

CHAPTER 1

ADMINISTRATION

101.1 Title. These regulations shall be known as *the City of Houston Building Code of [NAME OF JURISDICTION]*, hereinafter referred to as “this code.”

The City of Houston Construction Code collectively includes this document and certain other codes, pamphlets, specifications and documents that are adopted in or by reference through the Adopting Ordinance, which appears in the preamble of this code. The predecessor document to this code was known as the City of Houston Building Code–General Provisions, and any reference to the City of Houston Building Code–General Provisions in other jurisdiction ordinances shall be construed to mean this code. In certain instances, references to the building code will be found in ordinances, contracts, and other documents of the jurisdiction. In any instance in which that reference was intended to encompass the codes that collectively constitute the City of Houston Construction Code, then it shall be so construed.

101.2 Scope. The provisions of ~~the *International Building Code*~~ this code shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures, except work located primarily in a public way, public utility towers and poles, and mechanical equipment not specifically regulated in this code, and hydraulic flood control structures.

Exception: Except as noted in Section 101.4.1, detached one- and two-family dwellings and multiple single-family dwellings (townhouses) not more than three stories high with separate means of egress and their accessory structures shall comply with the *2000 International Residential Code for One- and Two-Family Dwellings* as adopted by the State of Texas in Subchapter G of Chapter 214 of the Texas Local Government Code and amended by the Table of Houston Amendments adopted by this jurisdiction.

101.2.1 Appendices. Provisions in the appendices shall not apply unless specifically adopted. Appendices C, E, I, K, and L, including any amendments thereto adopted by this jurisdiction, are hereby adopted and shall be incorporated into and made part of this code.

101.4.1 Electrical. The provisions of the ~~ICC~~ *Electrical Code* shall apply to the installation of electrical systems, including alterations, repairs, replacement, equipment, appliances, fixtures, fittings and appurtenances thereto.

Exception: Installation and maintenance of electrical wiring and related components in structures to which the 2000 International Residential Code referenced in Section 101.2 above is applicable shall, as provided by Chapter 214 of the Texas Local Government Code, be governed by the National Electrical Code as it existed on May 1, 2001, and any amendments thereto adopted by the jurisdiction.

101.4.2 Gas. The provisions of the ~~International Fuel Gas~~ *City of Houston Plumbing Code* shall apply to the installation of gas piping from the point of delivery, gas appliances and related accessories as covered in this code. These requirements apply to gas piping systems extending from the point of delivery to the inlet connections of appliances and the installation and operation of residential and commercial gas appliances and related accessories. This code includes numerous references to the International Fuel Gas Code. For the sake of convenience and cost savings to the public in the preparation of Houston Supplement pages to this code, those references have not been revised unless the text of the provision in which they appear has otherwise been revised by this jurisdiction. Any such references shall be regarded as references to the corresponding code as adopted by this jurisdiction from time to time. This jurisdiction reserves the right to adopt codes based upon promulgations of organizations other than the International Code Council, including but not limited to the Uniform Series Codes, to the extent permitted by State law. Any reference to a specific chapter, section, or provision of a code that has not been adopted by this jurisdiction shall be construed to mean the corresponding provision of the corresponding code as adopted by this jurisdiction.

Exception: Work governed by the International Residential Code.

101.4.3 Mechanical. The provisions of the *International-City of Houston Mechanical Code* shall apply to the installation, alterations, repairs, and replacement of mechanical systems, including equipment, appliances, fixtures, fittings and/or appurtenances, including ventilating, heating, cooling, air conditioning and refrigeration systems, incinerators, and other energy-related systems. This code includes numerous references to the *International Mechanical Code*. For the sake of convenience and cost savings to the public in the preparation of Houston Supplement pages to this code, those references have not been revised unless the text of the provision in which they appear has otherwise been revised by this jurisdiction. Any such references shall be regarded as references to the corresponding code as adopted by this jurisdiction from time to time. This jurisdiction reserves the right to adopt codes based upon promulgations of organizations other than the International Code Council, including but not limited to the Uniform Series Codes, to the extent permitted by State law. Any reference to a specific chapter, section, or provision of a code that has not been adopted by this jurisdiction shall be construed to mean the corresponding provision of the corresponding code as adopted by this jurisdiction.

Exception: Work governed by the *International Residential Code*.

101.4.4 Plumbing. The provisions of the *International-City of Houston Plumbing Code* shall apply to the installation, alterations, repairs and replacement of plumbing systems, including equipment, appliances, fixtures, fittings and appurtenances, and where connected to a water or sewage system and all aspects of a medical gas system. ~~The provisions of the *International Private Sewage Disposal Code* shall apply to private sewage disposal systems.~~ This code includes numerous references to the *International Plumbing Code*. For the sake of convenience and cost savings to the public in the preparation of Houston Supplement pages to this code, those references have not been revised unless the text of the provision in which they appear has otherwise been revised by this jurisdiction. Any such references shall be regarded as references to the corresponding code as adopted by this jurisdiction from time to time. This jurisdiction reserves the right to adopt codes based upon promulgations of organizations other than the International Code Council, including but not limited to the Uniform Series Codes, to the extent

permitted by State law. Any reference to a specific chapter, section, or provision of a code that has not been adopted by this jurisdiction shall be construed to mean the corresponding provision of the corresponding code as adopted by this jurisdiction.

Exception: Work governed by the *International Residential Code*.

101.4.5 Reserved. Property maintenance. ~~The provisions of the *International Property Maintenance Code* shall apply to existing structures and premises; equipment and facilities; light, ventilation, space heating, sanitation, life and fire safety, hazards; responsibilities of owners, operators and occupants; and occupancy of existing premises and structures.~~

101.4.6 Fire prevention. The provisions of the ~~*International-City of Houston Fire Code*~~ shall apply to matters affecting or relating to structures, processes and premises from the hazard of fire and explosion arising from the storage, handling or use of structures, materials or devices; from conditions hazardous to life, property or public welfare in the occupancy of structures or premises; and from the construction, extension, repair, alteration or removal of fire suppression and alarm systems or fire hazards in the structure or on the premises from occupancy or operation. This code includes numerous references to the *International Fire Code*. For the sake of convenience and cost savings to the public in the preparation of Houston Supplement pages to this code, those references have not been revised unless the text of the provision in which they appear has otherwise been revised by this jurisdiction. Any such references shall be regarded as references to the corresponding code as adopted by this jurisdiction from time to time. This jurisdiction reserves the right to adopt codes based upon promulgations of organizations other than the International Code Council, including but not limited to the Uniform Series Codes, to the extent permitted by State law. Any reference to a specific chapter, section, or provision of a code that has not been adopted by this jurisdiction shall be construed to mean the corresponding provision of the corresponding code as adopted by this jurisdiction.

101.4.7 Energy. ~~The provisions of the *International Energy Conservation Code* shall apply to all matters governing the design and construction of buildings for energy efficiency. *The 2000*~~

International Energy Conservation Code has been adopted by the State of Texas pursuant to Chapter 388 of the Texas Health and Safety Code. The 2000 International Energy Conservation Code and any amendments adopted as authorized by state law shall be enforced by this jurisdiction in accordance with state law.

102.1 General. Where, in any specific case, different ~~sections~~ provisions of the Electrical Code, the Mechanical Code, the Plumbing Code, and this code specify different materials, methods of construction or other requirements, the most restrictive shall govern. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall be applicable. Where, in any specific instance, the applicable provisions of any of the Building Code, the City Code, the Electrical Code, the Mechanical Code, or the Plumbing Code specify different materials, methods of construction, or other requirements than the Fire Code, and the building official and the fire marshal are unable to mutually reconcile the requirements by issuing a written interpretation, then either of them may refer the matter to the General Appeals Board created under the Building Code, which shall conduct a review of the matter and issue a written code interpretation based upon the apparent intent of the codes involved. Notwithstanding any other provision, interpretations that are issued by the General Appeals Board shall not be subject to further appeal. Wherever in this code reference is made to the appendix, the provisions in the appendix shall not apply unless specifically adopted.

