8.7.

The allowable span for floor joists, carrying no partitions, or other loads in excess of the required floor loads and ordinary floor construction, shall not exceed the spans given in the following table:

Size of Joists (inches)	MAXIMUM ALLOWABLE SPANS FOR FLOOR JOISTS		
	Spacing of Joists, Center to Center (inches)	Plastered Ceiling Below	Without Plastered Ceiling Below
2x6	12	9-6	10-4
	16	8-3	9-1
2x8	12	6-9	7-5
	16	12-6	13-9
2x10	12	10-11	12-0
	16	8-11	9-11
2x12	12	15-9	17-3
	16	13-9	15-1
2x14	12	11-4	12-6
	16	18-11	20-8
3x6	12	16-6	18-1
	16	13-8	15-0
3x8	12	21-11	24-0
	16	19-3	21-0
3x10	12	15-11	17-6
	16	11-8	13-0
3x12	12	10-4	11-4
	16	8-6	9-4
4x4	12	15-4	17-1
	16	13-8	15-0
4x6	12	11-3	12-5
	16	19-3	21-3
4x8	12	17-2	18-9
	16	14-3	15-7
4x10	12	23-1	25-5
	16	20-6	22-5
4x12	12	17-1	18-9
	16	14-3	15-7

NOTE: The maximum allowable spans for floor joists as given in the above table are for joists of Southern Yellow Pine or Douglas Fir, number 2 common grade, and are based on a 40 pound per square foot uniform distributed live load. The above allowable spans shall be reduced where the joists are carrying partitions or other loads in addition to the required 40 pounds per square foot live load. Joists of other grades, woods or sizes may be used, in which case they shall not be stressed to exceed the maximum allowable stress as given in Section 8.7.

Anchor bolts for each tier of joists shall be provided where they enter masonry walls and anchors connecting not less than 3 parallel joists shall also be provided where joists are parallel to such walls. Anchors shall be spaced not more than 6 feet apart. Such anchors shall be iron or steel straps not less than 3/16 inch by 1 inch by 2 feet long, or equivalent ties, and shall be well spiked to the joist near the lower edge. Anchors shall in all cases occur on the opposite ends of the same run of joists and ends of joists shall be lapped and spiked so as to form a continuous tie across the building. Roof structures resting on masonry bearing walls shall be anchored to such walls by steel anchors not less than 0.19 square inches in cross-section, such anchors shall extend into the masonry not less than 16 inches, be securely bonded or anchored to the masonry and shall be spaced not to exceed 6 feet on centers.

Horizontal members shall be fastened together to form an adequate tie across the building.

All joists shall be rigidly bridged at intervals of not to exceed 7 feet with 1 inch by 3 inch wood cross bridging or its equivalent.

Every joist shall have a bearing of at least 2 inches, except when supported on a ribbon board and nailed securely to the adjoining stud.

Header joists supporting over 20 square feet of floor construction shall be hung in approved joist hangers. Tail joists over 12 feet long shall be hung in approval joist hangers. Trimmer joists shall be designed to safely carry the imposed loads.

Joists supporting partitions and being parallel thereto, and joists around any floor opening, shall be doubled. Doubled joists supporting partitions may be separated a distance not to exceed 1 inch greater than the width of the partition above, and such double joists shall be provided with solid bridging, of the same size as the joist, solid bridging to be spaced not to exceed 4 feet on centers.

Floors of attics used for storage space or provided with a permanent or disappearing stairway shall be designed for not less than 30 pounds per square foot live load.

Roof and Ceiling Construction.

8—The design of all roof and ceiling construction shall be in accordance with the provisions of section 8.7.

The following table gives the maximum allowable span for number 2 common grade southern yellow pine or douglas fir, ceiling joists and roof rafters, which are subjected to the required live and dead load.