ORDINANCE NO. 1475

AN ORDINANCE to amend Section 7-8 of Chapter 7 of The Code of the City of Alexandria, Virginia, 1963, as amended, by amending and reordaining subsections (102A) through (133A) thereof [old subsections (102) through (133) thereof redesignated by Section 2 of Ordinance No. 1436], and by amending and reordaining subsections (134) through (241) and subsection (231A) thereof; which Chapter 7 constitutes THE BUILDING CODE OF THE CITY OF ALEXANDRIA, VIRGINIA, which Section 7-8 relates to CHANGES IN BOCA CODE, which subsections (102A) through (108A) relate to LIGHT AND VENTILATION, which subsections (109A) through (129A) relate to MEANS OF EGRESS, which subsections (130A) through (133A) and (134) through (160) relate to STRUCTURAL AND FOUNDATION LOADS AND STRESSES, which subsections (161) through (204) relate to MATERIAL AND TESTS, STEEL, MASONRY, CONCRETE, GYPSUM AND LUMBER CONSTRUCTION, BUILDING ENCLOSURES, WALLS AND WALL THICKNESS, which subsections (205) and (206) relate to FIRE RESISTIVE CONSTRUCTION REQUIREMENTS, which subsection (207) relates to CHIMNEYS, FLUES AND VENT PIPES, which subsections (209) through (221) relate to FIRE PROTECTION AND FIRE EXTINGUISHING EQUIPMENT, which subsections (222) through (229) relate to PRECAUTIONS DURING BUILDING OPERATIONS, which subsection (230) relates to SIGNS AND OUTDOOR DISPLAY STRUCTURES, which subsection (231) relates to ELECTRICAL WIRING AND EQUIPMENT, which subsections (232) through (234) relate to ELEVATORS, DUMBWAITERS AND CONVEYOR EQUIPMENT, which subsection (235) relates to PLUMBING, DRAINAGE AND GAS PIPING, which subsection (236) relates to AIR CONDITIONING, REFRIGERATION AND MECHANICAL VENTILATION, which subsection (237) relates to PREFABRICATED CONSTRUCTION; which subsection (238) relates to PLASTIC CONSTRUCTION, which subsection (239) relates to ARTICLE 21, which subsection (240) relates to TEMPORARY MOBILE CLASSROOMS FOR SCHOOLS, which subsection (241) relates to SMOKEPROOF TOWERS WHERE REQUIRED, and which subsection (231A) relates to ELEVATORS, DUMBWAITERS AND CONVEYOR EQUIPMENT.

THE CITY COUNCIL OF ALEXANDRIA HEREBY ORDAINS:

Section 1. That subsections (102A) through (133A) inclusive of Section 7-8, Chapter 7 of The Code of the City of Alexandria, Virginia, 1963, as amended, be and the same hereby are amended and reordained to read as follows:

(137) Section 501.0 is amended by changing the following definitions contained therein to read:

Habitable room, minimum height. A clear height from finished floor to finished ceiling of not less than seven and one-half (7 1/2) feet, except that in attics and top half-stories the height shall be not less than seven and one-third (7 1/3) feet over not less than one-third (1/3) the area of the floor when used for sleeping, study or similar activity.

Occupiable room. A room or enclosed space designed for human occupancy in which large numbers of individuals congregate for amusement, educational, or similar purposes or in which occupants are engaged at labor; and which is equipped with exit, light, and ventilation facilities meeting the requirments of the Basic Code. The minimum height of an occupiable room shall not be less than seven feet, six inches (7'6").

(138) Section 507.2 is amended by deleting therefrom the number one-half (1/2) and inserting in its place and stead the number forty-five (45) percent.

(139) Section 507.4 is amended by adding thereto the following language:

No habitable room in L-1 or L-2 residential occupancies, or habitable rooms used for living or sleeping purposes in H-Institutional occupancies, shall have any exterior wall with less than fifty (50) percent of its surface above the level of the ground immediately adjacent thereto; except that if an areaway, five (5) feet or more in minimum width, extends along the full length of such wall, the part of the wall surface above the level of the bottom of the areaway may be used in determining the percentage of wall surface above ground level. No part of a window or other opening in the wall that is more than three (3) feet below the level of the coping of the areaway shall be included in determining the required daylighting of the habitable room.

In dwelling units of L-1 and L-2 residential buildings, artificial light may be provided in an interior kitchen which complies with the following:

(a) The total floor area shall not exceed one hundred (100) square feet but shall not be less than sixty (60) square feet.

(b) The unobstructed floor space after the installation of kitchen cabinets and equipment, including such space as is required for the installation of stove and refrigerator, shall not exceed fifty (50) square feet.

(140) Section 509.0 is amended to read:

509.0. Basements and cellars.--Except as may be otherwise specified for habitable or occupiable rooms or specifically provided in article 4 for special uses, the glass window area in basements and cellars, except crawl spaces as provided in section 508.3 shall be not less then one-fiftieth (1/50) of the floor area served, and provisions shall be made for fresh air supply prescribed for specific uses in section 515.0 and table 9-A.

(141) Section 513.1 is amended to read:

513.1. Exterior Windows.--By windows opening to the outer air as provided in Section 507, but in no case less than four (4) square feet in area;

(142) Section 518.11 is amended to read:

518.11. Minimum Width.--Every such court shall have a minimum width of three (3) inches for each foot of height or fraction thereof but not less than five (5) feet for outer courts and twice these values for inner courts.

(143) Section 518.12 is amended to read:

518.12. Irregular Court Width.--In the case of irregular or gore-shaped courts, the required minimum width of court may be deemed to be the average width, provided that no such court shall be less than five (5) feet at any point.

(144) Section 518.41 is amended to read:

518.41. Inner Court.--Every court serving one or more habitable rooms that does not open for its full height on one or more sides to a street or legal yard shall be connected at or near the bottom with a street or yard by a horizontal intake or passage of fireresistive construction. Such intake or passage shall have a cross-sectional area of not less than twenty-one (21) square feet, and shall remain fully open at both ends and unobstructed for its full size and length, except that grilles of noncumbustible construction complying with the approved rules may be permitted at the ends of the intake.

(145) Section 518.42 is amended to read:

518.42. Fireresistance.--The walls, floors and ceilings of such intakes or passages shall have a fireresistance rating of not less than two (2) hours in buildings of types 1, 2 or 3 construction and not less than three-quarter (3/4) hour in type 4 construction.

(146) Section 521.1 is amended to read:

521.1. When Required by the Fire Prevention Bureau.--All buildings and structures for institutional use (use groups H-1 and H-2), and all hotels and apartment houses (use groups L-1 and L-2), which exceed three (3) stories or forty (40) feet in height, with more than twenty-five (25) sleeping rooms or which are occupied by more than fifty (50) persons above the first floor or which exceed ten thousand (10,000) square feet in area and all fully enclosed industrial buildings without provision of exterior window openings for ventilation purposes, the public exit halls and corridors shall be constructed with vertical fire vent stacks and lateral fire vent ducts as herein provided, or with windows to the outer air, or with mechanical ventilating or exhaust systems, or with other equivalent approved means of dissipating smoke, heated air and toxic gases directly to the outer air in the event of fire.

(147) Article 5 is amended by the addition of the following sections:

SECTION 524.0. WALL OPENING PROTECTIVES

Exterior wall openings accessible to the public or building occupants shall be provided with protective guards.

524.1. Balconies.--Balconies accessible from windows and doorways in buildings of all use groups shall be provided with protective railings. The top horizontal member shall be not less than forty-two (42) inches high above the floor with a bottom horizontal member not more than six (6) inches above the floor. Intermediate horizontal or vertical pickets shall be spaced not more than six (6) inches on center. Such railings shall be capable of resisting the loads specified in Section 710.3 of the basic code.

524.2. Window Guards.--Windows, the sills of which are less than twenty-four (24) inches above the floor in F. H. L1, and L2 use group buildings shall be provided with window guards. Such guards shall have a top horizontal member not less than forty-two (42) inches above the floor and shall have intermediate horizontal or vertical members no

more than six (6) inches on center. Such guards shall be designed to resist the loads specified in Section 710.3 of the code.

524.3. Unsafe Conditions.--Existing buildings which presently have balcony railings or window guards which extend less than thirty-six (36) inches above the floor shall be altered to conform to Section 524.2 of the Building Code.

(148) Article 6 is amended by adding thereto a new section numbered 600.3 to read:

600.3. Other Standards.--Compliance with the applicable provisions of the standards listed in appendix B shall be deemed to meet the requirements of this article, unless otherwise specifically provided herein.

(149) Article 6 is amended by adding thereto a new section numbered 603.4 to read:

603.4. One and Two-Family Dwellings.--Every sleeping room in one and two-family dwellings, unless it has two (2) doors providing separate ways of escape, or has a door leading directly to the outside of the building, shall have at least one outside window which can be opened from the inside without the use of tools and of such design that it may serve as an emergency exit if the normal avenues of escape are blocked. The sill of such windows shall not be more than three and one-half (3 1/2) feet above the floor.

(150) Section 606.22 is amended to read:

606.22. Within seven (7) days after the service of the exit order of the building official, the owner may file a written appeal therefrom to the Board of Survey for a final determination.

(151) Section 608.4 is amended so that Table 10 therein shall read as follows:

Table 10. Occupancy Allowances

Use group	Floor area in square feet per occupant
Assembly with fixed seats	6
Business buildings	100
Court rooms	40
Dance halls, lodge rooms	15
Hotels, lodging houses, multi-family dwellings	125
Institutional buildings	150
Mercantile buildings, first floor	30
Mercantile buildings, basement sales floor	30
Mercantile buildings, other floors	60
Schools, auditoriums & gymnasiums	6
Schools, cafeterias	10
Schools, libraries	25
Schools, classrooms	15
Schools, all other areas	40
Storage buildings	300
Bowling alleys, allow 5 persons for each alley, including 15 feet of runway, and for additional areas	10

(152) Section 609.2 is amended to read:

609.2. Remote Location.--Whenever more than one (1) means of exit is required from any room, space or floor of a building, they shall be placed remote from each other so as to minimize any possibility that both may be blocked by any one fire or other emergency condition. Dead end corridors or pockets are prohibited except as provided in Section 612.2.

Where exits are separated at least one-third (1/3) the maximum dimension of the room, space, or building, they will be deemed to comply with this section. In any case the separation between exits shall be no less than twenty-five percent (25%) of the maximum travel distance to any one exit.

(153) Section 609.3 is amended to read:

609.3. Length of Travel.--Except as may be modified by the provisions of Section 611 for number of exitways, all exits shall be so located that the maximum length of travel, measured from the most remote point to an approved stairway or horizontal exit along the natural and unobstructed line of travel shall not exceed the distances given in table 11; except that in buildings, of other than high hazard use and places of assembly, where the area is subdivided into rooms or compartments, the distance may be measured from the room door to the nearest exit provided the path of travel from any point in the room to reach the room door does not exceed fifty (50) feet.

(154) The Business Use Group in Table 11, Section 609.3 is amended to read:

Business	150	125	100

(155) Section 610.4 is deleted.

(156) Section 611.1 is amended by adding the following sentence:

Exits in dwellings shall be so arranged that they may be reached without passing through another living unit.

(157) Section 611.2 is amended by adding the following paragraphs:

There shall be no less than two (2) approved exit ways serving every space on the first floor with an area greater than fifteen hundred (1500) square feet or with an occupancy load of more than seventy-five (75), except in buildings complying with Section 611.3. The unit width of such exits shall be in addition to that from above and below.

Rooms or spaces of an area greater than fifteen hundred (1500) square feet, when subdivided into several areas, each less than fifteen hundred (1500) square feet, when served by an exit vestibule leading to a common exit doorway, shall not be deemed to comply with this section.

(158) Article 6 is amended by adding thereto a new section numbered 611.31.1 to read:

611.31.1. Apartment Houses -- Apartment houses not more than three (3) stories high and containing not more than four (4) apartments per floor may be equipped with one (1) forty-four (44) inch stairway, provided that said stairway is noncombustible and inclosed in eight (8) inch masonry walls, or other walls of one and one-half (1 1/2) hour fire resistance rating, and having the structural stability of eight (8) inch masonry walls, and further, that all corridors serving said stairway shall be noncombustible with a one and one half (1 1/2) hour fire resistance rating, and having the structural stability of eight (8) inch masonry walls. No combustible structural member shall be supported by these walls, or be allowed to reduce their thickness.

(159) Article 6 is amended by adding thereto a new section numbered 612.11 to read:

612.11 Turnstiles and Gates.-- Access from public areas through turnstiles, gates, rails or similar devices shall not be permitted unless such a device is equipped to readily swing in the direction of exit travel under a total pressure of not more than fifteen (15) pounds.

(160) Section 612.2 is amended to read:

612.2. Dead Ends.-- Exit corridors and hallways which serve more than one (1) exit shall provide direct connections to such exits in opposite directions from any point in the corridor. Exception: Such corridors may have dead ends not exceeding twenty (20) feet in High Hazard, Assembly, Institutional and Residential buildings (Use Groups A, F, H and L) and fifty (50) feet in other buildings providing the two (2) required exits are remote with respect to each other as specified by Section 609.2. The dead end is measured from the doorway of the room nearest the end of the corridor to the point at which an exit is reached, or at which the corridor gives access to exits by travel in two (2) different directions. Dead ends may be fifty (50) feet long in completely sprinklered buildings.

(161) Section 612.4 is amended by adding the following paragraph:

All doors opening on a corridor serving more than one tenant shall be constructed of metal or other similar incombustible material or of one and three-quarter (1 3/4) inch solid wood. Door jambs may be of wood with a minimum nominal thickness of two (2) inches (one and five-eights actual) if shim space is firestopped with incombustible material or may be metal with a minimum thickness of 18 ga. Any assembly with a fire rating of at least three-fourths (3/4) hours shall be accepted as meeting these requirements. Openings for ventilation or any other purpose shall be equipped with an automatic opening protective conforming with the applicable standards of appendix B.

(162) Section 614.1 is amended to read:

614.1. Number of Doorways. -- Every room with an occupancy load of more than fifty (50) or which exceeds fifteen hundred (1500) square feet in area shall have at least two (2) exit doorways and the doors shall be hung to swing in the direction of exit travel without obstructing the required width of exit passageway. Grade exit doors shall not project more than twelve (12) inches beyond the street lot line.

(163) Section 614.41 is amended to read:

614.41. Operation.--Locks and fastenings on required exit doors shall be readily opened from the inner side without the use of keys. Draw bolts, hooks and other similar devices shall be prohibited on all required exit doors, unless there is a readily visible, durable, sign on the door stating "THIS DOOR TO REMAIN UNLOCKED DURING OCCUPANCY." The sign shall be in letters not less than one (1) inch high on a contrasting background. The locking device must be of a type that will be readily distinguishable as locked.

(164) Article 6 is amended by adding thereto a new section numbered 614.45 to read:

614.45. Mechanical Operations.--Where required exit doors are arranged to be opened by mechanical devices of any kind, they shall be so constructed that the door may be opened manually and will release under a total pressure of not more than fifteen (15) pounds applied in the direction of exit travel.

Such doors shall be protected on the outswinging side by a device which will prevent its operation by other than manual means while the space into which the door will swing is occupied. Entry into this space shall be restricted by a rail, wall or other physical barrier extending out from the jamb at the limit of door swing and by a guard chain suspended between the outer end of the rail or barrier and the door.

(165) Article 6 is amended by adding thereto a new section numbered 614.46 to read:

614.46. In motels, hotels, and multi-family dwellings (use groups L-1 and L-2) locks on swinging entrance doors to individual motel and hotel rooms and apartment units shall have deadbolts with one inch minimum throw and hardened steel inserts in addition to deadlatches with half-inch minimum throw. The locks shall be so constructed that both deadbolt and deadlatch can be retracted by a single action of the inside door knob. Alternate devices to equally resist illegal entry may be substituted subject to prior approval of the building official.

Deadlocks shall be provided on all sliding entrance doors. The lock shall be operable from the outside by a key utilizing a bored

lock cylinder of pin tumbler construction. Mounting screws for the lock case shall be inaccessible from the outside. Lockbolts shall be of hardened steel or have hardened steel inserts and shall be capable of withstanding a force of 800 pounds applied in any direction. The lockbolt shall engage the strike sufficiently to prevent its being disengaged by any possible movement of the door with the space or clearances provided for installation and operation. These requirements shall apply to doors opening onto patios or balconies which are less than one story above grade or are otherwise accessible from the outside.

(166) Section 616.52 is deleted.

(167) Section 618.0 is amended to read:

SECTION 618.0. INTERIOR STAIRWAYS

Interior stairs required for egress shall be fully protected from the weather by suitable roof and wall construction capable of excluding rain, snow, etc.

(168) Section 618.21 is amended to read:

618.21. Width.--All interior required stairways shall be not less than forty-four (44) inches in width except that such width may be reduced to thirty-six (36) inches in one- and two-family dwellings (use group L-3), or in business buildings (use group E) with an occupancy load of not more than forty (40) below of seventy-five (75) above grade, or in any building where the space served by the stairway has an occupancy load of less than twenty-five (25) persons, or in exitways from boiler rooms and similar service spaces not open to the public or in general use by employees. When the boiler room is less than three hundred (300) square feet in area, housing a low pressure boiler, and is completely enclosed in two (2) hour fireresistive construction with approved opening protectives and an iron ladder or other approved direct exit is furnished to the street, the primary stairway may be omitted.

(169) Section 618.41 is amended to read:

618.41. Minimum Dimensions.--The height of risers or width of treads in inches shall be as follows:

Use Group	Maximum Riser	Minimum Tread
One- and two-family dwellings (use group L-3)		
All stairs with closed risers	8 1/4"	9" plus 1 1/4" nosing
Basement Service stairs with open risers	8 1/4"	9" plus 1/2" nosing
All other residential (use groups L-1 and L-2)	7 3/4"	9" plus 1 1/4" nosing
Assembly and institutional	7 1/2"	9 1/2" plus nosing
Business	7 3/4"	9 1/2" plus nosing

(169a) Section 618.5 is amended by adding thereto the following:

Guard Rails.

Where required.--All stairs, stair landings, balconies, mezzanines,

and porches shall be protected at any open edge by a guard rail complying with the following requirements except where the vertical distance to the level immediately below is less than forty-two (42) inches.

Height.--Guards shall be not less than forty-two (42) inches high except that guards protecting changes in level one story or less shall be not less than thirty-six (36) inches high. The height of guards shall be measured vertically to the top of the guard from a point one inch back from the leading edge of the tread on stairs or from the floor of balconies, landings and other areas. Guard rails may be thirty-six (36) inches high for inside stairs which reverse direction at intermediate landings where the horizontal distance between successive flights is not more than one foot.

Construction.--Required guards shall be so constructed that the area in the plane of the guard from top to floor, riser or curb to the minimum required height of guard shall be subdivided or filled in one of the following manners:

(1) A sufficient number of intermediate longitudinal rails so that the clear distance between rails measured at right angles to the run of rail does not exceed ten (10) inches. The bottom rails shall not be more than ten (10) inches from the top of floor, tread, or curb measured vertically. The point of measurement from treads shall be as provided above.

(2) Vertical balusters spaced not more than six (6) inches apart.

(3) Areas filled wholly or partially by panels of solid wire mesh or expanded metal construction or by ornamental grilles which provide protection against falling through the guard equivalent to that provided by the intermediate rails or vertical balusters specified in the two preceding paragraphs.

(4) The lower part of the area may consist of a continuous substantial curb, the top of which is parallel to the run of stairs or level areas, and the height of which is not less than three (3) inches on stairs (measured at right angles to the curb from its top to the nosing of the tread) and not less than six (6) inches for level areas.