102.6 Existing and annexed structures. ~~The legal occupancy of any structure existing on the date of adoption of this code shall be permitted to continue without change, except as is specifically covered in this code, the International Property Maintenance Code or the International Fire Code, or as is deemed necessary by the building official for the general safety and welfare of the occupants and the public.~~

102.6.1 Existing structures. A building in existence within the jurisdiction at the time of the passage of this code may have its existing use or occupancy continued, if:

1. Such use or occupancy was legal at the time of the passage of this code;

2. The building is in compliance with all applicable provisions of Appendix L; and
3. The continued use and occupancy is not unsafe pursuant to the provisions of Section 115.

102.6.2 Annexed structures. Any building in existence prior to the annexation into the jurisdiction of the land on which it is situated may have its use and occupancy continued if:

1. Such use or occupancy was legal under the building design and construction codes and related laws applicable in the jurisdiction in which the building was situated at the time immediately prior to its annexation;
2. The building is in compliance with all applicable provisions of Appendix L; and
3. The continued use and occupancy is not unsafe pursuant to the provisions of Section 115.

SECTION 103

DEPARTMENT OF BUILDING SAFETY CODE ENFORCEMENT DIVISION

103.1 Creation of enforcement agency. ~~The department of building safety code enforcement~~ division is hereby created within the jurisdiction's Planning and Development Department and the official in charge thereof shall be known as the building official.

103.3 Deputies. In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the appointing authority, the building official shall have the authority to appoint a deputy building official, the related technical officers, inspectors, plan examiners and other employees. Such employees shall have powers as delegated by the building official. ~~For the maintenance of existing properties, see the~~ *International Property Maintenance Code*.

104.6 Right of entry. Where it is necessary to make an inspection to enforce the provisions of this code, or where the building official has reasonable cause to believe that there exists in a structure or upon a premises a condition which is contrary to or in violation of this code which makes the structure or premises unsafe, dangerous or hazardous, the building official ~~is authorized to~~ may enter the structure or premises at reasonable times to inspect or to perform the duties imposed by this code,

provided that if such structure or premises be occupied that credentials be presented to the occupant and entry requested. If such structure or premises be unoccupied, the building official shall first make a reasonable effort to locate the owner or other person having charge or control of the structure or premises and request entry. If entry is refused, the building official shall have recourse to the remedies provided by law to secure entry.

When, due to emergency, immediate entry is necessary to protect life or property, or when the building official shall have first obtained a proper inspection warrant or other remedy provided by law to secure entry, no owner or occupant or any other person having charge, care or control of any building or premises shall fail or neglect, after proper request is made as herein provided, to promptly permit entry therein by the building official for the purpose of inspection and examination pursuant to this code.

104.8 Liability. ~~The building official, member of the Board of Appeals or employee charged with the enforcement of this code, while acting for the jurisdiction in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be rendered liable personally and is hereby relieved from personal liability for any damage accruing to persons or property as a result of any act or by reason of an act or omission in the discharge of official duties. Any suit instituted against an officer or employee because of an act performed by that officer or employee in the lawful discharge of duties and under the provisions of this code shall be defended by legal representative of the jurisdiction until the final termination of the proceedings. The building official or any subordinate shall not be liable for cost in any action, suit or proceeding that is instituted in pursuance of the provisions of this code. Except as otherwise provided by law, the building official shall not personally be liable in damages for any act or omission arising out of any official action taken to implement and enforce the provisions of this code. Additionally, except as otherwise provided by law, the building official shall not be personally be liable in damages for any action or omission taken in the course and scope of employment. Where and to the extent consistent with the provisions of Article X of Chapter 2 of the City Code, this jurisdiction shall provide legal representation and indemnification for any suit brought against the building official because of acts or omissions performed in the enforcement of this code.~~

This code shall not be construed to relieve from or lessen the responsibility of any person owning, operating, or controlling any building or structure for any damages to persons or property caused by defects, nor shall the code enforcement agency or its parent jurisdiction be held as assuming any such liability by reason of the inspections authorized by this code or any permits or certificates issued under this code.

104.12 Occupancy violations. Whenever any building or structure or equipment therein regulated by this code is being used contrary to the provisions of this code, the building official may order such use discontinued and the structure, or portion thereof, vacated by notice served on any person causing such use to be continued.

If the use creates a serious and immediate hazard to life or property, the building official shall order the use discontinued immediately and give notice of a right to a hearing on the matter pursuant to Section 116. Upon request, such a hearing shall be held within three business days unless the owner requests an extension of time.

In all situations where there is no serious and immediate hazard to life or property, the building official shall not issue an order requiring such use to be discontinued and the structure, or portion thereof, vacated until after giving notice of a right to a hearing on the matter pursuant to Section 116.

Whenever an order is issued to discontinue a use or vacate a structure or portion thereof pursuant to this section, the person shall discontinue the use within the time prescribed by the building official unless the building official first determines that the person has brought the building, structure or equipment into compliance with this code.

105.1 Required. Any owner or authorized agent who intends to construct, enlarge, alter, repair, move, demolish, or change the occupancy of a building or structure, or to erect, install, enlarge, alter, repair, remove, convert or replace any electrical, gas, mechanical or plumbing system, the installation of which is regulated by this code, or to cause any such work to be done, shall first make application to the building official and obtain the required permit, and no person shall cause, suffer or permit the same to be done unless a separate permit for each building or structure has first been obtained.

~~**105.1.1 Annual permit.** In lieu of an individual permit for each alteration to an already approved electrical, gas, mechanical or plumbing installation, the building official is authorized to issue an annual permit upon application therefor to any person, firm or corporation regularly employing one or more qualified trade persons in the building, structure or on the premises owned or operated by the applicant for the permit.~~

~~**105.1.2 Annual permit records.** The person to whom an annual permit is issued shall keep a detailed record of alterations made under such annual permit. The building official shall have access to such records at all times or such records shall be filed with the building official as designated.~~

105.2 Work exempt from permit. Exemptions from permit requirements of this code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this code or any other laws or ordinances of this jurisdiction. Permits shall not be required for the following:

Building:

1. One-story detached accessory buildings used as tool and storage sheds, playhouses, and similar uses, provided the floor area does not exceed 120 square feet (11.15 m²).
2. Fences not over ~~6~~ 8 feet (~~1829~~ 2438.64 mm) high that are not constructed of masonry or concrete.
3. Oil derricks.
4. Retaining walls which are not over 4 feet (1219 mm) in height measured from the bottom of the footing to the top of the wall, unless supporting a surcharge or impounding Class I, II or III-A liquids.
5. Water tanks supported directly upon grade if the capacity does not exceed 5,000 gallons (18 927 L) and the ratio of height to diameter or width does not exceed 2 to 1.
6. Sidewalks and driveways that are not in the public way, not more than 30 inches (762 mm) above grade and not over any basement or story below ~~and which are not part of an accessible route.~~

7. Painting, papering, tiling, carpeting, cabinets, counter tops and similar finish work.
8. Temporary motion picture, television and theater stage sets and scenery.
9. Prefabricated swimming pools accessory to a one- or two-family dwelling in which the walls are entirely above grade and if the capacity does not exceed 5,000 gallons (18 927 L)-Group R-3 occupancy, as applicable in Section 101.2, which are less than 24 inches (610 mm) deep, do not exceed 5,000 gallons (19 000 L) and are installed entirely above ground.
10. Shade cloth structures constructed for nursery or agricultural purposes and not including service systems.
11. Swings and other playground equipment ~~accessory to one- and two-family dwellings.~~
12. Window awnings supported by an exterior wall of Group R-3, as applicable in Section 101.2, and Group U occupancies.
13. Movable cases, counters, and partitions not over 5 feet 9 inches (1753 mm) in height.
14. A tower under 75' in height that meets the following conditions:
 - (a) Tower structures used primarily for the support of amateur and citizens' band radio or private television antennae;
 - (b) Tower structures on real property owned, leased, held or used, or dedicated for use by a public utility for rendering its service, such as tower structures used primarily for the transmission of electrical power by a public utility or the conveyance of communications over a telephone wire-line system operated by a public utility;
 - (c) High mast tower structures or antennas built on land on, along or adjacent to streets, roads, highways and bridges maintained by the state or a political subdivision of the state; and
 - (d) Tower structures constructed or placed on land or other structures owned, leased, held or dedicated for use by the state or federal government or any political subdivision thereof, which land or other structures are used by the governmental entity primarily for rendering fire, police or other public protection services or utility services, whether or not the tower structure is used jointly by the governmental entity

and any other public or private person or entity for other and additional public or private purposes.

A building permit for any tower structure that is 60' or more in height and does not meet these exemptions shall not be issued unless a special permit has been obtained pursuant to Section 41-51 of the City Code.

15. A "work of art" as defined in Section 2-326 of the City Code.

Electrical:

~~**Repairs and maintenance:** Minor repair work, including the replacement of lamps or the connection of approved portable electrical equipment to approved permanently installed receptacles.~~

~~**Radio and television transmitting stations:** The provisions of this code shall not apply to electrical equipment used for radio and television transmissions, but does apply to equipment and wiring for power supply, the installations of towers and antennas.~~

~~**Temporary testing systems:** A permit shall not be required for the installation of any temporary system required for the testing or servicing of electrical equipment or apparatus.~~

Gas:

- ~~1. Portable heating appliance.~~
- ~~2. Replacement of any minor part that does not alter approval of equipment or make such equipment unsafe.~~

Mechanical:

- ~~1. Portable heating appliance;~~
- ~~2. Portable ventilation equipment;~~
- ~~3. Portable cooling unit;~~
- ~~4. Steam, hot or chilled water piping within any heating or cooling equipment regulated by this code;~~
- ~~5. Replacement of any part which does not alter its approval or make it unsafe;~~

6. ~~Portable evaporative cooler;~~
7. ~~Self-contained refrigeration system containing 10 pound (4.54 kg) or less of refrigerant and actuated by motors of 1 horsepower (746 W) or less.~~

Plumbing:

~~The stopping of leaks in drains, water, soil, waste or vent pipe; provided, however, that if any concealed trap, drainpipe, water, soil, waste or vent pipe becomes defective and it becomes necessary to remove and replace the same with new material, such work shall be considered as new work and a permit shall be obtained and inspection made as provided in this code.~~

~~The clearing of stoppages or the repairing of leaks in pipes, valves or fixtures, and the removal and reinstallation of water closets, provided such repairs do not involve or require the replacement or rearrangement of valves, pipes or fixtures.~~

105.2.1 Emergency repairs. ~~Where equipment replacements and repairs must be performed in an emergency situation, the permit application shall be submitted within the next working business day to the building official.~~

105.2.2 Repairs. ~~Application or notice to the building official is not required for ordinary repairs to structures, replacement of lamps or the connection of approved portable electrical equipment to approved permanently installed receptacles. Such repairs shall not include the cutting away of any wall, partition or portion thereof, the removal or cutting of any structural beam or load bearing support, or the removal or change of any required means of egress, or rearrangement of parts of a structure affecting the egress requirements; nor shall ordinary repairs include addition to, alteration of, replacement or relocation of any standpipe, water supply, sewer, drainage, drain leader, gas, soil, waste, vent or similar piping, electric wiring or mechanical or other work affecting public health or general safety.~~

~~**105.2.3 Public service agencies.** A permit shall not be required for the installation, alteration or repair of generation, transmission, distribution or metering or other related equipment that is under the ownership and control of public service agencies by established right.~~

~~**105.5 Expiration.** Every permit issued shall become invalid unless the work on the site authorized by such permit is commenced within 180 days after its issuance, or if the work authorized on the site by such permit is suspended or abandoned for a period of 180 days after the time the work is commenced. The building official is authorized to grant, in writing, one or more extensions of time, for periods not more than 180 days each. The extension shall be requested in writing and justifiable cause demonstrated. For purposes of this subsection, the determination whether work has commenced under a permit or whether work has been abandoned under a permit shall be based upon whether the permit holder requests an inspection of the work performed under the permit by the building official. If work is not commenced under a permit within 180 days of the date of issuance or is abandoned at any time for a period of 180 consecutive days, the permit shall lapse. An elapsed permit shall expire 180 days following the date that it lapsed unless, before the 180th day following the date that the permit lapsed, the permit holder obtains reactivation of the permit by:~~

- ~~1. Requesting reactivation of the permit by the building official; and~~
- ~~2. Requesting an inspection of work performed under the permit by the building official.~~

~~A permit may only be reactivated one time, and it shall expire if the work is again abandoned for a period of 180 consecutive days. In order to recommence work under an expired permit, the permit holder shall pay the full permit fee applicable and submit plans that comply with this code for the previously uninspected portion of the work.~~

~~**Exception:** The building official may, upon request, perform a final inspection of work for which the permit has expired or reactivate a permit for the purpose of issuing a certificate of occupancy or a certificate of compliance.~~

105.6 Suspension or revocation. The building official is authorized to suspend or revoke a permit issued under the provisions of this code wherever the permit issued in error or on the basis of incorrect, inaccurate or incomplete information, or in violation of any ordinance or regulation or any

of the provisions of this code. Prior to taking such action, the building official shall provide notice of a right to a hearing on the matter pursuant to Section 116.

106.5 Retention of construction documents. One set of approved construction documents ~~shall~~ may be retained by the building official for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws.

107.3 Temporary power. The building official is authorized to give permission to temporarily supply and use power in part of an electric installation before such installation has been fully completed and the final certificate of completion has been issued. The part covered by the temporary certificate shall comply with the requirements specified for temporary lighting, heat or power in the ~~ICC~~*Electrical Code*.

108.2 Schedule of permit fees. On buildings, structures, electrical, gas, mechanical, and plumbing systems or alterations requiring a permit, a fee for each permit shall be paid as required, in accordance with the schedule as established by ~~the applicable governing authority~~ Section 117.

108.3 Building permit valuations. The applicant for a permit shall provide an estimated permit value at time of application. Permit valuations shall include total value of work, including materials and labor, for which the permit is being issued, such as electrical, gas, mechanical, plumbing equipment and permanent systems. If, in the opinion of the building official, the valuation is underestimated on the application, the permit shall be denied, unless the applicant can show detailed estimates to meet the approval of the building official. Final building permit valuation shall be set by the building official. The value to be used in computing the permit fee for alterations, remodeling or repairs shall be the total value of all construction work for which the permit is issued.

108.4 Work commencing before permit issuance. Any person who commences any work on a building, structure, electrical, gas, mechanical or plumbing system before obtaining the necessary permits shall be subject to an additional investigation fee established by the building official that

shall be in addition to the required permit fees. The investigation fee shall be equal to the amount of the permit fee required by this code.

108.6 Refunds. ~~The building official is authorized to establish a refund policy.~~ may authorize refunding of any fee paid hereunder that was erroneously paid or collected due to an error by one or more city employees. This provision shall not be applicable if the error occurred because of incorrect information provided by the applicant.

The building official may authorize the refunding of not more than 90 percent of the amount in excess of \$25.00 of the permit fee paid when no work has been done under a permit issued in accordance with this code. If work has been done under the permit, no refund may be authorized.

The building official shall not authorize refunding of any fee paid except on written application filed by the original permittee not later than 180 days after the date of fee payment.