(5) Masonry walls may be used for any portion of the guard.

(6) Any combination of the foregoing that provides equivalent safety.

Guard rails shall comply with the strength requirements of

Section 710.3 and intermediate rails, balusters, and panel fillers shall be designed for a uniform load over the gross area of the guard (including the area of any openings in the guard) of which they are a part of not less than twenty-five (25) pounds per square foot. Reactions due to this loading need not be added to the loading specified by Section 710.3 in designing the main supporting members of guards.

(170) Section 618.63 is amended to read:

618.63. Door Construction.--All required stair exit door opening protectives, including the frames and hardware, shall be approved self-closing swinging fire doors complying with article 9 except in one- and two-family dwellings.

(171) Section 618.8 is amended by adding thereto the following sentence:

Such stairways shall, however, be inclosed at the head or foot except in building of Type 1 construction or in sprinklered buildings.

(172) Section 619.1 is amended to read:

619.1. By Stairway.--In buildings more than three (3) stories in height with roofs having a slope of less than twenty (20) degrees, access to the roof shall be provided by means of a stairway or a ladder and scuttle. Where the roof is used as a roof garden or for other habitable purposes, sufficient stairways shall extend to it to provide the necessary exit facilities required for such occupancy. Roof trap doors shall be constructed to comply with section 928.

(173) Section 620.1 is amended to read:

620.1. Where Required.--In every mercantile (use group C), industrial (use group D), and assembly buildings other than theatres (use groups F-2, F-3 and F-4), over six (6) stories or seventy-five (75) feet in height, at least one (1) required means of egress shall be a smokeproof tower.

(174) Section 621.1 is amended to read:

621.1. As Required Exitway.--Exterior stairways conforming to the requirements for interior stairways in all respects, except as to enclosures and except as herein specifically modified, may be accepted as required means of egress in buildings not exceeding five (5) stories or sixty-five (65) feet in height for other than institutional use (use group H), provided there is at least one (1) additional approved interior stairway, except as provided in section 621.11 for residential buildings. Exterior stairways which are accepted as exits in residential buildings of use groups L-2 and L-3 shall be relieved from requirements for screens and fire doors, but shall be provided with handrails as required for interior stairs and shall be covered by a roof providing protection from the weather.

(175) Article 6 is amended by adding thereto a new section numbered 621.11 to read:

621.11. Residential Buildings.--In the residential portion of motels (use group L-1) of fireproof (types 1A and 1B) protected noncombustible (types 2A and 2B) and heavy timber (type 3A) construction, not more than two (2) stories and nonhabitable attic or thirty (30) feet in height, interior enclosed stairways may be omitted, where at least one (1) door from each motel unit opens onto a roofed-over open porch or balcony served by at least two (2) stairways so located as to provide a choice of independent, unobstructed paths of exit directly to the grade. Such porches and stairways shall comply with the requirements of interior stairways (section 618.0) except as provided in section 621.1. Porches shall be not less than four and one-half (4 1/2) feet in width. The stairways shall be not less than three (3) feet eight (8) inches in width and shall be located remotely from each other. The maximum travel distance from any motel unit to the nearest stairway shall be seventy-five (75) feet. Porches and stairways shall be located at least ten (10) feet from adjacent property lot lines and from other buildings on the same lot unless openings in such buildings are protected by three-quarter (3/4) hour fire resistive doors or windows. Porches and stairways to which reference is made above are to be constructed of unprotected metal, or noncumbustible construction having a fire resistance rating of not less than two (2) hours.

(176) Section 621.32 is amended to read:

621.32. Windows.--Except where wooden stairways are permitted, all doors and windows opening on or within ten (10) feet of exterior exit stairways shall be protected by approved three-quarter (3/4) hour self-closing fire doors or approved three-quarter (3/4) hour fire windows.

(177) Sections 623.0, 623.1, 623.2, 623.3 and 623.4 are deleted.

Section 624.1 is amended by adding thereto the following sentence:

Fire excapes shall not be used for multi-family dwellings having more than three (3) apartments.

(178) Sections 625.0, 625.1, 625.2 and 625.3 are deleted.

(179) Section 626.1 is amended to read:

626.1. Size and Location.--In other than one- and two-family and multi-family buildings having not more than eight (8) dwelling units, all required means of egress shall be indicated with approved metal signs reading "EXIT" in red letters at least six (6) inches high on a white background or in other approved distinguishable colors; illuminated by an electric light of not less than twenty-five (25) watts, visible from the exit approach and, when necessary, supplemented by directional signs in the access corridors indicating the direction and way of egress. Or such signs may be internally illuminated with an enclosing noncombustible case through ruby glass. The letters of internally illuminated signs shall be not less than four and one-half (4 1/2) inches high.

(180) Section 627.4 is amended to read:

627.4. Independent Power Source.--In department stores of over five thousand (5.000) square feet area, places of public assembly, schools, institutional buildings, and hotels with sleeping accommodations for more than twenty-five (25) persons, the lighting shall be from an independent power source to assure continued illumination of all exitways in case of emergency, and in accordance with the Electrical Code of the City of Alexandria.

(181) Section 707.1 is amended to read:

707.1 Uniform Live Load.--The minimum uniformly distributed design live load in pounds per square foot shall be as provided in table 13 and for all concentrated loads wherever they occur as provided in table 14 and in Section 708.

And Table 13 in Section 707.1 is amended in the following respects:

Use	Pounds per square foot
Balcony (exterior) not less than the live load of the occupancy served, when not in excess of one hundred (100) square feet, or having a projection of not more than five (5) feet from a building wall	60
All other balconies	100
Classrooms less than one thousand (1000) square feet in area, with removable seats	60
Classrooms in excess of one thousand (1000) square feet in area, with removable seats	100
Dwellings:	
Second floor and habitable attic	40
Uninhabitable attics	20(c)

And the following note is added at the bottom of Table 13:

Note c. Live load need be applied to joists or to bottom chords of trusses or trussed rafters only in those portions of attic space having a clear height of forty-two (42) inches or more between joist and rafter in conventional rafter construction; and between bottom chord and any other member in trussed or trussed rafter construction. However, joists or the bottom chords of trusses or trussed rafters shall be designed to sustain the imposed dead load or ten pounds per square foot (10 p.s.f.), whichever be greater, uniformly distributed over the entire span.

(182) Section 711.1 is amended to read:

711.1 Minimum Roof Load.--Flat and pitched roofs shall be designed for a live load of not less than thirty (30) pounds per square foot of horizontal projection, and for a live load of not less than twenty-five (25) pounds per square foot for roofs with a slope of 30° or more with the horizontal. When used for incidental promenade purposes, roofs shall be designed for a minimum live load of sixty (60) pounds per square foot; and one hundred (100) pounds per square foot when designed for roof garden or assembly uses.

(183) Section 711.3 is amended by deleting therefrom the number seventy-five (75) and inserting in its place and stead the number thirty (30).

(184) Section 712.0 is deleted.

Section 2. That subsections (134) through (241) inclusive, and subsection (231A), all of Section 7-8, Chapter 7 of The Code of the City of Alexandria, Virginia, 1963, as amended, be and the same hereby are amended and reordained to read as follows:

(185) Section 712.1 is deleted.

(186) Section 712.2 is deleted.

(187) Sections 714.0 through 714.4 of Article 7 are amended to read:

SECTION 714.0. WIND ON VERTICAL SURFACES

The wind pressures on vertical surfaces to be considered in the design of primary members shall be those prescribed in section 714.1, distributed in accordance with section 714.2.

The wind pressures on vertical surfaces to be considered in the design of secondary members, wall panels, sheathing and girts and their connections shall be those prescribed in section 714.1 distributed in accordance with section 714.2 and as modified by section 714.3.

714.1 Primary Framing Members.--Except in geographical localities subject to hurricanes, cyclones, tornadoes or similar unusual wind pressures shall be as required in the following section:

714.11. Height Not More Than Fifty Feet.--On buildings or parts

thereof that are fifty (50) feet or less in height the wind pressure on exposed vertical surfaces shall be assumed to be fifteen (15) pounds per square foot.

714.12. Height Not More Than 100 Feet.--On all buildings or parts thereof between fifty (50) and one hundred (100) feet in height, a pressure of twenty (20) pounds per square foot shall be assumed on those exposed vertical surfaces in excess of fifty (50) feet in height.

714.13. Height Over 100 Feet.--On all buildings or parts thereof over one hundred (100) feet in height the wind pressure shall be assumed to increase twenty-five thousandths (0.025) pounds per square foot for each foot of height in excess of one hundred (100) feet above the one hundred (100) foot level.

714.2. Distribution of Wind Force.--The wind pressure shall be distributed between opposite walls, two-thirds (2/3) as a normal pressure on the windward side and one-third (1/3) as a normal outward suction on the leeward side.

714.3. Secondary Wall Framing and Wall Panels.--In buildings provided with one-third (1/3) or more wall openings, internal wind forces of ten (10) pounds per square foot shall be assumed to occur simultaneously with the above external forces both in pressure and suction.

714.31. External Pressures.--External Pressures or suctions to be considered in the design of secondary wall framing and wall panels and sheathing and their connections shall be one and one-half (1 1/2 times those determined in accordance with section 714.2.

714.32. Internal Pressures.--In buildings having one-third (1/3) or more of any wall surface open, or subject to being opened or broken, an internal pressure of ten (10) pounds per square foot or internal suction of five (5) pounds per square foot, whichever is critical, shall be considered in the design of secondary wall framing and wall panels and sheathing and their connections, in addition to the external pressures or external suction required by section 714.31. For lesser amounts of all openings the internal pressure or suction assumed shall be one-half (1/2) of the foregoing values.

714.4. Design Wind Load for Glass.--Firmly supported lights of glass of four (4) square feet or more in area installed in a vertical position or at an angle of not more than twenty (20) degrees from the vertical, shall be designed to withstand wind pressure in accordance with design criteria stated in appendix K-12.

(188) Sections 715.0 through 715.5 of Article 7 are amended to read:

SECTION 715.0. WIND LOAD ON ROOFS

The external wind pressures and suctions specified in sections 715.1 and 715.2 shall be considered in the design of primary roof framing and trusses.

External wind pressures and suctions to be considered in the design of

secondary roof framing, purlins, roof panels and sheathing and their connections shall be one and one-half (1 1/2) times those determined in accordance with those sections. Internal pressures to be considered in the design of secondary roof framing and roof panels and sheathing and their connections shall be those specified in section 714.3 for wall elements.

715.1. Pitched Roofs.--External wind forces on roofs, assumed to be acting upon primary roof framing members shall be not less than the following listed fractions of the values specified in sections 714.11, 714.12 and 714.13, and shall be based on the average height of the roof eave above grade, the slope of the roof at the location under consideration and the ratio of sidewall height to building width.

External Wind Pressure on Roofs

Ratio of Sidewall Height to Building Width	Flat Roofs	Windward Slope of Roofs				Leeward Slope
		Less than 1:12	1:12 to 4.05:12	4.05:12 to 6:12	6:12 to 12:12	All Slopes
0.2	-.60	-.60	-.06	.12	.19	-.50
0.4	-.60	-.60	-.33	.01	.09	-.50
0.6	-.60	-.60	-.49	-.20	-.06	-.50
0.8	-.60	-.60	-.57	-.30	-.18	-.50
1.0 or more	-.60	-.60	-.60	-.39	-.28	-.50

For all roof surfaces having a slope greater than 12:12 the same wind forces as for vertical surfaces shall be assumed.

715.2. Curved Roofs.--The external wind forces assumed to be acting upon the primary framing members in the windward quarter of curved roofs shall be not less than the wind pressure specified in sections 714.11, 714.12 or 714.13 multiplied by the rise-to-span ratio of the entire roof arch and shall be considered as acting as an inward acting pressure. An external suction of not less than seven-tenths (7/10) of the pressure specified in sections 714.11, 714.12 or 714.13 shall be assumed to be acting upon the center half of all arch roofs and an external suction of not less than six-tenths (6/10) of such pressures shall be assumed to be acting upon the leeward quarter of all such roofs. All wind pressures acting upon curved roofs shall be considered as acting normal to the chord of the curved section under consideration.

715.3. Test Determination.--The effect of shape of irregular or unusual roofs may be determined by wind tunnel or equivalent tests. In determining the effect of shape, the assumed wind velocity shall be the maximum average for a five (5) minute period shown in the records of the U. S. Weather Bureau during the past fifteen (15) years, and the prescribed wind forces shall be modified accordingly.

715.4. Anchorage.--Roof framing shall be anchored to wall framing and walls to foundations so as to resist wind uplift and sliding in excess of seventy-five (75) percent of the dead load resistance.

715.5. Uplift on Eaves.--Overhanging eaves, cornices and other roof projections shall be designed and constructed to withstand an upward pressure of forty (40) pounds per square foot.

(189) Section 719.0 is deleted.

(190) Section 720.1 is deleted.

(191) Section 725.3 is amended so that item 6 and item 7 of Table 15 therein shall read:

6--Gravel and sand-gravel mixtures	4
7--Loose gravel, hard dry clay, compact coarse and soft shales	3

(192) Section 729.0 is amended to read:

SECTION 729.0. DEPTH OF FOOTINGS

Except when erected upon solid rock or when otherwise protected from frost, foundation walls, piers and other permanent supports of all buildings and structures shall extend two (2) feet and six (6) inches below the finished outside grade, and spread footings of adequate size shall be provided when necessary to properly distribute the load within allowable bearing value of the soil. Or such structures shall be supported on piles or ranging timbers when solid earth or rock is not available. No footings shall be founded on frozen soils unless such frozen condition is of a permanent character.

(193) Section 729.1 is amended by deleting therefrom the word "vertical" and substituting in its place and stead the word "horizontal."

(194) Section 729.2 is amended to read:

729.2. Floating Mat.--Floating mat foundations shall be located on permanently undisturbed soil of adequate bearing capacity. The building official may approve a continuous foundation mat which is located directly on the ground when adequate sub-soil drainage is provided when required. Where subject to freezing, the footing shall be designed to resist frost action. The requirements of section 508 governing the ventilation of crawl spaces under grade construction shall be waived provided adequate provision is made for dampproofing and waterproofing when required.

(195) Section 730.3 is deleted.

(196) Section 733.1 is amended by adding thereto the following words:

... and contain not less than four and one-half (4 1/2) sacks of Portland cement per cubic yard.

(197) Section 733.3 is amended to read:

733.3. Dimensions.--In unreinforced concrete footings, the edge thickness shall be not less than twelve (12) inches for footing on soil, and have a minimum projection of six (6) inches from each face of the

wall, and be not less than twelve (12) inches above the tops of piles in footings on piles.

(198) Article 7 is amended by adding thereto a new section numbered 733.5 to read:

733.5. Limitations.--The use of unreinforced concrete footings shall be limited to buildings not to exceed two (2) stories or twenty (20) feet in height above the ground, and shall support not more than nine (9) feet of masonry above the finished basement floor.

(199) Section 734.1 is amended by deleting the word "eight" (8) therefrom and substituting in its place and stead the word "twelve" (12).

(200) Article 7 is amended by adding thereto a new section numbered 735.4 to read:

735.4. Minimum Reinforcement.--Except as provided in section 733.5 all wall footings shall have a depth of not less than twelve (12) inches and shall have a minimum projection on each side of the wall above of six (6) inches, and shall have continuous reinforcement of not less than three (3) No. 4 steel deformed reinforcing bars.

(201) Section 737.5 is amended to read:

737.5. Minimum Dimensions.--Piles shall have a minimum tip diameter of eight (8) inches and a minimum average diameter of ten (10) inches. Tapered shoes or points of lesser dimensions and not longer than the average pile diameter may be attached to the pile unit.

(202) Section 737.8 is amended to read:

737.8. Jetting.--Piles may be jetted through foundation material only when approved by the building official. The approval to permit jetting of piles shall be issued by the building official in writing. Immediately after completion of jetting the piles shall be driven to the required load resistance as determined by the application of an approved pile driving formula.

(203) Article 7 is amended by adding thereto a new section numbered 737.10 to read:

737.10. Cushion Blocks.--If a wood cap or cushion block is used, it shall consist of a one piece hardwood block not more than eight (8) inches thick, of approximately the same diameter as the striking part of the hammer, contained in a close fitting steel housing and with grain parallel to the pile axis. Subject to the approval of the Building Department, cap blocks of other materials may be used providing it is demonstrated to the satisfaction of the building official that the hammer energy transmission characteristics of the proposed cap block are equal to or greater than the cap block specified above.

(204) Article 7 is amended by adding thereto a new section numbered 737.11 to read:

737.11. Penetration Measurement.--Penetration measurements for the purpose of determining resistance to driving shall not be made when pile heads are damaged to an extent which may affect measured penetration nor immediately after fresh cushion blocks have been inserted under the striking part of the hammer and such measurements shall be made without interrupting the driving more than may be necessary for such measurements, except for necessary repairs, or for redriving heaved piles.

(205) Section 738.3 is amended to read:

738.3. Protective Jackets.--When the soil surrounding an all metal or metal encased pile, caisson or pier contains destructive chemical elements and when such metal or metal encasement is load bearing, the pile shall be provided with an approved protective jacket. When the protective jacket is of concrete, the thickness of cover over the steel shall be not less than one and one-half (1 1/2) inches.

(206) Section 739.0 is amended to read:

SECTION 739.0. ALLOWABLE PILE LOADS

The allowable load on piles shall be determined by the applicable formulas complying with accepted engineering practice. The maximum load capacity shall be limited by the supporting capacity of the soil as determined by driving resistance or by load tests as herein prescribed; but in no case shall the load exceed the capacity of the pile designed in accordance with the accepted engineering practice and the provisions of the Basic Code.

(207) Section 739.1 is deleted.

(208) Section 739.2 is amended by deleting therefrom the words "an approved" and substituting in their place and stead the words "Engineering News Formula."

(209) Section 740.2 is amended to read:

740.2. Timber Specifications.--The quality of all round timber piles shall at least conform to class A and B, round timber piles listed in appendix C.

Round timber piles shall be cut above the ground swell, have a continuous taper from the point of butt measurement to the tip and free from decay, red heart, or insect attack with few exceptions. All knots and limbs shall be trimmed or smoothly cut flush with the surface of the pile or swell surrounding the knot. A straight line from the center of the butt to the center of the tip shall lie entirely within the body of the pile. Short crooks shall not deviate more than two and one-half (2 1/2) inches in five (5) feet. Spiral grain shall not exceed one-half (1/2) of the complete twist in any twenty (20) feet of length, unsound or cluster knots are prohibited and splits and shakes are limited.

(210) Section 742.1 is amended to read:

742.1. Concrete Strength.--All concrete for cast-in-place piles shall develop a compressive strength of not less than twenty-five hundred (2500) pounds per square inch at twenty-eight (28) days, and contain not less than five and one-half (5 1/2) bags of Portland cement per cubic yard. Just prior to placing of concrete, approximately one (1) cubic foot of 1:2 cement grout shall be placed at the bottom of the pile. Concrete of four (4) to five (5) inch slump shall be deposited in a continuous operation through a funnel having a discharge opening not greater than eight (8) inches in diameter and centered in the pile top and so as to insure a full size pile without voids or segregation. All concrete shall be placed in the dry; except when the bottom of the pile is sealed by depositing concrete by tremie or other approved method, after removing all soil and other foreign matter.

(211) Section 743.1 is amended by changing the third sentence thereof to read as follows:

Concrete shall contain not less than five and one-half (5 1/2) bags of Portland cement per cubic yard and have a minimum compressive strength of twenty-five hundred (2500) pounds per square inch at twenty-eight (28) days' age.

(212) Section 743.4 is amended to read:

743.4. Minimum Thickness.--The minimum wall thickness of all load-bearing pipe, tubes, and shells shall be one-tenth (1/10) inches. When required by soil conditions, allowance shall be made for corrosion as specified in section 738.

(213) Section 744.2 is amended by adding thereto the following sentence:

Steel shall be protected under the conditions specified in section 738.

(214) Section 744.3 is amended to read:

744.3. Concrete Fill.--The concrete fill of drilled caissons shall be controlled concrete, with a compressive strength of not less than thirty-five hundred (3500) pounds per square inch at twenty-eight (28) days, and shall contain not less than seven (7) bags of Portland cement per cubic yard, deposited with a slump of not more than six (6) inches. When deposited in water, the concrete shall be placed with an approved bottom dump bucket or tremie to eliminate segregation.

(215) Section 748.1 is amended to read:

748.1. Surrounding Materials.--For fully embedded piles, any soil other than fluid soil shall be deemed to afford sufficient lateral support to eliminate buckling under axial load. For piles which extend or will extend through air, water or fluid soil, that portion of the pile extending from cut-off to ten (10) feet below the surface of soil furnishing lateral support shall be designed as a structural column. Soil which will subsequently be removed shall not be considered as providing lateral support.

(216) Section 749.5 is amended by deleting therefrom the figure twelve (12) and inserting in its place and stead the figure six (6).

(217) Section 803.5 is amended to read:

803.5. Tests of Service Equipment and Devices.--Tests of service equipment and accessories shall include proscenium curtain and stage ventilation, section 418.6; structural load tests, section 703; flues and chimneys, section 1003; boilers, section 1103; sprinkler and standpipe equipment, section 1203; moving stairways, elevator interlocks and safety devices, section 1603; refrigerating equipment, section 1803; and all other service tests required by the approved rules.

(218) Section 804.2 is amended by deleting therefrom the words "working load" and inserting in their place and stead the words "live load."

(219) Section 806.1 is deleted.

(220) Section 807.0 is amended by changing the last sentence thereof to read:

Unburned clay brick shall not be used in isolated brick piers, bearing walls, nor in any part of a building exposed to the weather.

(221) Section 810.6 is amended by deleting the last sentence therefrom.

(222) Section 820.11 is amended to read:

820.11. Inspection.--The building official shall be notified not less than twenty-four (24) hours in advance of all suspended plastering work, and no plaster shall be applied until after the lathing or other plaster base has been inspected and approved by him.

(223) Section 825.1 is amended to read:

825.1. Quality.--When used for structural support all plywood shall be identified as to veneer-grade and glue-type by the manufacturers' identification marks and the working stresses shall conform to the standards of accepted engineering practice as listed in appendixes B and C.

(224) Section 828.2 is amended to read:

828.2. Minimum Thickness of Metal.--The minimum permissible thickness of metal for formed steel structural members shall be based on the use of the member as follows:

Siding and sheathing	No. 28	U. S.	Gage
Ribbed steel roof construction	No. 20	"	"
Steel floor plates	No. 16	"	"
Studs, joists, purlins, structural rib, horizontal girts	No. 16	"	"
Furring members	No. 18	"	"

(225) Section 828.51 is amended to read:

828.51. Design Flange Width.--The effective width of the top flange of steel roof decking with longitudinal ribs spaced not over six (6) inches on center shall be limited to the following ratio of the spacing between ribs:

No. 18 U. S. Gage ..... 3/4 flange width
No. 20 " " " ..... 5/8 " "

(226) Section 828.52 is amended to read:

828.52. Limitation of Span.--Roof decking shall not be used on spans exceeding ten (10) feet unless designed as a composite member or approved by test; and shall be designed as of a simple span, unless the deck units extend continuously over three (3) or more spans and are rigidly welded to each support.

(227) Section 828.63 is amended to read:

828.63. Siding.--Exposed siding or sheathing shall be fabricated of approved corrosion-resistive metals or otherwise protected at the ground level for a height of not less than eight (8) inches.

(228) Article 8 is amended by adding thereto a new section numbered 829.5 to read:

829.5. Limitations.--All open web steel joists shall be fabricated entirely of hot rolled members.

(229) Section 829.11 is amended to read:

829.11. Loads and Stresses.--The maximum stress permitted in tension and compression shall not exceed 18,000 p.s.i. except when joists are fabricated from hot rolled members conforming to the A.S.T.M. A-36 specification, in which case these stresses may be increased to 22,000 p.s.i.

(230) Section 835.3 is amended to read:

835.3 Precautions Against Freezing.--All masonry shall be protected against freezing and shall not be constructed below twenty-eight (28) degrees F. on rising temperatures or below thirty-two (32) degrees F. on falling temperatures, without temporary heated enclosures or without heating materials for other precautions necessary to prevent freezing. No frozen materials shall be used nor shall frozen masonry be built upon.

(231) Section 836.0 is amended by adding thereto the following sentence:

Walls composed of two (2) or more masonry building units shall be bonded with masonry header ties, when required by the forces exerted upon them.

(232) Article 8 is amended by adding thereto a new section numbered 836A.0 to read:

SECTION 836A.0. WALL DETAILS

Where pilasters or buttresses are built in walls to permit reduced thickness of the walls, they shall not be less in thickness than twice the required thickness of the wall if such pilasters or buttresses were not used, nor less than two (2) feet. Such pilasters or buttresses shall be bonded into the wall by masonry in the same manner employed in the construction of the wall.

Where pilasters or buttresses are used to permit reduced wall thickness, they shall be not less in width than one-eighth (1/8) of the clear distance between them and their clear distance apart shall not exceed twenty-four (24) times the thickness of the wall between them, provided that the requirements for lateral support shall be satisfied. Principal girders and trusses shall rest on the pilaster or buttresses.

Piers used as mullions and supporting no load other than their own weight shall not be subject to the above requirements.

Change in Thickness Due to Span. Where the clear span between walls or from wall to bearing opposite is greater than thirty-two (32) feet, the bearing walls shall be increased four (4) inches in thickness for every sixteen (16) feet, or fraction thereof, in excess of thirty-two (32) feet.

Bearing and Party Walls of Solid Masonry Units. The minimum thickness of solid bearing and party walls of masonry units, including brick, solid concrete masonry units, and stone ashlar, shall be twelve (12) inches for the uppermost thirty-five (35) feet and shall be increased four (4) inches for each successive thirty-five (35) feet or fraction thereof, measured downward from the top of the wall.

Exceptions: (1) Where bearing or party walls are stiffened at distances not greater than twenty-four (24) feet by cross-walls, or internal or external returns, at least one (1) foot wide by two (2) feet deep, in addition to support from floors and roof, the walls may be twelve (12) inches thick for the upper sixty (60) feet, measured downward from the top of the wall, but not less than sixteen (16) inches thick for the remaining lower portion of the wall.

(2) Bearing on party walls of L-2 residential buildings may be eight (8) inches thick for wall height of not more than thirty (30) feet.

(3) In buildings other than L-2 residential in which the live load does not exceed fifty (50) pounds per square foot, and not exceeding three (3) stories, with a wall height not over forty (40) feet, in which the roof beams are not pitched more than one (1) inch in twelve (12) inches, or the roof construction otherwise imparts no lateral thrust to the walls, the walls may be eight (8) inches thick for the upper thirty (30) feet, provided the unsupported height of such walls does not exceed twelve (12) feet and there is a distance not to exceed fifty (50) feet between cross-walls, buttresses, or returns.

Bearing Walls of Hollow Units.

Walls built of hollow units including structural clay tiles and hollow concrete masonry units shall be not more than fifty (50) feet in height.

These heights shall include the heights of foundation walls on which they are supported, if built of the permitted materials.

The minimum thickness shall be twelve (12) inches for the uppermost twenty-five (25) feet of their height and not less than sixteen (16) inches for the remaining lower portion.

Exceptions: (1) Where walls of the above types are stiffened at distances not greater than twenty-four (24) feet by cross-walls or by internal or external returns, at least one (1) foot wide by two (2) feet deep, in addition to support from floors and roof, they may be twelve (12) inches thick throughout. (2) Bearing walls of L-2 residential buildings may be eight (8) inches thick for the upper twenty (20) feet and twelve (12) inches thick for the remaining permitted height. (3) In buildings other than L-2 residential in which the live load does not exceed fifty (50) pounds per square foot, and not exceeding three (3) stories or thirty-five (35) feet in wall height, in which the roof construction otherwise imparts no lateral thrust to the walls, the walls may be eight (8) inches thick for the uppermost twenty (20) feet and twelve (12) inches thick for the remainder, provided the unsupported height of such walls does not exceed ten (10) feet, and provided there is a distance not to exceed fifty (50) feet between cross-walls, buttresses, or returns.

Plain Concrete Walls.

Reinforcement of not less than two-tenths (2/10) of one (1) percent computed on a vertical height of twelve (12) inches shall be placed over all wall openings and at corners of the structure to prevent cracks. Floor and roof connection details shall be designed to transmit safely the vertical and horizontal loads imposed.

The minimum thickness of plain concrete walls may be two (2) inches less than required for solid walls of masonry units, except that foundation walls and party walls shall be not less than eight (8) inches thick.

Stone Walls.

Ashlar or coursed rubble masonry shall be of thickness not less than required for walls of solid masonry units, but thickness for coursed rubble masonry shall not be less than twelve (12) inches.

Random or rough rubble masonry shall be four (4) inches thicker than required for bearing and party walls of solid masonry units for the same conditions but no thickness shall be less than sixteen (16) inches.

Top-story and One-story Walls.

The top story walls of a building not exceeding three (3) stories with wall height not over forty (40) feet, or walls of one-story buildings, may be eight (8) inches thick, provided such eight (8) inch walls do not exceed twelve (12) feet in unsupported height, and roof beams are pitched not more than one (1) inch in twelve (12) inches, or the roof construction otherwise imparts no lateral thrust to the walls.

Parapet Walls.

The height of parapet walls shall not exceed four (4) times the thickness unless laterally supported by pilasters or buttresses, or made of reinforced masonry. The thickness shall not be less than eight (8) inches. Where there are moving loads or other sources of impact, the wall shall be designed to resist resulting lateral forces.

Parapet Walls Shall be Built of Solid Units or of Concrete.

Reinforcement, the equivalent of not less than two three-eights (3/8) inch round bars, shall be placed in mortar joints, nor more than twelve (12) inches apart vertically, and extending continuously throughout the parapet.

The top of the wall shall be capped with an incombustible and weather-resistant coping laid with full joints, and projecting not less than one (1) inch beyond each face, or sloped to project only over the inner face.

Foundation Walls.

Brick, structural clay tile, concrete masonry units, stone, and concrete, when used for foundations, shall be of grades permitted for use in exterior walls below grade or exposed to the weather.

Foundation walls shall be of sufficient strength and thickness to resist all loads to which they are subjected without exceeding allowable stresses.

They shall not be less in thickness than permitted for the total wall height, of which their height is a part.

They shall not be less in thickness than the walls immediately above them.

Foundation walls supporting solid walls shall be of solid masonry units, stone, or concrete.

The ratio of height to thickness of foundation walls shall not exceed twelve (12), and additional thickness or lateral support shall be provided if necessary.

Foundation walls shall be adequately anchored to develop the lateral support for the forces exerted upon them.

The thickness of foundation walls built of solid masonry units shall be not less than twelve (12) inches, except that where the height of fill against them does not exceed five (5) feet they may be of eight (8) inch thickness.

Foundation walls of plain cast-in-place concrete shall be not less than ten (10) inches thick, except that where the height of fill against them does not exceed five (5) feet they may be of eight (8) inch thickness.

The thickness of walls of coursed rubble shall not be less than twelve (12) inches, and of random or rough rubble, not less than sixteen (16) inches. Rubble masonry shall not be used in foundation walls of buildings over thirty-five (35) feet in height.

The thickness of foundation walls built of hollow masonry units shall be not less than twelve (12) inches except that where the height of fill against them does not exceed four (4) feet, they may be of eight (8) inch thickness. The hollow space in the units need not be filled.

Hollow masonry-bonded and cavity walls shall not be used in foundation walls below ground level. The foundations for them may be of solid construction or of hollow masonry units otherwise permitted for foundation walls.

Curtain Walls.

Curtain walls shall include nonbearing walls between columns, piers, or cross-walls, which are not supported by beams or girders at each story. Such walls may be eight (8) inches thick for their uppermost thirty (30) feet of their height, increasing four (4) inches in thickness for each successive thirty-five (35) feet or fraction thereof, measured downward from the top of the wall, except that reinforced concrete walls may be six (6) inches for the uppermost thirty (30) feet of their height, increasing three (3) inches for each successive thirty-five (35) feet of their height.

When built of hollow units, curtain walls shall be at least eight (8) inches thick for their uppermost twenty (20) feet of their height, increasing four (4) inches in thickness for the remaining height. Such walls shall not exceed fifty (50) feet in height above the footings.

Curtain walls shall be laterally supported at right angles to the face of the wall at intervals of not exceeding twenty-four (24) times the thickness of the wall. Such columns, piers or cross-walls forming the support shall be designed to resist the wind pressure against the wall.

When the distance between lateral supports exceeds twenty-four (24) times the thickness of the walls, such walls shall have a minimum thickness as required for bearing walls.

Curtain walls shall be bonded as for bearing walls.

(233) Section 837.1 is deleted.

(234) Section 838.1 is amended to read:

838.1. Where Permitted.--Chases and recesses shall be prohibited in any wall less than twelve (12) inches thick or in the required area of piers and buttresses; except that eight (8) inch solid walls where permitted in residential buildings and the apron under window openings may be chases not more than four (4) inches in depth.

(235) Section 838.2 is amended by deleting therefrom the words "when waterproofed."

(236) Section 839.3 is amended by deleting from the second sentence thereof the word "metal" and substituting in its place and stead the word "molded."

(237) Section 840.2 is amended to read:

840.2. Closure Tile.--All open cells in tiles or blocks at exterior wall ends and at openings shall be filled solidly with concrete for a length of not less than twelve (12) inches, or reversed closure tile shall be used.

(238) Section 842.1 is amended to read:

842.1. Reinforced Concrete Construction.--All reinforced concrete construction shall be in accordance with the Building Regulations for Reinforced Concrete as approved and adopted by the American Concrete Institute in February 1956, (A.C.I. 318-56), except:

(1) That Table 302(a)--Assumed Strength of Concrete Mixtures shall be changed to read as follows:

TABLE 302(a)--ASSUMED STRENGTH OF CONCRETE MIXTURES

Class of Concrete	Water Content U. S. Gallons per 94-lb. sack of Cement	Minimum Bags of Cement per Cubic Yard	Assumed Ultimate Compressive Strength at 28 days, p.s.i.	Laboratory Ultimate Compressive Strength at 28 days, p.s.i.
A	6.0	7.0	3500	4000
B	7.0	6.0	3000	3500
C	7.5	5.5	2500	2900
D	8.0	5.0	2000	2400
E	8.5	4.0	1500	1800

(2) That Appendix A 600 through A 611 be deleted, except that ultimate strength design method as outlined therein be permitted for the design of columns only.

All test specimens shall be cast by a representative of an approved testing laboratory, who shall assume responsibility for the care of all specimens until such time as they are tested.

(239) Section 842.3 is amended to read:

842.3. Cinder Concrete.--Cinders shall not be used as course aggregate in reinforced concrete structural members.

(240) Article 8 is amended by adding thereto a new section numbered 847.6 to read:

847.6. Minimum Thickness.--The minimum thickness of steel pipe columns shall be in accordance with sections 827.4 through 827.46 inclusive.

(241) Section 853.0 is amended by adding thereto the following sentence:

However, any units having wane or other imperfections which in the judgment of the building official interfere with the efficient use of connectors or fasteners or attachments of other elements of a structural system may be rejected; and when ruling upon the reliability of various types of connectors, the probability of dimensional changes which may be caused by variation in moisture content may also be taken into consideration.

(242) Section 853.1 is amended by adding thereto the following sentence:

No increase in stress will be allowed in roof members due to short-time loading.

(243) Section 855.15 is amended to read:

855.15. Bridging.--In all floors and attics, there shall be not less than one (1) line of bridging for each eight (8) feet of span. The bridging shall consist of not less than one by three (1 x 3) inch lumber, double-nailed at each end, or of equivalent metal bracing of equal rigidity secured at the intersection. A line of bridging shall also be required at supports where adequate lateral support is not otherwise provided.

(244) Article 8 is amended by adding thereto a new section numbered 855.15.1 to read:

855.15.1. Working Stresses.--Unless grade marked lumber is used, the following allowable unit stresses shall be assumed:

1. Extreme fiber in bending "f", 1,000 p.s.i.
2. Horizontal shear "H", 80 p.s.i.
3. Compression perpendicular to grain, "cI", 300 p.s.i.
4. Compression parallel to grain, "c", 800 p.s.i.
5. Modulus of elasticity "E", 1,200,000.

(245) Section 855.7 is amended to read:

855.7. Flashing.--Approved corrosion-resistive flashing shall be provided wherever necessary to prevent moisture penetration behind the veneer.

(246) Section 857.2 is deleted.

(247) Section 857.3 is deleted.

(248) Section 862.3 is amended to read:

862.3. Wind and Earthquake Loads.--Exterior wall panels shall be held in place in the wall to resist both the internal and external pressures due to wind loads specified in section 713 and 714.

(249) Section 863.1 is amended to read:

863.1. Backing Surfaces for Veneers.--Veneers for other than frame buildings, shall be attached only to substantial, rigid, noncombustible surfaces which are plumb, straight and of true plane; and no wood backing surfaces shall be used except in frame construction not over two (2) stories. The backing shall provide sufficient rigidity, stability and weather resistance; and the veneer shall be installed and anchored as required in the Basic Code for the specific material.

(250) Section 869.3 is amended by adding thereto the words "or coating."

(251) Section 869.4 is amended to read:

869.4. Anchorage.--All panel walls shall be anchored to the structural frame to insure adequate lateral support and resistance to wind.

(252) Section 870.0 is amended by deleting therefrom the number two (2) and inserting in its place and stead the number one (1).

(253) Section 870.1 is amended to read:

870.1. Minimum Thickness and Height.--Parapet walls shall be no less than eight (8) inches thick; but in no case shall the required thickness exceed twelve (12) inches, nor shall the height be more than four (4) times the thickness unless laterally supported by noncombustible bracing or buttresses.

(254) Section 871.22 is amended to read:

871.22. Hollow and Solid Masonry and Mass Concrete.--When not more than four (4) feet deep below grade, masonry foundation walls shall be not less than eight (8) inches thick, provided the total height of eight (8) inch wall including the superstructure does not exceed twenty-five (25) feet; and when more than four (4) feet below grade, not less than twelve (12) inches thick.

(255) Section 872.0 is amended to read:

SECTION 872.0. RETAINING WALLS

Permits.

Plans and survey plot shall accompany each application for a permit to construct retaining walls.

Permits will be required for the construction of all retaining walls that are located on street or alley lot lines.

Permits shall not be required for erection on private property of retaining walls when the difference in grade is thirty (30) inches or less.

Loads.

Walls retaining earth shall be designed to resist the earth pressure and any water pressure that may exist, without exceeding the allowable stresses in the materials of the wall or the allowable load on the earth. Where effects of hydrostatic head of water are not included in the design of the wall, adequate provision must be made for drainage to prevent building up of pressure. Retaining walls adjacent to streets, alleys, sidewalks, and railroad tracks shall be designed for a surcharge equivalent to their probable live load.

Gravity Retaining Walls.