109.3.3 ~~Reserved. Lowest floor elevation.~~ ~~The elevation certification required in Section 1612.5 shall be submitted to the building official.~~

109.3.5 ~~Lath or gypsum board inspection.~~ ~~Lath and gypsum board inspections shall be made after lathing and gypsum board, interior and exterior, is in place, but before any plastering is applied. or before gypsum board joints and fasteners are taped and finished.~~

~~Exception:~~ ~~Gypsum board that is not part of a fire-resistive assembly or a shear assembly.~~

109.3.7 ~~Reserved. Energy efficiency inspections.~~ ~~Inspections shall be made to determine compliance with Chapter 13 and shall include, but not be limited to, inspections for: envelope insulation R and U value, fenestration U value, duct system R value, and HVAC and water heating equipment efficiency.~~

109.3.8 Other inspections. In addition to the inspections specified above, the building official is authorized to make or require other inspections of any construction work to ascertain compliance

with the provisions of this code and other laws that are enforced by the ~~department of building safety~~ Code Enforcement Division.

109.3.11 Reinspection. A reinspection fee may be assessed for each inspection or reinspection when the portion of work for which inspection is called is not complete or when corrections called for are not made.

This section is not to be interpreted as requiring inspection fees the first time a job is rejected for failure to comply with the requirements of this code, but as controlling the practice of calling for inspections before the job is ready for such inspection or reinspection.

Reinspection fees may be assessed when the inspection record card is not posted or otherwise available on the work site, the approved plans are not readily available to the inspector, for failure to provide access on the date for which inspection is requested, or for deviating from plans requiring the approval of the building official.

To obtain a reinspection, the applicant shall make a request and pay the reinspection fee in accordance with Section 117.

In instances where reinspection fees have been assessed, no additional inspection of the work will be performed until the required fees have been paid.

110.1 Use and occupancy. No building or structure, or portion thereof such as an individual business lease space, shall be used or occupied, and no change in the existing occupancy classification of a building or structure or portion thereof shall be made until the building official has issued a separate certificate of occupancy for each space therefor as provided herein. For purposes of this section, a space means a leasehold or tenancy held or occupied by an individual or entity for its sole use and may include one or more rooms. Issuance of a certificate of occupancy shall not be construed as an approval of a violation of the provisions of this code or of other ordinances of the jurisdiction.

Exception: Group R, Division 3 and Group U occupancies, and individual dwelling units or sleeping units do not require a certificate of occupancy.

110.3 Certificate issued. After the building official inspects the building or structure and finds no violations of the provisions of this code or other laws that are enforced by the ~~department of building safety code enforcement agency~~, the building official shall issue a certificate of occupancy that shall contain the following:

1. The building permit number or project number.
2. The address of the structure.
3. ~~The name and address of the owner.~~
4. A description of that portion of the structure for which the certificate is issued.
- 5-4. A statement that the described portion of the structure has been inspected for compliance with the requirements of this code for the occupancy and division of occupancy and the use for which the proposed occupancy is classified.
- 6-5. The name of the building official.
- 7-6. The edition of the code under which the permit was issued.
- 8-7. The use and occupancy, ~~in accordance with the provisions of Chapter 3.~~ of the building or portion thereof.
- 9-8. The type of construction as defined in Chapter 6.
- 10-9. The design occupant load.
- 11-10. If an automatic sprinkler system is provided, whether the sprinkler system is required.
- 12-11. Any special stipulations and conditions of the building permit.

110.5 Revocation. The building official is authorized to, in writing, suspend or revoke a certificate of occupancy ~~or completion~~ issued under the provisions of this code after notice of a right to a hearing on the matter pursuant to Section 116 wherever the certificate is issued in error, or on the basis of incorrect information supplied, or where it is determined that the building or structure or portion thereof is in violation of any ordinance or regulation or any of the provisions of this code.

110.6 Posting. The certificate of occupancy shall be posted in a conspicuous place on the premises and shall not be removed except by the building official.

112.1 General. ~~In order to hear and decide appeals of orders, decisions or determinations made by the building official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the governing body and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business.~~ **Organization.** There is hereby created a General Appeals Board consisting of 10 members. Five members at a meeting shall constitute a quorum.

112.1.1 Limitations on authority. ~~An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply, or an equally good or better form of construction is proposed. The board shall have no authority to waive requirements of this code.~~ **Membership.** The positions shall be filled as follows:

Position 1- By an architect registered as such under the laws of the State of Texas who shall be actively engaged in the practice of architecture of heavy construction works.

Position 2- By an architect registered as such under the laws of the State of Texas who shall be actively engaged in the practice of architecture of residential works.

Position 3- By a professional engineer registered as such under the laws of the State of Texas who shall be actively engaged in practice as a structural engineer.

Position 4- By a professional engineer registered as such under the laws of the State of Texas who shall be actively engaged in practice as a mechanical engineer.

Position 5- By a person who shall be actively engaged in the business of residential construction.

Position 6- By a person who shall be actively engaged in the business of general contracting of heavy construction work.

Position 7- By a well-respected citizen of the jurisdiction who shall be chairman of the board.

Position 8- By the building official, who shall be also serve as secretary of the board.

Position 9- By the fire marshal.

Position 10- By a professional engineer registered as such under the laws of the State of Texas who is actively engaged in practice as an electrical engineer.

The jurisdiction's Legal Department shall have an attorney present for each board meeting. The attorney shall advise the board on legal matters relative to topics under board jurisdiction.

112.1.2 Authorized representatives. The building official and the fire marshal each, from time to time, may designate in writing a person under the said official's supervision to act as a duly authorized representative of the said official. Said representative shall enjoy all rights and privileges of the position. A copy of such a designation, specifying the dates any such person shall act as representative of the building official or of the fire marshal, shall be filed with the minutes of the board.

112.1.3 Term of appointment. Other than the members in Positions 8 and 9, who shall serve ex officio, members of the board shall be appointed by the Mayor, with the approval of the City Council, and shall serve for a term of two years. The terms of office for the appointees to Positions 1, 3, 5 and 7 shall expire on the second day of January of each odd-numbered year, and terms of office for the appointees to Positions 2, 4, 6 and 10 shall expire on the second day of January of each even-numbered year; however, each member shall continue in office until the member's respective successor shall have been appointed and qualified.

The adoption of this code shall not terminate the term of office of any person currently serving on the board, and any person who is currently serving on the board shall continue to serve in the position for which the person was appointed and confirmed until a successor is appointed and qualified.

112.1.4 Vacancies. Whenever any appointive position on the board becomes vacant by reason of death, resignation or removal, said vacancy shall be filled for the unexpired term of the member being replaced. Should a vacancy occur on the board, the Mayor shall appoint, subject to confirmation by the City Council, another qualified person to serve the remainder of the term of such vacancy.

112.1.5 Removal. Any member of the board may be removed at any time by the Mayor without consent of the City Council.

112.1.6 Compensation. Each member of the board shall be compensated at the rate of \$50.00 per diem for each meeting the member attends at which a quorum is present; provided, however, no member shall be paid for more than three meetings in any one month. A jurisdiction employee member of the board shall be paid only for those meetings that the employee attends at which a quorum is present that are held outside of or continue beyond the employee's working hours.

112.1.7 Conflict of interest. In each instance where this code provides for a jurisdiction employee to serve as a voting member of any board created by the provisions of this code, such jurisdiction employee member shall not vote as a member of such board on any motion, resolution, decision, interpretation or recommendation by the board concerning a decision or interpretation or an appeal from a decision or interpretation of any provision of this code or related ordinances made by the jurisdiction employee member.

~~112.2 Limitations on authority.~~ An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply, or an equally good or better form of construction is proposed. ~~The board shall have no authority to waive requirements of this code.~~ **Duties of the board.** The duties of the board are to interpret the provisions of this code in appeals from decisions of the building official; to settle possible jurisdiction disputes among the Plumbing, Electrical, and Air Conditioning Appeals Boards; and to hear appeals from the building official as to the suitability of alternate materials or alternate methods of construction other than those relating to air conditioning, plumbing, and electrical. The board also may make recommendations to the Mayor for amendments to this code.