Gravity retaining walls shall be constructed of solid masonry and when of brick, stone, or solid concrete block, shall rest on a concrete base not less than twelve (12) inches in thickness. For walls not exceeding eight (8) feet in height, the width of concrete base may be equal to the thickness of the bottom of the retaining wall. Footings for walls exceeding eight (8) feet in height shall conform to the requirements for building walls. The bottom of the wall or bottom of the concrete base shall be at least two feet by six inches (2'x6") below the surface of the ground, measured from the surface of the lower level.

DRY-STONE RETAINING WALLS

General Requirements.

Retaining walls of dry stone shall be constructed in accordance with the following requirements:

(a) The lowest course of stone shall be placed on solid undisturbed earth at least one (1) foot six (6) inches below the level of the ground adjacent to the exposed side of the wall.

(b) The maximum difference in ground elevation shall be ten (10) feet.

(c) A surcharge of earth at maximum slope of one and one-half (1 1/2) to one (1), on a private driveway or private sidewalk only, will be permitted at the top of the wall.

(d) The exposed face of the wall shall have a batter of at least one and one-half (1 1/2) inches per foot.

(e) A minimum of one-fourth (1/4) of the wall shall be laid in headers. The header stones shall have a length of at least two and one-half (2 1/2) times their thickness.

(f) Flat well-scabbled stones shall be used. Under no circumstances may rounded rubble stone be used.

(g) Joints between courses shall have a slope downward toward the earth or inner face of the wall.

(h) Vertical joints shall be staggered at least six (6) inches horizontally.

(i) The thickness of wall at any point shall not be less than one-half (1/2) the distance from that point to the top of the wall. The minimum thickness at the top of any dry-stone wall shall be twelve (12) inches.

(j) Provisions shall be made to insure adequate drainage through the wall.

(256) Sections 872.1 through 871.3 inclusive are deleted.

(257) Section 874.0 is amended to read:

SECTION 874.0. WATERPROOFING

Where required by ground water conditions the exterior structural elements of all buildings herein specified shall be waterproofed in accordance with the approved rules.

(258) Sections 874.2 through 874.4 inclusive are deleted.

(259) Section 875.0 is deleted.

(260) Section 876.0 is deleted.

(261) Sections 904.6, 904.61, 904.7, 904.71, 904.72, 904.73 and 904.74 are deleted.

(262) Section 905.61 and 905.62 are deleted.

(263) Section 1000.0 is amended to read:

SECTION 1000.0. SCOPE

The provisions of this article shall control the design and construction of all chimneys and gas vents hereafter erected or altered in all buildings and structures.

(264) Section 1000.1 is amended to read:

1000.1. Other Standards.--Unless otherwise specifically provided herein, conformity to the applicable standards for chimney construction and gas vents listed in appendix B shall be deemed to meet the requirements of the Basic Code.

(265) Section 1000.2 is amended to read:

1000.2. Minor Repairs.--Minor repairs for the purpose of maintenance and upkeep which do not increase the capacity of heating apparatus or appliances or which do not involve structural changes in the permanent chimney and gas vents of a building may be made without a permit.

(266) Section 1001.0 is amended to read:

SECTION 1001.0. DEFINITIONS

chimney. A primarily vertical enclosure containing one or more passageways. (See section 1005.0)

--factory-built chimneys. A chimney that is factory-made, listed by an accredited authoritative testing agency, for venting gas appliances, gas incinerators, and solid or liquid fuel burning appliances.

--masonry chimney. A field constructed chimney built in accordance with nationally recognized code or standards.

--metal chimney. A chimney made of metal of adequate thickness, (see section 1009.0) galvanized or painted unless suitably corrosion-resistant, properly welded or riveted and built in accordance with nationally recognized codes or standards.

chimney connector. A pipe or breaching which connects the heating appliance to the chimney.

draft hood. A device placed in and made part of the vent connector from an appliance, or in the appliance itself, which is designed to (1) insure the ready escape of the products of combustion in the event of no draft, back-draft or stoppage beyond the draft hood; (2) prevent a back-draft from entering the appliances; (3) neutralize the effect of stack action of the chimney flue upon the operations of the appliance.

draft regulator. A device which functions to maintain a desired draft in the appliance by automatically reducing the draft to the desired value.

duct. A tube, pipe, conduit or continuous enclosed passageway used for the conveying of air, gases or vapors.

flexible tubing. A gas conduit other than that formed by a continuous one-piece metal tube.

forced and induced draft fuel burning appliances. Fuel burning appliances listed as exhausting low temperature flue gases and listed for use with type L venting systems.

gas vents. Type B. Listed factory-made gas vents for venting listed or approved appliances, equipped to burn only gas, except those specifically listed for use with chimneys only.

gas vents. Type B-W. Listed factory-made gas vents for venting listed or approved gasfired vented recessed heaters.

gas vents. Type C. Vents constructed of sheet copper not less than No. 24 U.S. standard gage or galvanized steel of not less than No. 20 U.S. standard gage, or other approved noncombustible corrosion-resistant materials.

gas vents. Type L. Low-Temperature Venting Systems. A venting system consisting of listed factory made piping and fittings for use with fuel burning appliances listed as exhausting low temperature flue gases and approved for use with a type L venting system.

hood. A canopy or similar device connected to a duct for the removal of heat, fumes or gases.

metal chimney (smokestack) (See chimney)

vent. A passageway, vertical or nearly so, for removing vent gases to the outer air.

vent connector. (vent connector pipe.) That portion of the vent system which connects the gas appliance to the gas vent or chimney.

vent system. The gas vent or chimney and vent connector, if used, assembled to form a continuous unobstructed passageway from the gas appliance to the outside atmosphere for the purpose of removing vent gases.

(267) Section 1002.0 is amended to read:

SECTION 1002.0. PLANS AND SPECIFICATIONS

The structural plans and specifications shall describe in sufficient detail, the location, size and construction of all chimneys, gas vents and ducts and their connections to boilers, furnaces, gas appliances and fireplaces. The thickness and character of all insulation materials, clearances from walls, partitions and ceilings and proximity of heating devices and equipment to wall openings and exitways shall be clearly shown and described.

(268) Article 10 is amended by adding thereto new sections numbered 1002.1, 1002.11, and 1002.2 to read:

1002.1. Methods of Venting.--Chimney or gas vent systems shall be so engineered and constructed as to develop a positive flow adequate to remove all flue gases to the outside atmosphere.

1002.11. Gas Appliances.--All gas appliances required to be vented shall be connected to a gas vent or chimney except as provided in section 1011.34 and as provided in the standards listed in appendix B for special gas venting arrangements.

1002.2. Engineered Vent System.--The requirements specified in the following sections: 1003.0 through 1012.0 shall not necessarily govern where standard engineering methods have been used to design the chimney or vent system.

(269) Section 1003.0 is amended to read:

SECTION 1003.0. PERFORMANCE TEST AND ACCEPTANCE CRITERIA

The building official may require a test or tests of any chimney or gas vent to insure fire safety and the removal of smoke and products of combustion.

(270) Article 10 is amended by adding thereto new sections numbered 1003.1 and 1003.11 to read:

1003.1. Acceptance Criteria.--The system shall be accepted if the following three (3) conditions are fulfilled:

1. There shall be no continuous spillage at the draft hood when any one or combination of appliances connected to the system is in operation;
2. Temperature on adjacent combustible surfaces shall not be raised more than limits acceptable to accreditedauthoritative testing agency; and
3. Condensation shall not be developed in a way that would cause deterioration of the vent or drip from joints or bottom end of vent.

1003.11. Approved Installations.--Factory-built chimneys and gas vents which have been tested and approved by an accredited authoritative testing agency shall be accepted as complying with the requirements of item 2 of section 1003.1 when installed in accordance with their specified clearances.

(271) Section 1004.0 is amended to read:

SECTION 1004.0. KINDS OF CHIMNEYS

Chimneys as used in this article shall be classified as:
1. Factory-built chimney.
2. Masonry chimneys.
3. Metal chimneys (smokestacks).

(272) Sections 1004.1, 1004.2 and 1004.3 are deleted.

(273) Section 1005.0 is amended to read:

SECTION 1005.0. APPLIANCES REQUIRING CHIMNEYS

All heating appliances, except electric and gas-fired appliances specifically exempted by the provisions of section 1011, shall be connected to chimneys which conform to the provisions of this article. Chimneys shall be used for venting the following types of appliances:

1. Incinerators, except as noted in section 1005.1;
2. Appliances which may be converted readily to use solid or liquid fuels;
3. Combination gas-oil burning appliances;
4. Appliances listed for use with chimneys only;
5. Oil-fired appliances and equipment except as exempted in section 1011.

(274) Section 1005.1 is amended to read:

1005.1. Exception.--Metal pipe not less than No. 20 U.S. standard gage galvanized steel or other equivalent noncombustible corrosion-resistant material may be used for venting incinerators installed in locations such as open sheds, breezeways, or carports, provided the metal pipe is exposed and readily examinable for its full length and suitable clearances are maintained.

(275) Sections 1005.11 through 1005.93 are deleted.

(276) Section 1006.3 is amended to read:

1006.3. Notice to Adjoining Owner.--It shall be the duty of the owner of the building which is erected, enlarged or increased in height to notify in writing the owner of the existing chimneys and flues affected, at least ten (10) days before starting such work. In the event that the owner so notified does not consent within ten (10) days of receipt of such notices to the required changes to his chimneys, flues or vents, the owner of the building being erected, enlarged or increased in height shall be relieved of any responsibility for said chimneys, flues or vents. The owner of the chimneys, flues or vents shall in such case be solely responsible for such changes as are required by the provision of this section.

(277) Sections 1007.0 and 1007.1 are amended to read:

SECTION 1007.0. FACTORY-BUILT CHIMNEYS

1007.1. Factory-built Chimneys.--Factory-built chimneys that have been tested and approved by an accredited authoritative agency shall be installed in accordance with the clearance and details of their approval and the manufacturer's instructions.

(278) Article 10 is amended by adding thereto new sections numbered 1007.11 and 1007.12 to read:

1007.11. Access for Inspection.--Access shall be provided to allow periodic inspection of factory-built chimneys.

1007.12. Protection.--Where factory-built chimneys pass through spaces used for any other purpose, the chimney shall be protected from physical abuse and clearances maintained from combustible materials by a substantial noncombustible enclosure. Access shall be provided as required by section 1007.11.

(279) Sections 1007.2 through 1007.6 are deleted.

(280) Article 10 is amended by deleting therefrom the present sections numbered 1008.0, 1008.1 and 1008.2, and inserting in their place and stead the following sections:

SECTION 1008.0. MASONRY CHIMNEY

1008.1. Classification.--For the purpose of determining the requirements, chimneys shall be classified according to the following sections:

1008.11. Low Temperature.--Chimneys constructed to safely remove products of combustion having a temperature not more than one thousand (1000) degrees F., and for use only with residential heating appliances, low temperature heat producing appliances and low-heat industrial appliances, shall be classified as low temperature chimneys.

1008.12. Medium Temperature.--Chimneys constructed to safely remove products of combustion having a temperature not more than two thousand (2000) degrees F., and for use with medium-heat or low-heat industrial appliances, shall be classified as medium temperature chimneys.

1008.13. High Temperature.--Chimneys constructed to safely remove products of combustion having temperatures above two thousand (2000) degrees F., and for use with high-heat, or other industrial appliances, shall be classified as high temperature chimneys.

1008.2. Masonry Chimney Construction.

1008.21. Masonry Chimneys.--Masonry chimneys for solid and liquid fuel-fired equipment and appliances shall be constructed of masonry, reinforced concrete, or other approved noncumbustible materials; and may be enclosed within a structure without constituting a component part thereof. In every case a chimney shall be wholly supported on fireresistive construction or on approved foundations complying with article 7 and shall not be designed to support any direct load other than its own weight.

1008.3. Low Temperature Chimneys.

1008.31. Solid Masonry.--When constructed of solid masonry, the walls shall not be less than eight (8) inches thick, except as herein provided in dwellings and small business buildings.

1008.32. Reinforced Concrete.--When constructed of reinforced concrete the walls shall be not less than six (6) inches thick, except as provided for dwellings.

1008.33. Dwellings.--In residential buildings (use groups L-2 and L-3), the walls of a chimney in which the area of the flue is not more than two hundred (200) square inches may be of solid masonry or reinforced concrete not less than four (4) inches thick when provided with a fire clay lining.

1008.34. Lining.--Low temperature masonry chimneys with less than eight (8) inch walls shall be lined with an approved flue lining that conforms to the requirements of this section and the outside face of interior walls shall be smoothly parged or stuccoed so as to be gas tight, or the flue walls within the building shall be eight (8) inches thick.

1008.35. Flue Lining Materials.--Flue linings shall be made of fire clay or other approved refractory materials other than shale, capable of withstanding the action of flue gases and of resisting the temperatures to which they are subjected but not less than two thousand (2000) degrees F. without softening or cracking. The thickness of the shell of flue linings shall be not less than five eighth (5/8) inches.

1008.36. Flue Lining Construction.--Flue linings shall be constructed in advance of the chimney and shall start from a point not less than eighteen (18) inches below the inlet of the smokepipe or throat of a fireplace. The lining shall be constructed as nearly vertical as possible and shall extend not less than four (4) inches above the top or cap of the flue.

1008.4. Medium Temperature Chimneys.

1008.41. Solid Masonry.--When constructed of solid masonry, the walls shall be not less than eight (8) inches thick and shall be lined as provided in this section.

1008.42. Reinforced Concrete.--When constructed of reinforced concrete, the walls shall be not less than six (6) inches thick with approved lining.

1008.43. Lining.--Medium temperature masonry chimneys shall be lined with not less than four and one-half (4 1/2) inches of fire brick laid up in fire clay mortar from at least two (2) feet below to not less than twenty-five (25) feet above inlet opening to the chimney; or the walls shall be of double-wall construction with an intervening air space of not less than two (2) inches.

1008.5. High Temperature Chimneys.--All high temperature masonry chimneys shall be built with double masonry or double reinforced concrete walls, each of the same thickness required for medium temperature chimneys, with an intervening air space of not less than two (2) inches; or of a single wall with an interior metal chimney and intervening air space. The inside face of the interior wall of double-wall construction shall be of fire brick at least four and one-half (4 1/2) inches thick laid in fire clay or approved high temperature cement mortar; and the interior metal chimney shall be lined as specified in section 1009.5.

1008.6. General Requirements.

1008.61. Chimney Height.--All chimneys shall extend at least three (3) feet above the adjacent roof, and at least two (2) feet above any roof ridge within ten (10) feet thereof. If the height above the roof is more than four (4) times the minimum dimension, the chimney shall be braced and anchored to the roof framing.

1008.62. Chimney Caps.--All masonry chimneys shall be capped with concrete, terra cotta tile or other approved noncombustible weather-proof material; or a sloped wash shall be provided from the outside of the chimney to the projecting lining specified in section 1008.36.

1008.63. Chimney Supports.--All masonry chimneys shall rest on a foundation located on permanently undisturbed soil or shall be supported on fireresistive construction; and no such chimney shall rest on or be hung or otherwise supported from combustible floor or wall construction except as provided in section 1007.0. No masonry chimney shall be corbeled from hollow or cavity wall construction, nor from a wall built to hollow masonry units; and the corbeling of chimneys shall conform to the requirements of section 839.1. Masonry chimneys erected outside of frame dwellings shall be anchored to the stud walls at each floor level or at vertical intervals of not more than ten (10) feet.

1008.64. Clearances.--Combustible framing shall be trimmed away from all flues and chimneys, and no combustible material shall be placed within two (2) inches of any chimney, nor within six (6) inches of any inlet opening to such chimney. Finished flooring shall have not less than one-half (1/2) inch clearance from the chimney walls.

1008 65 Size.--The passageway within the chimney shall be ascertained to be open to the exterior and shall be of adequate size to remove all the products of combustion of the appliances attached thereto.

1008.66. Thickness and Shape.--For chimneys larger than one hundred and twenty (120) square inches, except as specified in section 1008.33, the walls shall not be less than eight (8) inches thick in any case. No change in the size or shape of a chimney shall be made within six (6) inches of the roof framing through which it passes.

(281) Section 1009.0 is amended to read:

SECTION 1009.0. METAL CHIMNEYS

(282) Section 1009.11 is amended by deleting the word "smokestacks" from the title and body of the section and inserting in its place and stead the words "metal chimneys."

(283) Section 1009.12 is amended by deleting the word "smokestacks" from the title and inserting in its place and stead the words "metal chimneys"; and by substituting the word "chimneys" for "smokestacks" in the body of the section.

(284) Section 1009.2 is amended by deleting therefrom the word "smokestacks" and inserting in its place and stead the word "chimneys"; and by deleting the word "stacks" and inserting in its place and stead the words "metal chimneys."

(285) Section 1009.3 is amended to read:

1009.3. Opening.--A cleanout shall be provided at the base of every metal chimney.

(286) Section 1009.4 is amended by deleting therefrom the words "smokestack" and "smokestacks" and inserting in their place and stead the words "metal chimney" and "metal chimneys."

(287) Section 1009.5 is amended to read:

1009.5. Lining.--Metal chimneys shall be lined to a height at least twenty-five (25) feet above the smoke pipe entrance as required in sections 1009.51, 1009.52 and 1009.53.

(288) Article 10 is amended by adding thereto new sections numbered 1009.51, 1009.52 and 1009.53 to read:

1009.51. Low temperature chimneys.--Low temperature chimneys which are enclosed or are in the interior of a structure shall be lined with a minimum of two and one-quarter (2 1/4) inch fire brick or one and one-half (1 1/2) inch castable refractory material complying with ASTM designation C 213-66.

1009.52. Medium temperature chimneys.--Metal chimneys used for removal of medium temperature combustion gases shall be lined with two and one-half (2 1/2) inches of castable refractory material complying with ASTM C 213-66 or four and one-half (4 1/2) inches of fire brick.

1009.53. High temperature chimneys.--Metal chimneys used for the removal of high temperature combustion gases shall be lined with a minimum of three (3) inches of castable refractory material complying with ASTM C 213-66 or four and one-half (4 1/2) inches of fire brick.

(289) Section 1009.6 is amending by deleting the word "Smokestack" from the title and inserting in its place and stead the words "Metal Chimney", and by deleting the word "smokestacks" from the body of the section and inserting in its place and stead the word "chimneys."

(290) Section 1009.7 is amended by changing the title to read "Metal Chimney Clearances" and by deleting the word "smokestack" and inserting in its place and stead the word "chimney."

(291) Section 1009.8 is amended by deleting the word "Smokestack" in the title of the section and inserting in its place and stead the words "Metal Chimney"; and by deleting the words "stack" and "smokestack" in the body of the section and inserting in their place and stead the words "metal chimney."

(292) Section 1009.9 is amended to read:

1009.9. Prohibited Location.--No interior metal chimney shall be carried up inside a ventilating duct unless such ducts are constructed as required by this article for metal chimneys; and only when such duct is used solely for venting the room or space in which the appliance served by the metal chimney is located. Metal chimneys shall not be installed in air supply ducts.

(293) Sections 1010.0 through 1010.8 are deleted and the following sections are inserted in their place and stead:

SECTION 1010.0. CHIMNEY CONNECTOR (SMOKEPIPES)

The chimney connector from every heating appliance, except for vent connectors from gas-fired appliances, shall connect to a chimney conforming to the provision of article 10.

1010.1. Chimney Connectors.--Chimney connectors shall be constructed of galvanized iron, or other approved noncombustible, corrosion-resistive materials having a melt point of not less than two thousand (2000) degrees F. No tile pipe shall be used as a chimney connector.