112.3 Qualifications. ~~The board of appeals shall consist of members who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction.~~ **Procedures.** The board shall adopt reasonable rules and regulations for conduct of its duties. Petitions for hearings before the board shall be made in writing and filed with the building official and shall be heard by the board within 30 days from the date filed. A majority of the members of the board present shall determine matters presented to the board. All decisions and findings shall be reduced to writing by the secretary, with copies to the petitioner and all other parties to the hearing. Any interested person aggrieved by a decision of the board may appeal to the City Council, provided that written notice to the City Council for such appeal is delivered to the City Secretary within 10 days from the date that the written decision of the board is mailed to the appellant by the board secretary.

All appeals to the City Council are subject to the rules of the City Council, which are codified in Section 2-2 of the City Code, copies of which are available from the City Secretary. Parties wishing to preserve their right of appeal must comply with the rules of the City Council, including Rule 12.

112.4 Posting of agenda. The secretary of the board shall prepare and post an agenda for each meeting in the manner provided by Chapter 551 of the Texas Government Code.

113.1 Unlawful acts. It shall be unlawful for any person, firm or corporation to erect, construct, alter, extend, repair, move, remove, demolish or occupy any building, structure or equipment regulated by this code, or cause same to be done, in conflict with or in violation of any of the provisions of this code.

Where no specific penalty is otherwise provided in this code, the violation of any provision of this code shall constitute a misdemeanor punishable upon conviction by a fine of not less than \$250.00 nor more than \$2,000.00. Each day that any violation continues shall constitute and be punishable as a separate offense. Where any conduct in violation of this code also constitutes a violation of state penal law, then the offense shall be punishable as provided in the applicable state law. In prosecutions under this code, the various provisions hereof that are designated as an "exception" or "exceptions" shall not be treated as exceptions within the meaning of Section 2.02 of

the Texas Penal Code, and, instead, they shall constitute defenses to prosecution within the meaning of Section 2.03 of the Texas Penal Code.

113.4 Violation penalties. Any person who violates a provision of this code or fails to comply with any of the requirements thereof or who erects, constructs, alters or repairs a building or structure in violation of the approved construction documents or directive of the building official, or of a permit or certificate issued under the provisions of this code, shall be subject to penalties as prescribed ~~by law~~ in Section 113.1.

114.2 Issuance. The stop work order shall be in writing and shall be given to the owner of the property involved, or to the owner's agent, or to the person doing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order, and the conditions under which the cited work will be permitted to resume.

At the time such a stop order is issued, the person doing the work and the permit holder shall be given notice of a right to a hearing on the matter pursuant to Section 116.2. The notice shall be delivered to persons performing the work if present at the site or otherwise shall be conspicuously posted at the site. Upon request, such a hearing shall be held within three business days unless the permit holder or person who was doing the work requests an extension of time. Any stop order that has been issued shall remain in effect pending any hearing that has been requested unless the stop order is withdrawn by the building official.

~~**115.1 Conditions.** Structures or existing equipment that are or hereafter become unsafe, unsanitary or deficient because of inadequate means of egress facilities, inadequate light and ventilation, or which constitute a fire hazard, or are otherwise dangerous to human life or the public welfare, or which involve illegal or improper occupancy or inadequate maintenance, shall be deemed an unsafe condition. Unsafe structures shall be taken down and removed or made safe, as the building official deems necessary and as provided for in this section. A vacant structure that is not secured against entry shall be deemed unsafe.~~

~~**115.2 Record.** The building official shall cause a report to be filed on an unsafe condition. The report shall state the occupancy of the structure and the nature of the unsafe condition.~~

~~**115.3 Notice.** If an unsafe condition is found, the building official shall serve on the owner, agent or person in control of the structure, a written notice that describes the condition deemed unsafe and specifies the required repairs or improvements to be made to abate the unsafe condition, or that requires the unsafe structure to be demolished within a stipulated time. Such notice shall require the person thus notified to declare immediately to the building official acceptance or rejection of the terms of the order.~~

~~**115.4 Method of service.** Such notice shall be deemed properly served if a copy thereof is (a) delivered to the owner personally; (b) sent by certified or registered mail addressed to the owner at the last known address with the return receipt requested; or (c) delivered in any other manner as prescribed by local law. If the certified or registered letter is returned showing that the letter was not delivered, a copy thereof shall be posted in a conspicuous place in or about the structure affected by such notice. Service of such notice in the foregoing manner upon the owner's agent or upon the person responsible for the structure shall constitute service of notice upon the owner.~~

~~**115.5 Restoration.** The structure or equipment determined to be unsafe by the building official is permitted to be restored to a safe condition. To the extent that repairs, alterations or additions are made or a change of occupancy occurs during the restoration of the structure, such repairs, alterations, additions or change of occupancy shall comply with the requirements of Section 105.2.2 and Chapter 34.~~

115.1 Unsafe buildings or structures. All buildings or structures regulated by this code that are structurally unsafe or not provided with adequate egress, or that constitute a fire hazard, or are otherwise dangerous to human life are, for the purpose of this section, unsafe. Any use of buildings or structures constituting a hazard to safety, health or public welfare by reason of inadequate maintenance, dilapidation, obsolescence, fire hazard, disaster, damage or abandonment is, for the

purpose of this section, an unsafe use. Parapet walls, cornices, spires, towers, tanks, statuary and other appendages or structural members that are supported by, attached to, or a part of a building and that are in deteriorated condition or otherwise unable to sustain the design loads that are specified in this code are hereby designated as unsafe building appendages.

All such unsafe buildings, structures or appendages shall be abated, repaired, rehabilitated, demolished or removed in accordance with the procedures set forth in Chapter 10, Articles VIII and IX of the City Code.

In matters of fire safety design and construction, including, but not limited to, egress (corridors, exit numbers, stairs, fire escapes and fire escape signs), wall and ceiling finish, enclosure of vertical shafts, basement access, standpipes and occupancy separation, a building shall not be deemed to be a fire hazard if it is in compliance with the most restrictive of:

1. The provisions of Appendix L, if applicable; and
2. The building code that was applicable when the building was constructed; and
3. If the occupancy classification of the building or a portion thereof has changed since it was constructed, then the building code that was applicable when the occupancy classification was changed.

Any building not situated within the jurisdiction at the time of its construction or change of occupancy classification shall be governed by the design and construction code and related laws applicable in the jurisdiction in which it was constructed at the time of its construction or change of occupancy and by the provisions of Appendix L to this code. To the extent of any conflict among the requirements of any of the foregoing codes that are applicable to any building, the most restrictive will apply. However, compliance with the aforesaid provisions shall not be deemed to excuse life-threatening defects of maintenance, sanitation, repair of casualty damage, security from unauthorized entry, structural stability, electrical systems, gas systems, plumbing systems, heating or cooling systems or other building systems.

Exception: For a building under construction or contract at the time of its annexation by the jurisdiction, see the Annexation Ordinance (Ordinance No. 78-2672), which is published in the preamble of this volume.

SECTION 116
HEARING PROCEDURES

116.1 Hearing notices. Whenever notice is to be given to any person concerning the right to a hearing, the notice may be given by personal delivery or by certified mail, return receipt requested.

If notice is being given to a building owner or to a tenant therein and the building official is unable to determine the name or address of such person after checking the building and the applicable records of the jurisdiction's Planning and Development Department, the County Appraisal District, the electrical utility company, the gas utility company, and the water utility provider, notice shall be mailed to the billing addresses of the building as shown on the records of the electrical company and the gas company and shall be posted on or in view of each entrance to the building. Additionally, if any notice is mailed to a building owner or a building tenant and is returned without delivery, notice shall be effective if posted on or in view of each entrance to the building.