1010.2. Thickness of Metal.--The minimum thickness of metal for chimney connectors shall comply with the requirements of section 1019 for vent construction.

1010.3. Length of Chimney Connector.--All chimney connectors shall be as short and as straight as possible consistent with their use and the required draft conditions. No chimney connector shall pass through a floor or ceiling construction.

1010.4. Chimney Connection.--In entering a passageway in a masonry or metal chimney, the chimney connector shall be installed above the extreme bottom to avoid stoppage. Means shall be employed which will prevent the chimney connector from entering so far as to restrict the space between its end and the opposite wall of the chimney. The chimney connector shall be firmly attached or inserted into a thimble or slip joint to prevent it from falling out. All connections shall fit tightly. Chimney connections to any one passageway shall be limited to one floor, except as provided in section 1002.2.

1010.5. Number of Chimney Connectors.--Two (2) or more chimney connectors may be joined to a single connection provided that the chimney connectors are on one floor level and the passageway is of sufficient size to serve all of the appliances thus connected.

1010.6. Chimney Connector Clearances.

1010.61. From Combustible Construction--Unless a chimney connector is covered on the exterior with at least one (1) inch of approved insulating noncombustible material, the following clearances shall be maintained from all combustible material or construction:

Diameter Inches	Clearance Inches
0 - 12	12
12 - 36	20
More than 36	36

1010.62. Reduced Clearances.--The clearances specified herein may be reduced one-half (1/2) when an approved metal or other approved noncombustible enclosing shell is installed so as to provide a continuous one (1) inch ventilated air space around the chimney connector with access openings for inspecting purposes; or the exposed combustible construction shall be protected with metal or other noncombustible material as provided in section 1114. In no case shall the chimney connector of a medium or high heat appliance pass through any wall or partition of combustible construction.

1010.7. Low Heat Chimney Connector Clearance.--Chimney connectors from a low heat appliance may pass through combustible walls or partitions when protected at a point of passage by approved thimbles, firestopped with noncombustible material; or when such partition is constructed to afford a fireresistance of not less than three-quarter (3/4) hours for a distance corresponding to the required clearance in section 1010.6 with noncombustible materials.

1010.8. Connections to Incinerator Chimney.--The chimney connector of a heating appliance shall not be connected to the flue of an incinerator which has a rubbish chute identical with the flue.

(294) Sections 1011.0 through 1011.6 are deleted and the following sections are inserted in their place and stead:

SECTION 1011.0. VENT SYSTEMS

For the purpose of determining vent requirements gas-fired and oil-fired appliances shall be classified as "listed" or "unlisted." A listed appliance is one that is shown in a list published by an accredited authoritative testing agency, qualified and equipped for experimental testing of such appliances, and maintaining an adequate periodic inspection of current production of listed models and whose listing states either that the appliance or accessory complies with nationally recognized safety requirments or has been tested and found safe for use in a specific manner. Compliance may be determined by the presence on the appliance or accessory of a label of the testing agency stating that the appliance or accessory complies with nationally recognized safety requirements. An unlisted appliance or accessory is one that is not shown on such a list or does not bear such a label. In cases where no applicable standard has been developed for a given class of appliance or accessory, approval of the authority having jurisdiction should be obtained before the appliance or accessory is installed.

1011.1. Appliances Required to be Vented.--Appliances of the following types shall be connected to a listed venting system or provided with other means for exhausting the flue gases to the outside atmosphere:

1 - Central heating appliances, including steam and hot water boilers, warm air furnaces, floor furnaces, and vented recessed heaters;
2 - Duct furnaces and self-contained unit heaters;
3 - Gas incinerators;
4 - All water heaters;

5 - Built-in domestic cooking units listed and marked as vented units;
6 - Room heaters listed for vented use only as required in section 1011.2;
7 - Appliances equipped with gas conversion burners;
8 - Appliances which have draft hoods supplied by the appliance manufacturer, except room heaters not required by section 1011.2 to be vented;
9 - Unlisted appliances.

1011.2. Exemption.--Connections to vent systems shall not be required for electric, gas and industrial appliances of such size or character that the absence of such connection does not constitute a hazard to the fire safety of the building or its occupants. The following appliances are not required to be vented:

1 - Listed gas ranges;
2 - Built-in domestic cooking units listed and marked as unvented units;
3 - Listed hot plates and listed laundry stoves;
4 - Listed domestic clothes dryers;
5 - Listed gas refrigerators;
6 - Counter appliances;
7 - Room heaters listed for unvented use;
8 - Other appliances listed for unvented use and not provided with flue collars;
9 - Specialized equipment of limited input such as laboratory burners or gas lights.

When any or all of the appliances listed in items 5, 6, 7 and 8 above are installed so that the aggregate input rating exceeds thirty (30) B.T.U. per hour per cubic foot of room or space in which they are installed, one or more of them shall be vent connected or provided with approved means for exhausting the vent gases to the outside atmosphere so that the aggregate input rating of the remaining unvented appliances does not exceed thirty (30) B.T.U. per hour per cubic foot of room or space in which they are installed. Where the room or space in which they are installed is directly connected to another room or space by a doorway, arch, or other opening of comparable size, which cannot be closed, the volume of such adjacent room or space may be included in the calculations.

1011.3. Gas Vents.--Subject to specific approval of the Smoke and Boiler Inspector the following types of vents may be used to vent listed gas appliances. All such vents shall be protected from physical abuse and required clearances from combustibles be maintained by an incombustible enclosure and easy access shall be provided for inspection.

1011.31. Type B Gas Vents.--Type B gas vents may be used to vent listed gas appliances except as provided in sections 1005.0, 1011.32 and 1012.6; and they shall be installed in accordance with their listings and the manufacturer's instructions.

1011.32. Type B-W Vents.--Type B-W gas vents shall be used with listed vented recessed heaters; and they shall be installed in accordance with their listings and the manufacturer's instructions.

1011.33. Type C Vents.--Type C gas vents may be used to vent listed gas appliances except as provided in section 1005.0, and shall be constructed of not less than No. 24 U.S. gage sheet copper, or No. 20 U.S. gage galvanized steel or of other approved noncombustible corrosion-resistive material of equivalent strength and durability. Type C vents may pass directly through the roof or exterior wall to outer air; but shall not pass through any attic or other concealed space nor through any intermediate floor construction.

1011.34. Type L Low-temperature Venting Systems.--Type L low-temperature venting systems shall be used only with fuel burning appliances listed as exhausting low-temperature flue gases and listed for use with Type L low-temperature venting systems. Type L low-temperature venting systems shall be installed in accordance with the terms of their listing and manufacturer's instructions.

1011.35. Ventilating Hoods.--Ventilating hoods and exhaust systems may be used to vent commercial appliances.

1011.36. Chimneys.--Chimneys shall be constructed in accordance with the requirement of article 10.

1011.37. Existing Chimneys.--Where an existing masonry chimney is unlined and where local experience indicates that vent gas condensate will be a problem, an approved liner or another vent shall be installed. Where inspection reveals that an existing chimney is not safe for the intended application, it shall be rebuilt to conform to the requirement of this code, or relined with a suitable liner or replaced with a gas vent or chimney suitable for the appliances to be attached.

1011.38. Cleanouts.--Cleanouts shall be of such construction that they will remain tightly closed when not in use. Tee fittings used as cleanouts or condensate drains shall have tight fitting caps to prevent entrance of air into the chimney or gas vent at that point.

1011.39. Gas Appliances Connected to Chimneys.--An automatically controlled gas appliance connected to a chimney which also serves equipment for the combustion of solid or liquid fuel shall be equipped with an automatic pilot. A gas appliance vent connector and a chimney connector from an appliance burning another fuel may be connected into the same chimney through separate openings, or may be connected through a single opening if joined by a suitable fitting located as close as practical to the chimney. If two (2) or more openings are provided into one (1) chimney they should be at different levels.

1011.4. Installation Requirements.

1011.41. Size of Vents.--The gas vent or chimney when connected to a single applicance shall not be less than the size of the draft hood outlet.

When more than one appliance is connected to a gas vent or chimney, the area shall be not less than the area of the largest vent connector plus fifty (50) percent of the areas of additional vent connectors.

In lieu of the above, the gas vent or chimney may be sized in accordance with section 1002.2.

Any shape gas vent may be used provided its venting capacity is equal to the capacity of round pipe for which it is substituted and the minimum internal dimension of the gas vent is not less than two (2) inches.

1011.42. Gas Vent Termination.--The gas vent or chimney shall extend high enough above the building or other neighboring obstruction so that wind from any direction will not create a positive pressure in the vicinity of the gas vent or chimney termination. Except as provided in section 1008.61, gas vents or chimneys shall extend at least two (2) feet above the highest point where they pass through a roof of a building and at least two (2) feet higher than any portion of a building within ten (10) feet; provided the following conditions are met:

1 - No gas vent or chimney shall terminate less than four (4) feet in vertical height above the highest connected appliance draft hood outlet or flue collar;
2 - No type B-W gas vent serving a vented recessed heater shall terminate less than twelve (12) feet in vertical height above the bottom of the heaters.

1011.43. Exception.--A listed gas vent equipped with a listed or approved top may be terminated below the peak of a pitched roof in accordance with the terms of the listing or approval.

1011.44. Top Assembly.--Gas vents and factory-built chimneys shall extend above the roof surface and through the flashing and shall terminate in a top or roof assembly with a venting capacity not less than that of the vent. The top shall prevent rain and debris from entering the vent.

1011.45. Support of Gas Vents.--All portions of gas vents and chimneys shall be adequately supported for weight and design of material employed. Listed gas vents and factory-built chimneys shall be supported and spaced in accordance with their listings and manufacturer's instructions and section 1007, 1008 and 1009.

1011.46. Gas Vents Serving More Than One Appliance.--Where two (2) or more vent connectors enter a common vertical gas vent or chimney, the smaller connector should enter at the highest level consistent with available headroom or clearance to combustible material. Two (2) or more gas appliances may be vented through a common vent connector or manifold located at the highest level consistent with available headroom or clearance to combustible material. The manifold, all junction fitting, and the common vent connector shall be of a size adequate for the combined volume of the vent gases.

1011.47. Outside Gas Vents.

1011.48. Materials.--Outside gas vents and chimneys shall not be used in exposed locations except when permitted by the building official. Whe they are permitted to be used, the material shall possess high insulatio qualities or be adequately insulated.

1011.49. Condensate Drain.--Where local experience with gas vent materials indicates that the condensate may be a problem, a capped tee and drain pipe shall be installed at the base of the riser to drain off condensate.

1011.5. Prohibited Installations.

1011.51. Prohibited Termination.--Natural draft vents extending through outside walls shall not terminate below eaves adjacent to such walls or parapets.

(295) Sections 1012.0 through 1012.7 are deleted and the following sections are inserted in their place and stead:

SECTION 1012.0. VENT CONNECTORS

1012.1. Construction.--Vent connectors used for conversion burners without draft hoods, incinerators and unlisted appliances shall be constructed of materials having resistance to corrosion and heat not less than that of No. 24 U.S. standard gage galvanized steel.

Vent connectors used for listed gas appliance having draft hoods and for listed conversion burners having draft hood, shall be constructed of listed type B gas vent material or materials having resistance to corrosion and heat not less than that of No. 26 U.S. standard gage galvanized steel.

1012.2. Length and Pitch.--The vent connector between the appliance and the vertical gas vent or chimney shall have the greatest possible initial rise consistent with the headroom available in the appliance area, and required clearance to combustible material.

The horizontal run of the vent connector shall be as short as possible and have a minimum pitch of one-quarter (1/4) inch per foot. The appliance shall be located as near the gas vent or chimney as possible. The maximum length of an uninsulated horizontal run of vent connector shall not exceed seventy-five (75) percent of the height of the gas vent or chimney nor fifty (50) times the diameter of the vent connector.

1012.3. Clearances.--Minimum clearances at vent connectors to combustible materials shall comply with applicable provisions of section 1012 but shall not be less than the following:

VENT CONNECTOR CLEARANCES FOR GAS APPLIANCES

Appliance	Minimum Distances from Combustible Materials	
	Listed Type B Gas Vent Material	Vent Connectors of other than Type B Materials
Listed Boiler	As listed	6 inches
Listed Warm Air Furnace	As listed	6 inches
Listed Water Heater	As listed	6 inches
Listed Room Heater	As listed	6 inches
Listed Floor Furnace	As listed	6 inches
Listed Incinerator	Not permitted	18 inches
Listed Conversion Burner (with draft hood)	6 inches	9 inches
Unlisted Appliances having draft hoods	6 inches	9 inches
Unlisted Appliances without draft hoods	Not permitted	18 inches

1012.4. Reduced Clearances.--The clearances specified in section 1012.3 may be reduced when the combustible construction is protected as herein provided:

Type of Protection	Reduced Clearance
1/4-inch asbestos millboard with 1-inch noncombustible furring.	6 inches reduced to 3 inches 9 inches reduced to 6 inches 18 inches reduced to 12 inches
No. 28 U.S. gage metal on 1/4-inch asbestos millboard spaced out with noncombustible spacers.	6 inches reduced to 2 inches 9 inches reduced to 4 inches 18 inches reduced to 12 inches
No. 28 U.S. gage sheet metal spaced out 1-inch with noncombustible spacers.	6 inches reduced to 2 inches 9 inches reduced to 4 inches 18 inches reduced to 9 inches

1012.5. Size of Connectors.--The vent connector shall be not smaller than the size of the flue collar of the draft hood outlet of the gas-fired equipment. Where the appliance has more than one draft hood outlet, and in the absence of the manufacturer's specific instructions, the vent connector shall equal the combined area of the draft hood outlets for which it acts as a common connector to the gas vent or chimney.

In lieu of the above, vent connectors may be sized in accordance with section 1002.2.

1012.6. Labeling Gas Vents.--Gas vent systems installed and approved for use with gas appliances, but which are not suitable for solid or liquid fuel-fired equipment shall be plainly and permanently labeled to that effect. They shall be plainly and permanently identified by a label reading.

"This gas vent is for appliances which burn gas only. Do not connect to incinerator or solid or liquid fuel burning appliance."

This label shall be attached to the wall or ceiling at a point near where the gas vent system enters the wall, ceiling or chimney.

1012.7. Special Venting Arrangements.

1012.71. Appliances with Sealed Combustion Chambers.--The provisions of draft hoods as shown in article 10, do not apply to listed appliances having sealed combustion chambers and which are so constructed and installed that all air for combustion is derived from outside the space being heated and all flue gases are discharged to the outside atmosphere. Such appliances, having integral venting, shall be considered as being properly vented when they are installed in accordance with their listings and the manufacturer's instructions.

1012.72. Gas Vent and Chimney Exhausters.--Gas vent and chimney exhausters may be used with gas appliances in lieu of natural draft vents, except for incinerators. Where an exhauster is used with gas

appliances requiring venting, provisions shall be made to prevent the flow of gas to the main burner in the event of failure of the exhaust system. A vent connector serving a gas appliance vented by natural draft shall not be connected into the discharge side of a power exhauster.

1012.73. Ventilating Hoods and Exhaust Systems.--Ventilating hoods and exhaust systems may be used to vent gas appliances installed in commercial applications. When automatically operated appliances, such as water heaters, are vented through natural draft ventilating hoods, dampers shall not be installed in the ventilating system. When the ventilating hood or exhaust system is equipped with power means of exhaust, the appliance control system shall be so interlocked as to permit appliance operation only when the power means of exhaust is in operation. When required or used, ventilating hoods shall be built and installed in accordance with section 1127.1.

(296) Section 1013.2 is amended to read:

1013.2. Hearth. Every fireplace shall be constructed with a hearth of brick, stone, tile or other noncombustible material. For fireplaces with an opening of less than six (6) square feet the hearth shall extend not less than sixteen (16) inches in front and not less than eight (8) inches on each side of the fireplace opening. For fireplaces with an opening of six (6) square feet or more the hearth shall extend not less than twenty (20) inches in front and not less than twelve (12) inches on each side of the fireplace opening. Such hearths shall be supported on trimmer arches of brick, stone, tile or concrete not less than four (4) inches thick, or other equally strong and fireresistive materials. All combustible forms or centering shall be removed after completion of the supporting construction.

(297) Sections 1105.0 through 1105.3 are deleted.

(298) Section 1113.0 is amended by adding thereto the following clause:

"and in any case adequate access shall be provided to any part of an appliance which requires periodic service, adjustment or inspection."

(299) Section 1114.5 is deleted.

(300) Section 1115.0 is amended to read:

SECTION 1115.0. BOILER AND HEATER EQUIPMENT ROOMS

(301) Section 1115.1 is amended by adding thereto the words "or warm air furnaces."

(302) Section 1115.5 is amended by deleting therefrom the word "water" in the fourth line and inserting in its place and stead the word "air".

(303) Section 1119.1 is amended by changing the table numbers referred to therein to read 18 and 19 in lieu of 17 and 18.

(304) Article 11 is amended by adding thereto a new section numbered 1123.5 to read:

1123.5. Room Heaters.--The installation or use of unlisted electric room heaters is prohibited. The installation or use of unlisted or unvented gas, oil or other fuel burning room heaters is prohibited.

(305) Article 11 is amended by adding thereto a new section numbered 1129.5 to read:

1129.5. Gas Service Lines and Meters.--Outside shut-off valves shall be installed on gas service lines as follows:

1.-On all service lines operating at a pressure greater than ten (10) psig;

2.-On all service lines two (2) inches or larger in diameter;

3.-On gas service lines to any building, except on service lines to those buildings classified as use groups L-2 and L-3 structures and on gas service lines to private garages, provided that outside shut-off valves shall be installed on gas service lines to multiple family dwellings containing more than four (4) dwelling units.

Where the outside shut-off valve is underground, it shall be located in a durable box at or near the property line and shall be equipped with an extension bar permitting ready access to the valve stem from the surface. The box shall not be dependent upon the gas service line for support. Keys for shutting off the shut-off valve shall be supplied to the fire department by the utility supplying the gas. The top of the box shall be at ground level except that "highhead type" valve boxes may be used providing they are set back from the property line and located in such a manner as not to constitute a hazard to either pedestrian or vehicular traffic. All such valve boxes shall be plainly labeled "GAS" and the owner of the building shall be responsible for keeping them accessible to the fire department at all times.

(306) Section 1135.0 is amended to read:

SECTION 1135.0. FLUE-FED AND NON-FUEL-FIRED INCINERATORS

The installation of flue-fed and non-fuel-fired incinerators (class 2 as defined by Incinerator Standards of Incinerator Institute of America) shall be prohibited.

(307) Section 1135.1 is amended to read:

1135.1. Existing Installations.--The use of existing flue-fed or non-fuel-fired incinerators which are operating satisfactorily, and are not hazardous to the occupants of the building in which they are located may be continued. Installations which meet the following conditions shall be deemed to satisfy these requirements.

a. The flue shall not discharge smoke or other air pollutants in excess of that permitted by Chapter 31 of the City Code.

b. The incinerator shall be equipped and operated in a manner which will not permit the origin of a fire in the flue.

c. The installation shall not under any circumstances allow smoke or combustion gases to leak into corridors or exit ways.

(308) Section 1136.0 is amended to read:

SECTION 1136.0. FUEL-FIRED INCINERATORS

Incinerators.--All incinerators not covered by the provisions of Section 1135.0 shall conform to the requirements of the standards listed in Appendix B for incinerator design and the provisions of this section.

(309) Article 11 is amended by adding thereto a new section numbered 1136.14 to read:

1136.14. Fly Ash Collectors Required.--All incinerators having a rated capacity in excess of one hundred (100) pounds shall be equipped with a fly ash collector.

(310) Article 11 is amended by adding thereto a new section numbered 1136.6 to read:

1136.6. Scrubbers Required.--All incinerators having a rated capacity in excess of one hundred (100) pounds shall be equipped with a water washer or scrubber designed to remove pollutants in wet form from the products of combustion.

(311) Sections 1137.0, 1137.1 and 1137.2 are deleted.

(312) Section 1138.1 is amended by adding thereto the following sentence:

"The room or bin shall be protected by automatic sprinkler heads which may be connected to the domestic water supply."

(313) Article 11 is amended by adding thereto new sections numbered 1138.6, 1138.7 and 1138.8 to read:

1138.6. Chute Construction.--All refuse chutes must be constructed of stainless steel or equivalent corrosion resistant metal. The thickness shall not be less than eighteen (18) ga. for chutes less than twenty (20) inches in diameter for a maximum of sixteen (16) inches in any dimension in the case of rectangular shapes, or not less than sixteen (16) ga. for all chutes over these dimensions. All joints must be rolled; crimped joints are not permitted. All joints and seams must be substantially water tight. No offsets shall be permitted.

1138.7. Chute Doors.--Doors on chutes must be of the type mechanically linked with a fire damper which closes off the chute below when the door is opened.

1138.8. Sprinklers.--Automatic sprinkler heads shall be installed every third floor in all refuse chutes provided in every case there shall be at least one automatic sprinkler head above the highest service opening. Such sprinklers may be connected to the domestic water supply.

(314) Section 1200.3 is amended to read:

1200.3. Tests.--All required tests shall be conducted by and at the expense of the owner or his representative, unless otherwise directed by the Chief of the Fire Prevention Bureau.

(315) Section 1201.0 is amended by adding the following definition thereto:

administrative official. The Chief of the Fire Prevention Bureau of the City of Alexandria, Virginia.

(316) Section 1201.0 is further amended by changing the definition of "standpipe" therein to read:

standpipe. A wet or dry fire line installed exclusively for the fighting of fire, extending from the lowest to the topmost story of a building or structure with hose outlets at every floor equipped with reducing valves on wet standpipes only and designed to operate at required working pressures.

(317) Section 1207.0 is amended to read:

SECTION 1207.0. WET STANDPIPE REQUIRMENTS

Except as required herein and in Section 1209.0, all buildings and structures hereafter erected, other than one- and two-family dwellings (use group L-3) and all buildings heretofore erected which are not already equipped with two and one-half (2 1/2) inch or larger standpipes, shall comply with the provisions of this article.

(318) Section 1207.61 is amended to read:

1207.61. Height.--Standpipe fire lines shall extend from the lowest to the topmost story of the building or part of building which they serve.

(319) Section 1207.62 is amended by adding thereto the following sentence:

Each riser shall be equipped with an O.S. & Y. valve so as to permit individual risers to be taken out of service if damaged or broken without interrupting the water supply to other risers.

(320) Section 1207.63 is amended to read:

1207.63. Hose Connections.--Subject to the provisions of Section 1210.0, all standpipes shall be equipped in every story with a two and one-half (2 1/2) inch hose connection located as required by Section 1207.4 and shall also be equipped in every story with a one and one-half (1 1/2) inch connection located in a public space outside the exitway. Connections shall have valves and threads conforming to the Fire Department's standard, and located no more than five (5) feet above the floor.

(321) Section 1207.7 is amended to read:

1207.7. Hose.--Except as provided in Section 1210, standpipes located inside buildings and structures shall have not less than one hundred (100) feet of one and one-half (1 12/) inch diameter hose equipped with a one-half (1/2) inch nozzle and couplings conforming to the municipal fire department's standard at each outlet complying with section 1207.3 and hung in an approved rack or cabinet.

(322) Section 1207.8 is deleted.

(323) Section 1207.91 is amended to read:

1207.91. Location.--Every standpipe fireline shall be equipped with an approved siamese fire department inlet connection having check valves and automatic drip connection in each outlet. Construction shall be of approved corrosion resistive metal.

When not more than two (2) risers are installed, each riser shall be equipped with a siamese connection. When more than two risers are installed, the number of required additional siamese connections shall be determined by the Fire Marshal.

Siamese connections shall be placed not less than eighteen (18) inches nor more than thirty-six (36) inches above the level of the adjoining ground or sidewalk, and shall be in a location readily accessible to the fire department.

(324) Section 1208.0 is amended to read:

SECTION 1208.0. STANDPIPE WATER SUPPLIES

The source of water supply to wet standpipes shall be adequate to maintain a flow of two hundred (200) gallons per minute with not less than fifty (50) pounds per square inch pressure at the topmost outlet of the building or structure and shall conform to the minimum requirements of this section.

(325) Section 1208.4 is amended to read:

1208.4. Fire Pump Standpipe Supply.--All new buildings exceeding fifty (50) feet in height other than sprinklered buildings not over six (6) stories in height, shall be equipped with an automatic fire pump. The combined pump capacity shall be not less than five hundred (500) gallons per minute for a four (4) inch standpipe; seven hundred and fifty (750) gallons per minute for a six (6) inch standpipe or for two (2) four (4) inch standpipes; and not less than one thousand (1000) gallons per minute for an eight (8) inch standpipe or for two (2) six (6) inch standpipes. When pumps are not supplied from the street main, the source shall furnish sufficient water for full operation of the standpipe for not less than one hour.

(326) Section 1209.0 is amended to read:

SECTION 1209.0. DRY STANDPIPE FIRE LINES

In residential buildings and structures (use group L-1 and L-2) and business buildings (use group E) except where flammable materials, products or other hazardous conditions are present, dry type standpipes will be permitted.

(327) Section 1209.1 is amended to read:

1209.1. Size and Capacity of Dry Standpipes.--Dry standpipes shall conform with provisions of Section 1207.11 through 1207.14 inclusive, except they shall have a minimum diameter of four (4) inches and shall be capable of delivering two hundred and fifty (250) gallons of water per minute simultaneously from each of any three (3) outlets under the operation of one (1) fire engine or pumper; except that in existing installations, the administrative official may accept a smaller size when deemed adequate by him.

(328) Section 1209.2 is amended to read:

1209.2. Fire Department Connection for Dry Standpipes.--Siamese fire department connections shall comply with provisions of Section 1207.91 through 1207.95 inclusive.

There shall be a one (1) inch pipe connection from the domestic water supply which will keep the system full of water at all times to enable the detection of any mechanical defects which may develop. Two (2) check valves shall be provided in this pipeline.

(329) Section 1210.0 is amended to read:

SECTION 1210.0. FIRST-AID STANDPIPE FIRE LINES

First-aid standpipe fire lines for use of the occupants of a building or of the trained fire brigade shall comply with the provisions of this section. Such systems can be combined with the main standpipe fire lines by direct connection to the standpipe riser as provided in section 1207.62. First-aid standpipes are not required in buildings having dry standpipe systems.

(330) Section 1210.5 is amended to read:

1210.5. Institutional Buildings.--First-aid standpipes shall be provided in hospitals, asylums, places of detention and other institutional buildings (use groups H-1 and H-2).

(331) Section 1213.13 is amended to read:

1213.13. Public Garages.--A one-source system shall be provided in garages more than ten thousand (10,000) square feet in area or more than four (4) stories high used for the storage of trucks loaded with combustible materials, when of other than fireproof or protected non-combustible construction (type 1-A or 1-B) and (2-A or 2-B); and in all group 1 public garages as defined in section 415, located in buildings of which the upper stories are designed for other uses, when

such garages have a storage capacity of twenty (20) or more automobiles; except that when such buildings are more than seventy-five (75) feet in height, a two-source system shall be provided.

In group two (2) public garages, as defined in section 415, located in buildings of which their upper stories are designed for other uses, standpipe systems complying with sections 1207 and 1209 and 1210 shall be provided.

(332) Section 1213.16 is amended to read:

1213.16. Mercantile and Storage Buildings.--Except as provided herein, a one-source system shall be provided on all floors of mercantile and storage buildings (use groups B-1 and C) which are more than twenty thousand (20,000) square feet in area on any floor above or below the grade floor when of types 1-A, 1-B or 2-A construction or more than ten thousand (10,000) square feet in area when of types 2-B or 3-A construction, or more than seven thousand five hundred (7,500) when of types 2-C, 3-B or 3-C construction and more than six thousand (6,000) square feet when of type 4-A construction. This provision does not apply to buildings of one story without basement.

(333) Section 1213.17 is amended by deleting therefrom the word "highly" on line 2, and by deleting use groups "C and D" on line 3.

(334) Section 1219.21 is amended to read:

1219.21. Non-Coded Systems.-- Where there are less than five (5) stations required by section 1219.3 a straight non-coded alarm system is acceptable.

(335) Section 1219.22 is amended to read:

1219.22. Annunciator Systems.--Where five (5) or more stations are required by section 1219.3, all stations shall be connected to an annunciator panel located in a fire-protected space as close as possible to the main building entrance. Such panel, shall be designed to indidate which station has been pulled.

(336) Section 1219.32 is amended to read:

1219.32. Length of Travel--All stations shall oe located so that no point on any floor of the building is more than seventy-five (75) feet distant from the station, or as designated by the administrative officer having authority.

(337) Section 1307.1 is amended to read:

1307.1. Fences.--Every construction operation located less than fifteen (15) feet from the street lot line shall be separated therefrom by a substantial fence or barrier not less than six (6) feet high. Gates may be provided through such fence as are necessary but shall remain closed except when required for access and shall be constructed so as not to swing over the sidewalk or street. All areas outside the fence are to be kept clear of materials and debris.

(338) Section 1307.31 is amended to read:

1307.31. When Required.--Sidewalk sheds shall be provided when any building or structure more than twenty (20) feet in height is erected or demolished, except when such building or structure is set back from the street lot line a distance greater than thirty (30) feet or one-half the building height, whichever is less. Such shed shall be maintained for the entire time that work is performed on the exterior of the building except when the sidewalk affected is closed to pedestrian traffic by the Department of Traffic.

(339) Sections 1307.32 and 1307.33 are deleted.

(340) Section 1307.5 is deleted.

(341) Section 1308.14 is amended to read:

1308.14. Excavation Precautions and Approval Required.--No excavation shall be made for any purpose where material from the excavation is carried over the streets, sidewalks, alleys or other public property without first having obtained approval of both the Director of Public Works and Director of Traffic. The Director of Public Works and Director of Traffic are authorized to require that reasonable precautions be taken to safeguard public property and the general public. Such precautions may include but shall not be limited to the designation of entrances, exits, the route of travel, traffic control and the time of operation, and requiring a surety bond or other measures to prevent spillage of materials on public property.

Excavations made for the purpose of removing soil, earth, sand, gravel, rock or other material and not for construction purposes shall be performed in such a manner as will prevent injury to neighboring properties or public streets, sidewalks and alleys and safeguard the general public health and welfare.

(342) Section 1308.21 is amended by inserting in the blank on the second line the figures two and one-half (2 1/2).

(343) Section 1308.22 is amended by inserting the figures "2 1/2" in the blank appearing therein.

(344) Section 1311.3 is amended to read:

1311.3. Public Space.--No materials or equipment shall be stored on the street or other public space without a permit issued by the Department of Traffic. When the use of public space is authorized the space to be used shall be delineated by a fence or other substantial barrier at least six (6) feet high which may be in lieu of the enclosure required by section 1307.1. A fence or barrier shall be maintained as long as the space is used. A safe pedestrian walkway not less than four (4) feet wide and adequately lighted at night shall be maintained outside the enclosure unless sidewalks in the area are closed to pedestrians by the Department of Traffic.

(345) Section 1319.0 is deleted.

(346) Section 1320.0 is deleted.

(347) Section 1321.0 is deleted.

(348) Section 1322.0 is amended to read:

SECTION 1322.0. SANITATION

Every building in the course of demolition, erection of repair shall be provided with temporary toilet and drinking water facilities approved by the Health Department.

(349) Article 14 is deleted in its entirety, but any references in other articles and sections to Article 14 are to be governed by the appropriate sections of the City Code relating to signs.

(350) Article 15 is deleted in its entirety but any references in other articles and sections to Article 15 are to be governed by the appropriate sections of the City Code relating to electricity.

(351) Article 16 is amended to read:

Article 16

Elevator, Dumbwaiter and Conveyor Equipment, Installation and Maintenance

SECTION 1600.0. SCOPE

Except as may be otherwise provided by statute, the provisions of this article shall control the design, construction, installation, maintenance and operation of all elevators, dumbwaiters, moving stairways, moving walks and special hoisting and conveying equipment hereafter operated, installed, relocated or altered in all buildings and structures. The design, construction, installation, maintenance and operation of all miscellaneous hoisting and elevating equipment and amusement devices shall be subject to such special requirements as are deemed necessary by the building official to secure their safe operation. The provisions of this article shall not apply to portable elevating devices used to handle materials only and located and operated entirely within one story. All such equipment shall be constructed, operated and maintained in compliance with accepted engineering practice.

The construction, alteration, maintenance, operation, inspection and tests of manlifts shall be in conformity to the Safety Code for Manlifts listed in appendix B.

1600.1. Standard Code Adopted.--Except as otherwise provided in the Basic Code and except where more restrictive provisions govern, the construction, alteration, maintenance, operation, inspections and tests of elevators, dumbwaiters, moving walks and moving stairways shall be in conformity to the safety code for elevators, dumbwaiters and moving stairways listed in appendix B.

Section 204, Rules 204.1e, of American Standard Safety Code for Elevators, Dumbwaiters and Escalators, made a part of this Code by said appendix B, is amended by adding the following language to requirement number 3: "and shall be provided with electric contact switches to prevent the operation of the car when the panel is opened or removed."

Rule 204.2d, Section 204 of American Standard Safety Code for Elevators, Dumbwaiters and Escalators, made a part of this Code by appendix B, is deleted.

1600.2. Purpose and Exceptions. - The purpose of the Basic Code is to provide reasonable safety for life and limb. In case of practical difficulty or unnecessary hardship the building official may grant exceptions from the literal requirements or permit the use of other methods but only when it is clearly evident that reasonable safety is thereby secured.

SECTION 1601.0. DEFINITIONS

The following definitions, terms and their application, and the definitions of the accepted standard code for elevator installations and equipment which is supplementary hereto, shall be used and applied in the Basic Code.

amusement device. A device or structure open to the public by which persons are conveyed or moved in unusual manner for diversion.

elevator. A hoisting and lowering mechanism equipped with a car or platform which moves in guides for the transportation of individuals or freight in a substantially vertical direction through successive floors or levels of a building or structure.

-freight elevator. An elevator primarily used for carrying freight and on which only the operator and the persons necessary for loading and unloading and employees having special permission of the building official are permitted to ride.

-hand elevator. A freight elevator that is driven by manual power.

-hydraulic elevator. A power elevator in which the motion of the car is obtained through the application of energy from liquid under pressure.

-passenger elevator. An elevator for the transportation of individuals.

-power elevator. An elevator in which the motion of the car is obtained through the application of energy other than by hand or gravity.

-sidewalk elevator. A freight elevator which operates between a sidewalk or other area exterior to the building and floor levels inside the building below such area, which has no landing opening into the building at its upper limit of travel and which is not used to carry automobiles.

elevator repairs. All work necessary to maintain present elevator equipment in a safe and serviceable condition and to adjust or replace defective, broken or worn parts, with parts made of equivalent material, strength and design, and only where the replacing part performs the same function as the replaced part.

existing equipment. Any equipment covered by this article which was installed prior to the effective date of the Basic Code or for which an application for permit to install was filed with the building official prior thereto.

industrial lift. (material lift). A non-portable power operated raising or lowering device for transporting freight vertically, operating entirely within one (1) story of the building or structure.

loading ramp. A hinged, non-portable device, either mechanical or hydraulic, hand or power operated, used for spanning gaps or adjusting heights between loading surface and carrier or between loading surface and loading surface.

material platform hoist. (See section 1301.0.)

miscellaneous hoisting and elevating equipment. All power operated hoisting and elevating equipment for raising, lowering and moving persons or merchandise from one level to another such as inclined elevators, slings and hooks, tiering and piling machines not permanently located in a fixed position, mine elevators, skip hoists for blast furnaces, stage and orchestra lifts, lift-bridges and temporary builders' hoists and similar equipment.

moving stairway (escalator). A power driven, inclined, continuous stairway used for raising and lowering passengers.

moving walk. A type of passenger-carrying device on which passengers stand or walk, and in which the passenger-carrying surface remains parallel to its direction of motion and is uninterrupted.

special hoisting and conveying equipment. Manually or power-operated hoisting, lowering or conveying mechanisms, other than elevators, moving stairways or dumbwaiters for the transport of persons or freight in a vertical, inclined or horizontal direction on one floor or in successive floors.

-automotive lift. A fixed mechanical device for raising an entire motor vehicle above the floor level but not through successive floors of the building or structure.

-conveyors. A system of machinery and manual or mechanized devices other than elevator and dumbwaiter equipment consisting of belts, chains, rollers, buckets, aprons, slides and chutes and other miscellaneous equipment for hoisting, lowering and transporting materials and merchandise in packages or in bulk in any direction in a building or structure.

-manlifts. A power-operated belt device with steps and handholds for transporting persons in a vertical position through successive floors or levels of the building or structure.

-material lift. A power- operated rising or lowering device for transporting freight vertically, operating entirely within one (1) story of the building or structure.

SECTION 1602.0. PLANS, SPECIFICATIONS AND PERMITS

The person, firm or corporation responsible for the installation, relocation, or alteration of any equipment covered by this article shall file an application for permit with the building official accompanied by governing specifications and accurately scaled and fully dimensioned plans showing the location of the installation in relation to the plans and elevation of the building; the location of the machinery room and equipment to be installed, relocated or altered; and all structural supporting members thereof, including foundations; and shall specify all materials to be employed and all loads to be supported or conveyed. Such plans and specifications shall be sufficiently completed to illustrate all details of construction and design.

1602.1. Permits. - No equipment or device subject to the provisions of the Basic Code shall be constructed, installed, relocated or altered unless a permit has been received from the building official before the work is commenced. A copy of such permit shall be kept at the construction site at all times while the work is in progress.

1602.2. Identification of Equipment. - In buildings containing more than one elevator or device and where such devices are subject to periodic inspections, each such elevator or device shall be identified by a serial number attached to or painted, stenciled or otherwise registered on the crosshead of the elevator car and on the motor or machine; and on devices other than elevators, on the motor or machine, in figures not less than one (1) inch high. After such devices have been so designated, their numbers shall not be changed except by permission of the building official and all correspondence in regard to such device shall refer to said number.

SECTION 1603.0. TESTS AND INSPECTIONS

All equipment and devices covered by the provisions of the Basic Code shall be subjected to acceptance and maintenance tests and periodic inspections as required herein and in the accepted standard.

1603.1. Acceptance Tests. - Acceptance tests and inspections shall be required on all new, relocated and altered equipment subject to the provisions of this article. The tests and inspection shall be of such nature as to determine whether the entire installation is designed, constructed and installed in compliance with the Basic Code and the accepted standards, and shall include all parts of the equipment and machinery. All such tests shall be made in conformity to the requirements of section 1603.4, in the presence of the building official, by the person, firm or corporation installing such equipment.

1603.2. Maintenance Tests and Periodic Inspections. - Maintenance tests shall be required on all new and existing power elevators and periodic inspections shall be made on all new and existing equipment subject to the provisions of this article.

1603.21. Maintenance Tests. - Maintenance tests shall be made by a qualified agent or agency approved by and in the presence of the building official and shall be made at the expense and responsibility of the owner.