116.2 Hearings. Except where otherwise specifically provided, all hearings held pursuant to this code shall be conducted by the jurisdiction's Director of Planning and Development or a representative, who shall hereinafter be referred to as the "hearing official." The director shall not designate any person to be a hearing official under this code who has taken any part in the investigation of the matter that is the subject of the hearing or any person who directly supervised the investigation. The hearing official shall consider only the evidence presented at the hearing in rendering a decision. The decision of the hearing official shall be set forth in writing and shall be served on each party in the same manner as a notice of a right to a hearing.

SECTION 117
PERMIT AND INSPECTION FEES

117.1 General.

117.1.1 Permit or license. An administrative fee of \$5.00 shall be charged upon the preparation of each permit or license issued by the building official. This fee shall apply regardless of whether the permit or license is issued pursuant to this code or the City Code, and it shall be payable in addition to all other applicable fees for the permit or license. The foregoing administrative fee shall not be applicable if no other fee is provided by law for the permit or license.

117.1.2 Receipt. An administrative fee of \$5.00 shall be charged upon the preparation of each fee or deposit receipt issued by the building official. This fee shall apply regardless of whether the fee or deposit is payable pursuant to this code or the City Code. This fee shall be in addition to all other applicable fees or deposits. When paid for a deposit or fee receipt, this fee shall neither constitute nor be refundable as a part of the deposit.

117.1.3 Minimum permit fee. If the fee or fees imposed for any single permit that is issued by the building official, whether issued under this code or the City Code, do not total more than \$10.00, then a minimum permit fee of \$10.00 shall be charged for the permit. The foregoing minimum permit fee shall not be applicable if no other fee is provided by law for the permit. The administrative fee assessed pursuant to Section 117.1.1 above shall not be included in the foregoing minimum permit fee calculation, and it shall be payable in addition to the minimum permit fee.

117.1.4 Certificate of occupancy or compliance. A fee of \$50.00 shall be charged for each certificate of occupancy or compliance issued for a building or structure or portion thereof such as an individual business lease space. A fee of \$35.00 shall be charged for each temporary certificate of occupancy issued.

117.1.5 Reinspection fee. In case it becomes necessary to make a reinspection of any work because of faulty materials or workmanship or incomplete work, the permittee shall pay for each reinspection a fee of \$25.00, except where a greater fee is specifically required under this code.

117.1.6 Specially requested inspections during working hours. Whenever a person requests that an inspector be present at a site at a specific time, the jurisdiction shall provide such inspector upon payment of all applicable fees if doing so would not interfere with the regular duties of the inspector and would not cause a delay in the inspection of other work.

Fee for specially requested inspections in addition to all other fees required by this code:

Per day, regular working hours\$200.00

A full day's fee must be paid unless the building official finds that the request was made as a result of an unforeseeable emergency.

117.1.7 Emergency inspections. Emergency inspections shall be defined as those requested inspections occasioned by virtue of an unforeseeable incident or occurrence that necessitates an immediate inspection. In situations where there is a dispute as to whether an actual emergency occurred, the decision of the building official shall be final.

Fees:

Minimum four hours\$150.00

Each hour or portion thereof exceeding four hours\$ 25.00

Total not to exceed \$200.00 if inspection is made during regular working hours. This fee shall be in addition to all other fees required by this code.

117.1.8 Inspections and plan reviews outside regular working hours. Whenever a person requests that an inspector make an inspection or review plans at times other than during regular working hours, or on jurisdiction-observed holidays or weekends, the jurisdiction shall provide such inspector upon payment of all applicable fees if such would not interfere with the regular duties of the inspector or create an undue burden on such inspector.

Fees:

Minimum four hours\$240.00

Each hour or portion thereof exceeding four hours\$ 35.00

This fee shall be in addition to all other fees required by this code.

117.1.9 Inspections outside of jurisdiction. The fee for an inspection outside the jurisdiction shall be a minimum of \$200.00 per person plus \$0.20 per vehicle mile. This fee shall not apply to inspections performed under Section 117.1.11.

117.1.10 Exemption from permits and fees. To the extent that they are exempt as a matter of law from compliance with the Building Code, neither the State of Texas nor the United States of America shall be required to obtain a building permit for work undertaken for or performed by either of them; however, the fees set forth in this section shall be applicable to the extent that the State of Texas, or the United States of America elects to obtain any permit for exempt work.

Except for exempt work undertaken by or for the State of Texas, or the United States of America, building permits shall be required for any political subdivision or unit of government (including, but not limited to, the jurisdiction) in the same manner and to the same extent as for work performed by or for other persons. The fees prescribed in this section shall be applicable to all permits issued to or for governmental agencies.

Counties are required to comply with the provisions of the Building Code. Except as provided by Section 212.903 of the Texas Local Government Code, a county shall notify the building official of each work project that is undertaken. The building official shall, upon request and demonstration of capacity, allow a county to self-permit and self-inspect work that is performed by or for the county on county-owned buildings and facilities for which a permit is required. No fee shall be imposed hereunder for work that a county is authorized to self-permit and self-inspect.

117.1.11 Approved fabricators/certifying agent or agency. The following permit fees shall apply to an approved fabricator/certifying agent or agency:

1. Approved certifying agent or agency, as described in Chapter 17: A fee of \$450.00 if an inspection is made for the purpose of approving the agent or agency. The agent or

agency shall reimburse the jurisdiction for travel expenses incurred in performing inspections outside Harris or a contiguous county.

2. Approved fabricator as defined in Chapter 2: A fee of \$500.00 for each inspection made for the purpose of verifying and approving the fabricator's quality control program. The fabricator shall reimburse the jurisdiction for travel expenses incurred in performing inspections outside Harris or a contiguous county.

117.1.12 Express plan review service. Expedited review of plans for certain types of construction projects shall be available when approved by the building official. The building official shall develop guidelines on proper use of this service, determining qualified projects and the assessment of service fees when not specifically noted in this code.

The fee for expedited service shall be 65 percent of the building permit fee calculated as provided in Section 117.2. This fee shall be separate from, and in addition to, the structural permit fee.

If for any reason the building official is not able to complete the review of any set of plans for which the expedited review fee has been paid and approve or disapprove the same within seven days of their receipt (Saturdays, Sundays and jurisdiction-observed holidays excluded), then the applicant shall, upon written request therefor, be entitled to a refund of the expedited review fee.

Exception: Any processing delay for required plan review by other jurisdiction departments, not under control of the building official, shall not be charged to the seven-day review time.

Payment of the expedited review fee allows review of the plans in the form presented at the time the fee is paid and one additional review in the event the drawings must be corrected to comply with this code or other applicable laws. The payment shall not entitle the applicant to expedited review of any further revisions to the plans.

117.1.13 Name or Address Changes.

<u>Name change each</u>	<u>\$ 50.00</u>
<u>Address change each</u>	<u>\$ 50.00</u>

117.2 Structural.

117.2.1 Buildings. The following building permit fees shall be required by this code:

New buildings and additions:

\$0.04 per square foot of floor space, with a minimum fee of.....\$30.00

Alterations, remodeling, repairs: 2/5 of 1% of valuation, with a minimum fee . \$30.00

Demolition of any building:

For the first story\$50.00

For each additional story\$25.00

Stationary and floating piers:

First 100 square feet of deck area\$15.00

Each additional square foot \$0.15

Towers, other than sign structures, 2/5 of 1% valuation, with a minimum fee of \$25.00

Incinerator (other than domestic outdoor type),each\$75.00

Bulkheads:

For first 100 lineal feet or part thereof\$35.00

Each additional 100 lineal feet or part thereof\$10.00

Prefabricated fireplaces\$10.00

Sand blasting or water blasting\$25.00

Foundation only:

\$0.04 per square foot of floor space or excavation for foundation, with a minimum fee of
.....\$25.00