1603.22. Periodic Inspections. - Periodic inspections shall be made by the building official or by a qualified agent or agency approved by him. Where such inspections are not made by the building official, the approved agent or agency shall submit a detailed report of the inspection to the building official on forms approved by him not more than thirty (30) days following the completion of such inspection.

1603.3. Frequency of Tests and Inspections.

1603.31. Periodic Inspection Intervals. - Periodic inspections shall hereafter be made at intervals of not more than six (6) months for all elevators, manlifts and moving stairways; at intervals of not more than twelve (12) months for power dumbwaiters and all dumbwaiters with a capacity of one hundred (100) pounds and over. Miscellaneous hoisting and elevating equipment, conveyors and amusement devices shall be inspected at such intervals as may be deemed necessary by the building official to insure reasonable safety of operation.

1603.32. Maintenance Test Intervals. - Maintenance tests shall be made at not exceeding the following intervals:
a) Power elevator car and counterweight safeties, governors and oil buffers, every five (5) years.
b) Hydraulic elevator and dumbwaiter pressure tanks and piston rods of roped hydraulic elevators and dumbwaiters, every three (3) years.

1603.4. Minimum Requirements for Tests and Inspections. - The minimum requirements for the inspection and test of the devices subject to this article shall conform to this section.

1603.41. Elevators, Dumbwaiters and Moving Stairways. - The equipment and machinery of elevator, dumbwaiter and moving stairways shall be inspected and tested to the requirements of the standard listed in appendix B.

1603.43. Manlifts. - All equipment and machinery of manlifts shall be inspected and tested to insure reasonable safety of operation and shall include tests of the brake, terminal stopping device, belt tension and emergency stopping device. Acceptance tests shall also include a load capacity test as provided in the accepted standard listed in appendix B.

1603.44. Miscellaneous Hoisting and Elevating Equipment.- All miscellaneous hoisting and elevating equipment shall be subjected to such tests and inspections as may be required by the building official to insure safe operation.

SECTION 1604.0. CERTIFICATE OF COMPLIANCE

The operation of all equipment governed by the provisions of this article and hereafter installed, relocated or altered shall be unlawful by persons other than the installer thereof until such equipment has been inspected and tested as herein required and a final certificate of compliance has been issued therefor by the building official.

1604.1. Final Certificate of Compliance. - The building official shall issue a final certificate of compliance for each unit of equipment which has satisfactorily met all the inspections and tests required by this article. Such final certificate shall bear the signature of the person who made the inspection and tests and shall designate the rated load and speed, the date of the acceptance tests and inspections, and the name of the building official who made or witnessed such test and inspection. The final certificate shall also include the necessary space for inserting:

(1) The name of the person who made the periodic inspection and who witnessed the periodic and maintenance tests.

(2) The date of the periodic inspection and test and of the maintenance "test."

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1604.2. Special Conditions. - Automatic and continuous-pressure operation elevators shall not be placed in temporary operation from the landing push buttons unless the door locking device and interlocks required by the safety code are installed and operative. When the car can be operated only from the inside, landing entrance guards shall be provided with locks that can be released from the hoistway side only.

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1604.3. Posting Certificates of Compliance. - The owner or lessee shall post the last issued certificate of compliance in a conspicuous place inside all elevator cars and on or immediately adjacent to the entrance to all other approved equipment.

SECTION 1605.0. MAINTENANCE AND ACCIDENTS

1605.1. Owner Responsibility. - The owner or his legal agent of the building in which the equipment is located shall be responsible for the care, maintenance and safe operation of all equipment covered by this article after the installation thereof and its acceptance by him. He shall make or cause to be made all maintenance tests and service inspections and shall maintain all equipment in a safe operating condition.

1605.2. Contractor Responsibility. - The person, firm or corporation installing any device covered by this article shall make all acceptance tests and be responsible for the care and safe operation of such equipment during its construction and until temporarily or finally accepted by the building owner or his legal agent.

1605.3. Maintenance Items. - All operating and electrical parts and accessory equipment of devices subject to this article shall be maintained in safe operating condition. The maintenance of elevators, dumbwaiters and escalators shall conform to the standard listed in appendix B.

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1605.4. Unsafe Conditions. - If upon inspection, any equipment covered in this article is found in an unsafe condition, or not in accordance with the provisions of the Basic Code, the building official shall thereupon serve a written notice of such finding upon the building owner or lessee stating the time when recommended repairs or changes must be completed. After the service of such notice, it shall be the duty of the owner to proceed within the time allowed to make such repairs or changes as are necessary to place the equipment in a safe condition; and it shall be unlawful to operate such equipment after the date stated in the notice unless such recommended repairs or changes have been made and the equipment has been approved by the building official, or an extension of time secured from him in writing.

1605.41. Power to Seal Equipment. - The building official in addition to any other penalties herein provided shall have the power to seal out of service any device or equipment covered by this article for the following reasons: when in case of emergency in the opinion of the building official, any such device is in a condition to render it totally unsafe for operation; or for willful failure to comply with recommendations and orders issued by the building official.

1605.42. Notice of Sealing Out of Service. - Before sealing any device out of service the building official, except in case of emergency, shall serve written notice upon the building owner or lessee stating intention to seal the equipment out of service and the reasons therefor.

1605.43. Unlawful to Remove Seal. - Any device sealed out of service by the building official shall be plainly marked with a sign or tag indicating the reason for such sealing, and any defacing or removal of the sign or tag, or any tampering with or removal of the seal without approval of the building official shall constitute a violation of this article.

1605.5. Accidents Reported and Recorded. - The owner of the building shall immediately notify the building official of every accident involving personal injury or damage to apparatus on or about or in connection with any equipment covered by this article, and shall afford the building official every facility for investigating such accident. When an accident involves the failure, breakage, damage or destruction of any part of the apparatus or mechanism, it shall be unlawful to use such device until after an examination by the building official and approval of the equipment for continued use. It shall be the duty of the building official to make a prompt examination into the cause of the accident and to enter a full and complete report thereof in the records of the building department. Such records shall be open for public inspection at all reasonable hours.

1605.6. Removal of Damaged Parts. - It shall be unlawful to remove any part of the damaged construction or operating mechanism of elevators or other equipment subject to the provisions of this article from the premises until permission to do so has been granted by the building official.

SECTION 1606.0. EXISTING INSTALLATIONS

1606.1. Retroactive Provisions. - The provisions of this article are not retroactive except as specifically provided hereunder; and except further that upon inspection of any device covered by the Basic Code the equipment is found in a dangerous condition, or there is an immediate hazard to those riding on or using such equipment, or if the design or the method of operation in combination with devices used is considered inherently dangerous in the opinion of the building official, he shall notify the owner or lessee in writing of the existing condition and shall recommend such alterations or additions as he may deem necessary to eliminate the dangerous condition.

1606.2. General Requirements.

1606.21. Projections Into Hoistway. - All ledges, floor beams, sills, saddles, timbers and other projections, except door interlocks and contacts, door closers, door tracks and hangers, and door operating or signal devices in front of car openings, that project more than one (1) inch from the inside of the general surface of the hoistway enclosure shall be fitted with smooth beveled guards set directly under the projections. The angle of the bevels or guardplates shall preferably be not less than seventy-five (75) but in no case less than sixty (60) degrees from the horizontal.

1606.23. Lighting. - The cars and entrances of all elevators shall be properly lighted at all times when in service. The minimum illumination shall be not less than one (1) foot candle at the landing edge of the platform.

1606.25. Replacement or Relocation of Gate Switches or Interlocks. - The building official may require the replacement or relocation of car gate electric contacts, safety cutout switches, or interlocks where such devices are found to be tied or blocked so as to render them inoperative.

1606.26. Removal of Pipes from Hoistway. - The building official may order the removal from existing elevator hoistways of any pipe conveying gases, vapors or liquids which might endanger life if discharged into the hoistway or ignited.

1606.3. Existing Passenger Elevators.

1606.31. Hoistway Enclosure. - All existing passenger elevator hoistways shall be fully enclosed from floor to ceiling on all floors to comply with section 1610.

1606.32. Hoistway Doors and Interlocks. - All existing electric and electrically controlled and operated hydraulic passenger elevators shall be provided with hoistway landing doors equipped with approved type interlocks conforming to the requirements for new elevators; except that approved type interlock switches may be installed in connection with existing hoistway door closers, provided the combination door closers and interlocks conform to all the requirements for approved interlocks, except as to the required tests. The use of service and emergency keys for opening hoistway doors from the landing side shall conform to the requirements of the standard code.

1606.33. Car Doors and Gates. - All openings on existing passenger elevator cars shall be provided with doors or gates.

Car doors and gates of electric or electrically controlled and operated hydraulic passenger elevators shall be provided with approved car door or gate electric contacts conforming to the standard listed in appendix B.

1606.34. Hydraulic Passenger Elevators. - Hydraulic passenger elevators shall be provided with self-closing hoistway doors arranged to lock automatically when closed, in lieu of interlocks. Car doors or gates on electric or electrically controlled and operated hydraulic elevators shall be equipped with car door or gate electric contacts conforming to the requirements for new elevators."

1606.35. Emergency Signal or Telephone. - Existing power-passenger and freight elevators shall be provided with emergency signal devices conforming to the requirements of the standard listed in appendix B.

1606.4. Existing Freight Elevators.

1606.41. Hoistway Enclosure. - If not now enclosed, an enclosure shall be required on existing freight elevators as required for existing passenger elevators in section 1606.3, except as provided in section 1606.43.

1606.42. Hoistway Doors. - All landing openings in existing electric or electrically controlled and operated hydraulic freight elevator hoistways which are enclosed with fireresistive partitions shall be provided with fire doors equipped either with approved hoistway door interlocks, or approved hoistway door electric contacts and mechanical locks conforming to the standard code or with fusible links and automatic self-closing devices.

1606.43. Landing Gates - Where automatic self-closing landing doors are used, or where fire resistive hoistway enclosures are not required, the landing openings of electric or electrically controlled and operated hydraulic elevators shall be equipped with landing gates not less than 5½ (five and one half) feet high provided with either hoistway gate interlocks or with hoistway gate electric contacts and mechanical locks conforming to the standard code."

1606.44. Hydraulic Freight Elevators. - Interlocks or electric contacts shall not be used on hydraulic elevator landing doors or gates except where such elevators are provided with electric control and operating devices; and provided further that the landing openings of such elevators shall be equipped with self-closing gates at least five and one-half (5½) feet high with approved mechanical locks. Full automatic gates shall be prohibited. Semi-automatic gates shall be prohibited except on hydraulic elevators with mechanical control and operating devices.

1606.45. Gates on Cars. - All openings on existing electric or electrohydraulic freight elevator cars, except the opening immediately adjacent to the operating device, shall be provided with car gates and car gate electric contacts when the distance between the hoistway side of the landing door adjacent to such opening and the hoistway edge of the landing threshold is more than four (4) inches. All such elevators using lever, wheel or cable operating devices, shall have car gates and car gate contacts installed at all car openings. All openings on existing continuous-pressure or automatic operation freight elevator cars that can be operated from the landings shall be provided with car gates and car gate electric contacts. Existing sidewalk elevators shall not be subject to the provisions of this section.

Car gate electric contacts shall be of approved type conforming to the standard listed in appendix B.

SECTION 1607.0. ALTERATIONS

Alterations to existing elevators shall conform to the standard listed in appendix B.

Alterations to all other devices subject to this article shall conform to such requirements as the building official considers necessary for safe operation.

1607.1. Relocated Equipment. - The relocation of an existing installation of any device covered by this article shall be deemed to be a new installation and shall conform to the requirements therefor.

SECTION 1608.0. POWER ELEVATOR OPERATION

1608.1. Designated Operator. - Every power elevator except automatic and continuous-pressure operation types and sidewalk elevators shall be in charge of a competent designated operator.

1608.2. Fire Department Use. - In every structure over one hundred and fifty (150) feet in height, a competent elevator operator shall be available at all times to assist the fire department in obtaining access to any floor in the building or structure served by elevators, except where an automatic or continuous-pressure operation elevator is available.

1608.3. Passenger Restriction.

1608.31. Freight Operators. - Except as provided in section 1608.32, it shall be unlawful for any person other than the operator or those individuals necessary to handle freight to ride on any elevator other than a passenger elevator; and it shall be unlawful for the owner or other responsible person to permit any individual other than above specified to ride on any elevator other than a passenger elevator.

1608.32. Other Employees. - Employees of the owner may ride on a freight elevator, subject to approval of the building official, and the requirements of the standard code.

SECTION 1609.0. ELEVATOR SPEED LIMITS

The car speed limits herein specified shall be the maximum permitted for the types listed.

1609.1. Non-Counterweighted Drum Elevators. - The speed of all non-counterweighted drum elevators shall be not more than fifty (50) feet per minute.

1609.2. Sidewalk Elevators. - The speed of sidewalk elevators shall not exceed fifty (50) feet per minute where a drum type machine is used or where the car raises and lowers doors or covers in the sidewalk or other exterior area.

1609.3. Continuous-Pressure Elevators. - The speed of continuous-pressure operation elevators shall be not more than one hundred and fifty (150) feet per minute.

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SECTION 1610.0. HOISTWAY ENCLOSURES AND VENTING

1610.1. Fire Resistance Rating of Hoistway Enclosures.

1610.11. Elevator Enclosures. - All elevator and other hoistway enclosures other than dumbwaiter shafts shall be constructed to afford at least two (2) hours fireresistance with approved opening protectives conforming to section 1614 and article 9.

1610.12. Dumbwaiter Enclosures. - Shaft enclosures of dumbwaiters having a car area of more than three (3) square feet which travel through more than one (1) story and serve more than two (2) adjacent floors shall be of three-quarter (3/4) hour fireresistive construction with approved three-quarter (3/4) hour opening protectives or the approved labeled equivalent complying with article 9, except that when the load capacity exceeds one hundred (100) pounds per square foot the enclosure and opening protectives shall comply with the requirements of section 1610.11 for fireresistance.

1610.13. Special Dumbwaiter Enclosures. - The enclosure of dumbwaiters not more than three (3) square feet in area with a load capacity of not more than twenty-five (25) pounds and all dumbwaiters serving not more than two (2) adjacent levels shall be enclosed with approved noncombustible materials.

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1610.2. Limiting Number of Elevators in One Hoistway Enclosure. - Not more than two (2) elevators shall be installed in any one (1) hoistway enclosure.

1610.3. Vents Required. - Hoistways of elevators and dumbwaiters serving more than three (3) stories shall be provided with means for venting smoke and hot gases to the outer air in case of fire, as follows: 1 - "A louvre shall be required in a location in the side of the hoistway enclosure directly below the machine room slab as a vent to the outside atmosphere. This louvre shall contain not less than three square feet of free area for each elevator car."

2 - Sidewalk elevator hoistways are not required to be vented.

1610.4. Location of Vents. - Vents shall be located in the side of the hoistway enclosure directly below the floor or floors at the top of the hoistway, and shall open either directly to the outer air or through noncombustible ducts to the outer air; or in the wall or roof of the penthouse or overhead machinery space above the roof, provided that vent openings of at least equivalent area are provided in the floor or floors at the top of the hoistway.

1610.5. Area of Vents. - Except as herein provided the area of the vents shall be not less than three and one-half (3½) per cent of the area of the hoistway not less than three (3) square feet for each elevator car, and not less than three and one-half (3½) per cent not less than one-half (½) square foot for each dumbwaiter car, in the hoistway, whichever is greater. Of the total required vent area, not less than one-third (1/3) shall be of the permanently-open type. Where mechanical ventilation conforming to article 18 and providing equivalent venting of the hoistway is provided in the overhead elevator machine room, the required vent area may be reduced provided:

1 - The building is not a hotel, apartment house, hospital, or similar building with overnight sleeping quarters;

2 - The machine room is so located that it has no outside exposure;

3 - The hoistway does not extend to the top story of the building;

4 - The machine room exhaust fan is automatically re-activated by thermostatic means.

1610.6. Closed Vents. - Closed portions of the required vent area shall consist of windows, skylights or duct openings glazed with plain glass not more than one-eighth (1/8) inch thick.

1610.61. Skylights. - Skylights used as required vents shall conform to section 928.2.

1610.62. Windows. - Windows used as required vents shall conform to section 918.0 except they shall be glazed with one-eighth (1/8) inch plain glass.

SECTION 1612.0. ELEVATOR AND DUMBWAITER MACHINERY AND EQUIPMENT

Elevator and dumbwaiter machinery and equipment shall conform to the standard listed in appendix B.

SECTION 1613.0. HOISTWAYS AND RELATED CONSTRUCTION FOR PASSENGER ELEVATORS AND DUMBWAITERS AND FREIGHT

The construction of hoistways, machine rooms and related construction for passenger and freight elevators and dumbwaiters shall conform with the standard listed in appendix B.

SECTION 1614.0. ELEVATOR OPENING PROTECTIVES

All hoistway enclosure doors for elevators, dumbwaiters and other hoisting equipment shall be constructed in accordance with the provisions of article 9 and as herein required.

1614.1. Fire Doors. - Door openings of elevator hoistway enclosures shall be equipped with protective assemblies having a fireresistance rating of not less than one and one-half (1½) hours or their approved labeled equivalent; except that when the shaft opens into a vestibule enclosed with not less than two (2) hour fireresistive construction in which all vestibule openings are protected with assemblies having a fireresistance rating of not less than three-quarter (3/4) hours, the fireresistance rating of the shaftway doors may be reduced to three-quarter (3/4) hours. Elevator hoistway fire doors shall not be required to be self-closing.

1614.2. Hardware. - All hardware on opening protectives shall be of an approved type, installed as tested; except that interlocks, mechanical elevator door locks and electric contacts and door operating mechanisms of approved types shall be exempt from the fire test requirements.

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SECTION 1615.0. ELEVATOR CAR EMERGENCY SIGNALS

Elevator cars shall be provided with car emergency signals conforming to the standard listed in appendix B.

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SECTION 1616.0. MANLIFTS

Manlifts shall be accessible and their use shall be restricted to employees only. They shall comply with the applicable requirements of this article and shall be installed only when permitted by the building official in feed, flour and cereal mills, grain elevators and in similar buildings of other use groups.

1616.1. Enclosures. - When the clear vertical distance between mounting platform and ceiling guard is less than seven and one-half (7½) feet, the manlift shall be completely enclosed to comply with section 1610 without access openings.

1616.2. Accessibility. - No entrance to manlifts shall be provided from any floor or level with a clear ceiling height of less than nine (9) feet and the minimum clearance between the head pulley and the roof or other overhead obstruction shall be not less than four (4) feet.

1616.3. Speed. - The speed of manlifts shall not exceed ninety (90) feet per minute.

1616.4. Manlift Safeties.

1616.41. Manlift Manual Stops. - An approved manually operated stopping device shall be provided to permit passengers riding on a manlift to control the operation of the lift at all floors and at any level in the travel of the device.

1616.42. Manlift Automatic Stops. - An approved safety device shall be provided which will automatically stop the lift in the event that a rider fails to alight at the top landing; but no such automatic device shall be capable of restoring the operating circuit when it has been interrupted for any cause.

1616.43. Secondary Manlift Stop. - All new installations shall be provided with a secondary safety stop to act immediately after and in the event of a failure of the automatic stop brake or other device required in section 1616.42.

1616.5. Manlift Construction.

1616.51. Floor Openings. - Floor openings shall be circular and not less than twenty-four (24) inches in dimension from belt to perimeter. The floor openings shall be provided with bevel guards underneath the landing with a slope of not less than forty-five (45) degrees from the horizontal extending not less than forty-two (42) inches back from the handhold.

1616.52. Guards. - The floor opening shall be protected with a railing or guard of metal or other approved noncombustible material, forty-two (42) inches in height, located not less than twelve (12) inches from the edge of the opening.

1616.53. Entrance and Exit. - The entrance and exit to the manlift shall be equipped with a gate at all floors and landings, hung to swing away from the opening and located not less than two (2) feet from the floor openings. The landings shall be constructed to provide safe footing and shall be kept clear of obstructions and lighted to an intensity of not less than three (3) foot candles. The runs of the manlift shall be illuminated throughout the entire height to an intensity of not less than one (1) foot candle.

1616.54. Steps. - Manlift steps shall be uniform in size and not less than twelve (12) inches deep from the plane of the belt to the edge of the tread and of adequate strength to support a load of four hundred (400) pounds. The vertical distance between step treads shall be not less than fifteen (15) feet.

1616.55. Belts. - All manlift belts shall be of approved types, not less than twelve (12) inches wide and of adequate strength to support a load of two hundred (200) pounds on each step of one run without loss of traction.

1616.56. Handholds. - Manlift handholds shall be located not less than four (4) nor more than four and two-thirds (4 2/3) feet above each step tread on both runs of the manlift with a two (2) inch clearance from the belt. Such handholds shall be not less than nine (9) inches in length in the clear.

1616.6. Final Acceptance. - All manlifts shall be subject to acceptance by the building official and periodic tests and inspections as provided in section 1604.

1616.7. Manlift Instruction Signs.

1616.71. Landing Signs. - Approved signs shall be provided on each landing and stenciled on the belt at approximately eye level above each step giving the following instructions:

"For Employees Only
Face the Belt.
Use the Handhold.
To Stop, Pull Rope."

1616.72. Terminal Sign. - The top landing shall be provided with an illuminated warning sign in block letters not less than two (2) inches high which shall be located within easy view of ascending passengers at a level of not more than two (2) feet above the top landing, reading:

"Top Floor - Get Off."

1616.8. Manlift Electric Equipment. - In locations where the atmosphere contains grain or other explosive dust, all electrical equipment for manlifts shall comply with the requirements of the National Electrical Code for installations in hazardous locations.

SECTION 1617.0. INDUSTRIAL LIFTS AND LOADING RAMPS

Except as exempted by section 1600 or as may be otherwise provided by statute, the provisions of this section and section 1618.0 shall control the design, construction, installation, maintenance and operation of all automotive lifts, industrial lifts and loading dock ramps hereafter installed, relocated or altered in all buildings and structures. All such equipment shall be constructed, operated and maintained in compliance with accepted engineering practice. The purpose of the Basic Code is to provide reasonable safety for life and limb. In case of practical difficulty or unnecessary hardship the building official may grant exceptions from the literal requirements or permit the use of other methods but only when it is clearly evident that reasonable safety is thereby secured.

1617.1. General Requirements.

1617.11. Markings and Labels. - All material lifts and loading ramps shall be marked with the name of manufacturer, model number, serial number, and rated capacity; and such markings shall be legibly stamped or etched on a metal plate which shall be permanently secured in a convenient place for inspection. Such nameplates shall not be obscured, obliterated or changed.

1617.12. Controls. - The controls shall be so located that the operator has a full and unobstructed view of the lift area at all times. All control devices shall be accessible to the operator without exposing him to danger. No alterations or changes shall be made in the control device, or its manner of use which will render its normal functioning inoperative.

1617.13. Lift Control. - When the device used for controlling the travel of the lift in either direction is not continuous pressure or deadman type, an emergency stop button shall be provided and so located as to be readily accessible to the operator at all times.

1617.14. Electrical Wiring. - All electrical wiring shall comply with the National Electrical Code for ordinary locations.

1617.2. Maintenance.

1617.21. Owner Responsibility. - The owner or his agent shall be responsible for the care, maintenance, and safe operation of all equipment covered by this article after the installation thereof and its acceptance by him or its approval by the building official. The owner, or his agent shall not permit the equipment to be used unless it is, to the best of his knowledge, in safe operating condition.

1617.22. Housekeeping. - The spaces around, or beneath the equipment shall be kept clean; no rubbish or oil shall be allowed to accumulate therein, nor shall any part of this space be used for storage of materials or equipment.

All parts, except such parts as require freedom of movement, shall be kept tight at all times.

All mechanical working parts shall be kept free of rust, and properly lubricated and adjusted.

The owner, or his agent, shall be responsible for inspecting the oil level in all hydraulic systems to insure that it is at, or above, the manufacturer's prescribed minimum level.

1617.23. Lighting. - The entire operating area shall be illuminated to provide a distributed intensity of not less than three (3) foot-candles over the area of operating floor and platform.

1617.3. Pressure Tanks. - All separate tanks for liquid storage under pressure, not an integral part of the cylinder assembly, shall conform to the provisions of ASME Code for unfired pressure vessels listed in appendix B and shall be marked with a securely attached metal label to indicate the approved operating pressure. For hydropneumatic systems the storage capacity shall be such that with the lift in fully elevated position there shall remain not less than three (3) inches of usable oil in the storage tank. Adequate means shall be provided to determine that the oil level in reservoir, with lift in the lowest position, is at or above the safe minimum operating level as prescribed by the manufacturer.

1617.4. Design and Construction. - The construction and installation of all power industrial lifts and loading ramps shall comply with the provisions of this section and the accepted standards listed in appendix B.

1617.41. Rated Load - The lifting capacity of the lift shall be not less than fifty (50) pounds per square foot of gross platform area.

1617.42. Platform Construction. - The platform and its supports shall be designed for the loads to be transmitted within the strength and deflection limitations herein specified, when one half (½) the capacity load is applied as a static center concentration within twelve (12) inches of the loading edge, the lift platform shall not deflect more than one-half (½) inch at any edge point.

1617.5. Platform and Hoist Protection.

1617.51 Unprotected Space Not More Than Five Feet. - When the lift rise is such that the unprotected vertical distance from the landing to the bottom edge of the vertical side of the platform is not more than five (5) feet, protection shall be provided as follows:

toe guards. A toe guard plate not less than eight (8) inches in width shall be provided on all unprotected sides. It shall be made of steel, not less than No. 11 gage in thickness, attached flush with the vertical edge of the platform and slanted inwardly at an angle of approximately thirty (30) degrees from the vertical. Skirts may be used in lieu of toe guards.

skirts. For automatic operation, the unprotected sides of the platform shall be provided with metal or wood sheathing or skirts attached to the platform to protect the exposed vertical opening.

enclosures. When toe guard or skirt protection is not provided the unprotected sides may be provided with solid or mesh enclosures to the full height of the lift rise. Mesh enclosure shall, by test, reject a two (2) inch ball.

1617.52. Unprotected Space More Than Five Feet. - When the unprotected space exceeds that set forth in Section 1617.51, protection shall be provided as follows:

Sides used for loading or unloading at the lower level shall be protected with skirts as described in paragraph 1617.51, or by a landing gate with electrical contact, or an automatic landing gate.

Sides not used for loading or unloading shall be protected with skirts or enclosures as described in paragraph 1617.51.

1617.53. Lift Rise More Than 5½ Feet. - When the lift rise exceeds five and one-half (5½) feet above the lowest level, additional protection shall be provided as follows:

The upper landing shall be provided with a landing gate equipped with mechanical lock and electrical contact.

The sides of the platform not used for loading or unloading shall be provided with railings, mesh, or solid enclosures not less than three and one-half (3½) feet high.

1617.54. Surface Installations. - When the lift is surface mounted, toe clearance space shall be provided on all unprotected sides. Such toe clearance shall provide not less than three (3) inches vertical and four (4) inches horizontal clearance when the platform is at its lowest position.

1617.6. Platform Protection - Loading Ramps. - The sides or edges of the loading ramps which rise above the surrounding platform shall be provided with skirt or toe guards protecting the opening under the sides of the ramp.

1617.7. Overload Protection.

1617.71. Electric-Hydraulic Operation. - Hydraulic overload protection shall be provided by means of a relief valve that will prevent raising of the elevating device when it is loaded to one hundred twenty-five (125) per cent of rated capacity. The relief valve shall be so located that its operation will not cause the platform to lower.

1617.72. Electric Operation. - Electric overload protection shall be provided by means of a thermal cutout or other suitable device.

SECTION 1618.0. AUTOMOTIVE LIFTS

All electric, hydraulic and hydro-pneumatic automotive lifts shall comply with the requirements of section 1617.0, 1617.1 and the applicable standards listed in appendix B.

1618.1. Types. - Lifts shall be classified as semi-hydraulic, full hydraulic or mechanical lifts according to their operation as described in the following subsections.

1618.11. Semi-Hydraulic (Hydro-Pneumatic). - A semi-hydraulic lift is an automotive lift of the plunger type which employs compressed air as the primary lifting and load sustaining agent; such compressed air acts continuously against a column of liquid to provide the lifting and load sustaining effort.

1618.12. Full Hydraulic. - A full hydraulic lift is an automotive lift of the plunger type that employs a liquid under pressure as the direct lifting and load sustaining agent. Such a lift is so designed and constructed that the full weight of the load and lifting assembly rest on a continuous column of liquid which extends from the cylinder to the liquid control valve.

1618.13. Mechanical Lifts. - A mechanical lift is an automotive lift so designed that the motive power is transmitted to the lifting frame by mechanical means. There are three principal types: cable and drum; rack and pinion; and screw type.

1618.2. Chassis and Axle Supports. - Only those chassis and axle supports complying with the requirements of paragraph 4.6 of Commercial Standard CS142-51 may be used.

1618.3. Safeties. - All mechanical automotive lifts shall be equipped with approved safeties as herein specified.

1618.31. Limit Stop. - Every mechanical automotive lift shall be equipped with an automatic overtravel device to stop the motor or drive machine before the lifting frame reaches safe limits of travel.

1618.32. Holding Brake. - When the friction of the gear train of the driving mechanism is insufficient to hold the load, the mechanical automotive lift shall be equipped with a brake or other locking device to automatically hold the lift at any level immediately on failure of the lifting power for any cause.

1618.33. Stopping Brake. - When the structural members of the lifting frame are so designed that they interfere with open doors or other projections from the vehicle, the automotive lift shall be provided with a quick acting automatic brake to stop the ascent of the lift in case of emergency.

1618.4. Controls.

1618.41. Automatic Release. - The direct control device shall be of a type that will automatically return itself to the neutral or off position upon release by the operator. *

1618.42. Speed Control. - A speed control device shall be provided to control the descent of the lift at a speed of not more than twenty (20) feet per minute under rated load.

SECTION 1619.0. CONVEYORS

1619.1. Enclosures. - All package elevators, boosters or lifts connecting successive floors or levels shall be enclosed in fireresistive construction in conformity to the requirements of sections 1610 and 1613 and article 9.

1619.2. Opening Protectives.

1619.21. Plans and Specifications. - Whenever conveyor or other material-handling devices are designed to pass through floors, ceilings, partitions or walls, the plans and specifications shall give the necessary details of the opening protectives in respect to location, structural strength and fireresistance.

1619.22. Fire Curtains. - Openings in partitions and walls through which conveyors pass shall have automatic fire dampers or curtains to prevent the spread of fire when, in the opinion of the building official, such protection is necessary due to the hazard of operation of the conveyors.

1619.23. Fire Doors. - All opening protectives shall meet the fireresistive requirements of article 9 for the location, type of construction and use of the building or structure.

1619.3. Machinery Guards. - Adequate protection shall be provided around all moving parts of every conveying device in accordance with the approved rules.

1619.4. Chute Enclosures. - All slides and chutes shall be enclosed with fireresistive construction or protected with approved automatic shutters of noncombustible construction to insure a full firestop between floors of the building or structure.

1619.5. Conveyor Safeties. - All power-operated conveyors, belts and other material moving devices, shall be equipped with automatic limit switches which will shut off the power in emergency and automatically stop all operation of the conveyors.

SECTION 1621.0. MOVING STAIRWAYS

All moving stairways and their enclosures shall comply with the provisions of this section and the standard elevator code. When serving as a required means of egress, moving stairways shall meet the additional requirements of section 622.

1621.1. Construction Materials.

1621.11. Enclosures. - When not approved as a required means of egress, the stairwell may be open when protected with an exhaust system of ventilation and water curtains as provided in section 522, or with a power-operated shutter conforming to section 1621.2; except that the machine room shall be enclosed with three-quarter (3/4) hour fireresistive construction and shall be properly lighted and ventilated. When such stairway serves as a required means of egress, the complete enclosure including the machine room shall be constructed with a fireresistance rating of not less than two (2) hours complying with the requirements of section 618 for interior stairways.

1621.12. Noncombustible Materials. - All parts of the moving stairway and equipment shall be constructed entirely of noncombustible and fireretardant materials except electrical equipment, wiring, wheels, handrails and the use of one-twenty-eighth (1/28) inch wood veneers on balustrades backed-up with noncombustible materials.

1621.2. Automatic Fire Shutter. - Unenclosed moving stairways that do not meet the requirements of article 6 for exit stairways and which are not protected with an approved exhaust system and automatic water curtain specified in section 522, shall be equipped with a power-operated automatic shutter at every floor pierced thereby, constructed of noncombustible materials with a fireresistance rating of not less than one and one-half (1½) hours as provided in section 522.4.

1621.21. Construction. - The shutter shall be so constructed as to close immediately upon the automatic detection of fire or smoke by an approved device and shall completely shut off the well opening. The shutter shall operate at a speed of not more than thirty (30) feet per minute and shall be equipped with a sensitive leading edge to arrest its progress when in contact with any obstacle and to continue its progress on release therefrom.

(352) Article 17 is deleted in its entirety but any references in other articles and sections to Article 17 are to be governed by the appropriate sections of the City Code relating to Plumbing.

(353) Section 1800.1 is amended by deleting therefrom the words "National Board of Fire Underwriters" and inserting in their place and stead the words "National Fire Protection Association."

(354) Section 1801.0 is amended by changing the definition of air conditioning to read:

air conditioning. The process of treating air so as to control simultaneously the temperature, humidity, cleanliness and distribution to meet the requirements of the conditioned space.

(355) Section 1802.21 is amended to read:

1802.21. Residential Buildings.--An installation permit shall not be required for self contained units rated at less than three tons or three horsepower, when installed in existing openings in one and two family and multi-family dwellings. (Use groups L-2 and L-3) (See Section 10 of the Alexandria City Code regarding electrical permits for these units.)

(356) Section 1807.1 is amended by deleting therefrom the words "which employ more than twenty (20) pounds of refrigerant" on lines 2 and 3; and by deleting the words "of one hundred (100) dollars or more" on lines 5 and 6.

(357) Section 1810.2 is deleted.

(358) Article 18 is amended by adding thereto a new section numbered 1813.3 to read:

1813.3. Ventilation Duct Outlets.--Ventilation ducts from all range hoods including residential exhaust fans shall discharge to the outside atmosphere.

(359) Section 1814.6 is amended by adding thereto a new paragraph to read:

Required exit corridors and passageway in use groups L-1, L-2, and I-1 and I-2 shall not be used as a portion of the air supply or return delivery system.

(360) Article 19 is deleted in its entirety.

(361) Article 20 is deleted in its entirety.

(362) A new article numbered 21 is added to read as follows:

Article 21

Temporary Mobile Classrooms For Schools

SECTION 2100.0. SCOPE

The provisions of this article shall apply to all public schools and all private high schools within the City of Alexandria, Virginia.

2100.1. Public Schools.--Mobile classroom units, approved by the State Board of Education or its duly authorized representative, shall be allowed at any public school building although such units do not comply with all requirements contained elsewhere in the Basic Building Code. No mobile classroom unit shall be allowed to remain at any public school building longer than five (5) years from the date of the building permit issued for each unit.

2100.2. Private Schools.--Mobile classroom units, identical to those approved by the State Board of Education or its representative for public schools, shall be allowed at any private high school building although such units do not comply with all requirements contained elsewhere in this Basic Building Code, provided any such high school first demonstrates to the building official that it is engaged in a building expansion program and temporarily needs such units. A mobile unit at a private high school shall not be used as a homeroom and shall not be used in excess of one hour per day per class. No mobile classroom units shall be allowed to remain at any private high school building more than five (5) years from the date of the building permit issued for such unit.

Section 3. This ordinance is the last of a series of comprehensive ordinances that bring the Building Code of the City of Alexandria, Virginia up to date. It contains material from the BOCA Code, 1955 edition, material from the BOCA Code, 1965 edition, and other material recommended by the Building Code Committee of the City and the Director of the Department of Building and Mechanical Inspections. Portions of the material are adopted by reference to that certain building code known as the Basic Building Code, recommended, promulgated and published by the Building Officials Conference of America, Inc., being particularly the 1955 edition thereof. (See Sec.7-2 of Ordinance No. 1169.)

Section 4. At least five (5) copies of the following shall be placed in the office of the Director of Building and Mechanical Inspections in the City Hall, City of Alexandria, Virginia, where they may be viewed, examined and obtained between the hours of 9:00 A.M.and 5:00 P.M. Monday through Friday, inclusive, of each week, except for holidays: The Basic Building Code recommended, promulgated and published by the Building Officials Conference of America, Inc., being particularly the 1955 edition thereof (BOCA Code), the Building Code of the City of Alexandria, Virginia, this proposed ordinance, this ordinance as finally adopted.

Section 5. That this ordinance shall not be published in a newspaper but the City Clerk shall cause to be published in a newspaper of general circulation in the City, not later than the fifth day following its introduction, a notice containing a time and place for a public hearing, the title of the proposed ordinance and a statement of the exact location at which and the hours during which copies of the Building Code of the City of Alexandria, Virginia, the BOCA Code, 1955 edition thereof, and the proposed ordinance may be obtained. The City Clerk shall also have the full text of the proposed ordinance printed in sufficient numbers to supply copies to meet request. The Clerk of the Council shall note the date of introduction and first reading, the date of publication, the date of the public hearing, and the date of the second reading and final passage in the minutes of the meeting. This ordinance shall become effective the date of its final passage.

Provided, however, that any and all buildings and structures for which a permit shall have been regularly issued by the Director of Building and Mechanical Inspections before this ordinance takes effect may be completed in accordance with said permit, and in accordance with the plans submitted and approved, and under the provisions of the Building Code of Alexandria in effect at the time such permit was issued, and such plan approved. Provided, further, that until November 14, 1968, plans for buildings and structures may be submitted in accordance with the older portion of the Building Code of Alexandria, and if approved and a permit is issued, said buildings or structures may be completed in accordance with said permit and the plans submitted and approved and under the provisions of those older portions of the Building Code of Alexandria. No plans shall be submitted for approval under said older sections after November 14, 1968.

CHARLES E. BEATLEY, JR.
Mayor

FINAL PASSAGE: MAY 28, 1968

N.B. Underlining is not a part of the ordinance but merely denotes new or changed material. Asterisks denote deleted material.

A number of sections are reproduced without apparent change. These sections represent changes actually made in 1962 and no further change is now deemed desirable. These sections must be reproduced for continuity and for proper reference to changes made in the BOCA Code.

Sections 518.1, 518.2, 518.3, 518.4, 518.41, 518.5, 518.6, 519.0, 519.1, 519.2, 519.3, 520.0, 520.1 and 520.2 of the 1955 Edition of the Basic Building Code of the Building Officials Conference of America, Inc. which had previously been deleted by Ordinance No. 1169 are now included in the City Building Code without change but are not set forth herein other than by reference.

Article 11 and Article 18 of the Basic Building Code, 1955 edition, which were previously deleted in their entirety by Ordinance No. 1169 are now also included in the City Building Code but are not set forth herein other than by reference, except where changes have been made.