Excavation permit

(other than those covered by a building permit)\$25.00

Loading docks (uncovered): first 100 lineal feet or part thereof\$25.00

Each additional lineal foot\$0.07

Barricades, first 100 lineal feet\$50.00

Each additional 100 lineal feet or part thereof\$15.00

<u>Paint spray booth</u>	<u>\$25.00</u>
<u>Concrete slab, uncovered (other than those for which a building permit is required and minor incidental slabs): \$0.04 per square foot with a minimum of</u>	<u>\$25.00</u>
<u>Heliport and helistops (interdepartmental inspections--health, structure, fire and aviation safety)</u>	<u>\$700.00</u>
<u>Duplicate job card</u>	<u>\$ 20.00</u>

117.2.2 Chemical plants. Permit fees for petroleum processing installations; nuclear reactor complexes and processing facilities; facilities manufacturing, processing, distributing or storing energy; other facilities processing, storing or manufacturing materials or energy, not otherwise covered by a construction permit: 2/5 of 1% of valuation, with minimum of\$30.00

117.2.3 Occupancy and inspection. The following permit fees apply to occupancy and inspection of existing buildings:

1. A Certificate of Occupancy or a life safety compliance inspection and certificates (for compliance with Appendix L; includes initial compliance inspection, final inspection and issuance of certificate; does not include fees for permits where work is required):

<u>First story</u>	<u>\$300.00</u>
<u>Each additional story</u>	<u>\$100.00</u>

For residential multifamily buildings per contiguous project:

<u>For one to thirty units</u>	<u>\$300.00</u>
<u>Each additional unit</u>	<u>\$ 10.00</u>
2. Duplicate life safety compliance certificate
3. Certificate name change only
4. Duplicate Certificate of Occupancy
5. Incinerator inspection
6. Revalidation inspection
7. Change of address request

8. Certificate of compliance-inspection for resale of existing house when such inspection has been requested by the owner \$ 50.00
9. Certificate for individual retail or office spaces of less than 3,000 square feet in multi-tenant buildings:
- If the certificate is requested in connection with and the inspection is performed during the same inspection with the building core
-\$35.00
- Otherwise\$125.00

117.2.4 Fences. Permit fees for fences shall be as follows:

- For the first 100 lineal feet or part thereof \$ 50.00
- For each additional 100 lineal feet or part thereof \$ 7.00

117.2.5 Fire escapes. Permit fees for fire escapes shall be as follows:

- For each fire escape four stories or less in height \$ 25.00
- For each additional story in height \$ 15.00

117.2.6 Sidewalks, driveways, culverts, curbs and gutters. Permit fees for sidewalks, driveways, culverts, curbs and gutters covered by this code shall be as follows:

Sidewalks:

- For first 100 lineal feet or part thereof \$ 25.00
- For each additional 100 lineal feet or part thereof \$ 7.00

Driveways \$ 25.00

Culvert pipes(not used for driveways):

- For first 100 lineal feet or part thereof \$ 25.00
- For each additional 100 lineal feet or part thereof \$ 7.00

Curb and Gutter:

- For the first 100 lineal feet or part thereof \$ 25.00

For each additional 100 lineal feet or part thereof\$ 7.00

117.2.7 Parking lots and paved areas. Permit fees for parking lots (uncovered) and paved areas shall be as follows:

For first 1,000 square feet or part thereof\$ 30.00

For each additional 1,000 square feet or part thereof\$1.50

117.2.8 Plan review fees. Plan review fees shall be as follows:

Manufactured home parks:

15 spaces or less\$ 35.00

Each additional space\$ 1.50

Prefabricated buildings or modular buildings, \$0.04 per square foot, with a minimum of\$ 35.00

Reexamination of plans:

Where previously approved plans are reexamined, the plan review fee shall be \$30.00, or 15 percent of the permit fee, whichever is greater. The fee for reexamination of partial plans shall be determined by the building official based on the review time involved.

Outside jurisdiction plan review fee:

Plan review for buildings located outside the jurisdiction shall be 65 percent of the building permit fee as calculated in Section 117.2. This service shall only be provided at the building owner's request and subject to the availability of personnel to render the service.

117.3 HVAC Equipment.

117.3.1 General. Fees for permits and inspections for the installation, alteration and inspection of heating, ventilating, air-conditioning and refrigeration systems shall be as follows:

1. Ventilating systems or heating-only systems (other than boilers): 1 percent of valuation, plus \$15.00. Toilet exhaust, outside air makeup, elevator ventilation, stair pressurization,

smoke exhaust or residential ventilation fees shall be included in the air-conditioning tonnage fee. The minimum permit fee shall be \$25.00. (See Section 117.3.3 for local vent fees.)

2. Repairs or alterations (including cooling tower replacement) to an existing heating, ventilating, air-conditioning or refrigeration system: 1 percent of the valuation, plus \$25.00.

Exception: Ducts and grilles in a lease space, where total valuation is less than \$500.00: \$25.00 for each lease space.

3. Air-handling and duct systems for air-conditioning in buildings that have heating and/or cooling fluid from an external source: \$2.50 per ton [based on 400 cubic feet per minute (cfm) capacity per ton], plus \$25.00.
4. Air-conditioning cooling equipment (chillers, compressors and/or absorption units with their auxiliaries) located in a building other than the one being cooled (for instance, a central plant to supply one or more buildings): \$2.50 per ton (either new tonnage, added tonnage or standby tonnage), plus \$25.00.
5. A complete air-conditioning system where the cooling equipment, the air-handling equipment and duct system are in the same building: \$5.00 per ton of refrigeration or horsepower, whichever is greater, plus \$25.00. For air-conditioning systems that include heating (except boilers), the fee shall be included in the tonnage or horsepower fee at no extra cost, provided such heating is included on the original permit application.
6. Commercial, manufacturing and industrial process refrigeration systems: \$5.00 per ton of refrigeration or horsepower, whichever is greater, plus \$25.00.

117.3.2 Temporary operation inspection. For inspection of a heating, ventilation, refrigeration or air-conditioning system to be used on a temporary basis, a fee of \$25.00 shall be paid to the jurisdiction by a licensed air-conditioning contractor requesting such inspection. If the system is not approved for temporary operation on the first inspection, the usual reinspection fee will be charged for each subsequent inspection for such purpose.

117.3.3 Local vent permit. A fee of \$25.00 will be charged for local vent permits, central vacuum system permits and permits for ventilation fans up to 2,000 cfm. When a licensed air-conditioning contractor includes local vents in a permit, no additional fee will be required.

117.3.4 Self-contained air-conditioning units. Except for Group R, Division 3 occupancies, buildings using self-contained air-conditioning units: \$5.00 per ton or horsepower of all units combined, plus \$25.00.

117.3.5 Manufactured home inspections. For a manufactured home inspection of heating and ductwork where no state inspection has been made: \$25.00.

117.3.6 Certificate of approval. A fee of \$20.00 in addition to the regular permit fee shall be charged for a certificate of approval of air-conditioning for each permit taken out to add heating and/or air-conditioning to an existing residence. This \$20.00 fee shall be paid for at the time the regular permit fee is paid.

117.4 Boilers. Every person desiring to install, maintain or repair boilers shall file an application for a permit with the building official, stating the location and nature of work to be performed, and pay the following fees:

1. For boiler installation based on Btu input and/or HP: \$25.00 plus \$2.50 for each BHP or part thereof. The permit for installation of a single boiler in excess of 1,200 BHP shall not exceed \$3,000.00.

Note: For the purpose of this code, 1 BHP equals 33,000 Btu.

2. Annual fee: \$25.00 for each boiler.
3. Repair permit: 1% of valuation of repairs to be made, plus \$25.00

117.5 Plumbing.

117.5.1 General. Following is a schedule of fees required for permits:

<u>Opening in street (street cut, for purpose of connection with utilities)</u>	<u>\$75.00</u>
<u>(See Chapter 40, City Code, for additional regulations and deposits required.)</u>	
<u>Temporary gas inspection</u>	<u>\$20.00</u>
<u>Gas permit and inspection (up to 3 openings)</u>	<u>\$10.00</u>
<u>Additional gas openings, each</u>	<u>\$ 2.00</u>
<u>Manufactured home inspection fee (where no state inspection has been made)</u>	<u>\$25.00</u>
<u>Fire-protection fee (fire sprinkler system, separate permit required):</u>	
<u>For a fire sprinkler system (any head or group of heads up to 25 that is regulated with a valve for any portion of a building), minimum fee</u>	<u>\$75.00</u>
<u>For each additional head</u>	<u>\$ 2.00</u>
<u>Standpipe system (1 to 25 hose connections)</u>	<u>\$50.00</u>
<u>Each additional hose connection</u>	<u>\$ 2.00</u>

117.5.2 Heating gas appliances.

<u>Furnace (nonduct type)</u>	<u>\$10.00</u>
<u>Each additional furnace to be installed in same building under same permit</u>	<u>\$ 5.00</u>
<u>Floor furnace (nonduct type)</u>	<u>\$25.00</u>
<u>Incinerators (gas fired) (complete with two burners or more)</u>	<u>\$50.00</u>
<u>Infrared heaters (one or two)</u>	<u>\$10.00</u>
<u>Each additional infrared heater installed under the same permit</u>	<u>\$ 5.00</u>

117.5.3 Yard lights or barbecue grills.

<u>First opening</u>	<u>\$10.00</u>
<u>Each additional opening installed under same permit</u>	<u>\$ 5.00</u>

117.5.4 Permanent appliances.

<u>Wall heater (bath heaters exempt)</u>	<u>\$10.00</u>
<u>Each additional heater installed under same permit</u>	<u>\$ 5.00</u>
<u>Gas steam radiator</u>	<u>\$25.00</u>

<u>Each additional radiator installed under same permit</u>	<u>\$ 5.00</u>
<u>Commercial oven</u>	<u>\$35.00</u>
<u>Commercial dryer</u>	<u>\$25.00</u>
<u>Plumbing fixtures (one or two)</u>	<u>\$10.00</u>
<u>Each additional fixture installed under same permit</u>	<u>\$ 5.00</u>
<u>Warm-air circulators (nonduct), first three</u>	<u>\$25.00</u>
<u>Each additional to be installed under same permit</u>	<u>\$ 5.00</u>
<u>Tie to curb inlet-storm sewer</u>	<u>\$50.00</u>
<u>Manholes, each</u>	<u>\$50.00</u>
<u>Roof drain or outside downspout connection to drainage system, one or two</u>	<u>\$10.00</u>
<u>Each additional roof drain or downspout to be installed under the same permit</u> ..	<u>\$ 5.00</u>
<u>Catch basin or outside area drain, one or two</u>	<u>\$10.00</u>
<u>Each additional catch basin or outside area drain to be installed under same permit</u>	<u>\$ 5.00</u>
<u>Sewer connections, each</u>	<u>\$30.00</u>
<u>Ground in plumbing for shell building, 3,000 square feet or less floor area</u>	<u>\$25.00</u>
<u>For each additional 1,000 square feet or part thereof</u>	<u>\$10.00</u>
<u>Septic tanks or individual sewage treatment plants, each</u>	<u>\$25.00</u>
<u>Disconnect and plug main sewer connection</u>	<u>\$25.00</u>
<u>Tanks (not septic tanks). A permit separate from other permits required:</u>	
<u>Tanks through 1,000 gallons capacity (including mechanical interceptors)</u>	<u>\$25.00</u>
<u>1,001 through 6,000 gallons</u>	<u>\$40.00</u>
<u>6,001 through 15,000 gallons</u>	<u>\$60.00</u>
<u>15,001 through 30,000 gallons</u>	<u>\$100.00</u>
<u>Over 30,000 gallons</u>	<u>\$150.00</u>

117.6 Electrical. The following is a schedule of the permit and inspection fees as required by the Electrical Code:

Meter loop and service

<u>Up to and including 50 kW</u>	<u>\$10.00</u>
<u>51 kW through 250 kW</u>	<u>\$15.00</u>
<u>Over 250 kW</u>	<u>\$25.00</u>
<u>Panels with eight or more circuits (each)</u>	<u>\$ 5.00</u>
<u>Outlets (each)</u>	<u>\$ 0.30</u>
<u>(All light switches and receptacle openings and bell-ringing transformers are classified as outlets).</u>	
<u>Fixtures (each)</u>	<u>\$ 0.30</u>
<u>(Any current-consuming device permanently attached to an outlet for illumination purposes shall be classified as a fixture.)</u>	
<u>Electrical appliance-domestic</u>	
<u>Range receptacle (each)</u>	<u>\$ 2.00</u>
<u>Clothes dryer (each)</u>	<u>\$ 2.00</u>
<u>Stove top (each)</u>	<u>\$ 2.00</u>
<u>Oven (each)</u>	<u>\$ 2.00</u>
<u>Garbage disposal (each)</u>	<u>\$ 2.00</u>
<u>Dishwasher (each)</u>	<u>\$ 2.00</u>
<u>Window air-conditioner receptacle (each)</u>	<u>\$ 2.00</u>
<u>Motors, permanently installed (each)</u>	
<u>Up to and including 1 horsepower</u>	<u>\$ 1.00</u>
<u>Over 1 horsepower through 10 horsepower</u>	<u>\$ 5.00</u>
<u>Over 10 horsepower,</u>	<u>\$ 5.00</u>
<u>plus \$0.25 per each additional horsepower</u>	
<u>Motor control equipment is included in the motor fees. Outlets for future motor installation shall be charged for at one-half of the regular motor rates applying. The other one-half shall be paid at the time the motors are installed.</u>	
<u>Permanent connections of electrical appliances, equipment and transformers of any nature:</u>	

Unless another fee is specified for the apparatus to be installed in this section, the fee shall be based on the kW rating of the apparatus. Each kW shall be considered to be one horsepower, and the fees shall be the same as indicated for "motors, permanently installed", above.

Shop inspection of incandescent electrical signs and gas or vacuum tube signs, each:

0 to 5 kVA.....\$25.00
Additional for each kVA or fraction thereof exceeding 5 kVA\$ 5.00

Installation inspection of incandescent electrical signs and gas or vacuum tube signs, each:

0 to 5 kVA.....\$25.00
Additional for each kVA or fraction thereof exceeding 5 kVA\$ 5.00

Streamers and festoon lighting per circuit (each)\$ 5.00

Ball park and parking lot light poles (no outlet or fixture charge) (each).....\$25.00

Temporary installations, such as wood saws, floor surfacing machines, painting/spraying apparatus and the like, per installation.....\$15.00

Temporary installation of commercial sound equipment\$20.00

Temporary lighting installations\$15.00

Temporary installations such as carnivals or similar installations for amusement show display or similar uses shall be charged for on a kVA basis. For the purpose of this classification 1 horsepower of motor load shall be considered as one kVA.

0 through 10 kVA\$20.00
Additional for each kVA or fraction exceeding 10\$ 1.00

Temporary saw poles(per installation).....\$15.00

Temporary cut-in made permanent\$25.00

Additions to existing work shall be charged for at the same rate as new work.

Reconnection fee\$15.00

117.7 Elevators.

117.7.1 General. Every person proposing to install an elevator, dumbwaiter, escalator, manlift, moving walk, inclined stairway chairlift, personnel hoist or wheelchair lift shall file a written

request for a construction permit with the building official and pay the following installation fees for each unit:

New installations and alterations:

Passenger or freight elevator, escalator, manlift, moving walk, inclined stairway chairlift, personnel hoist or wheelchair lift, where the equipment is to be installed in other than a private residence, each:

Up to and including \$40,000 of valuation\$55.00

For each additional \$1,000.00 of valuation or fraction thereof\$ 1.00

Personnel hoist-manufacturing design permit\$500.00

(required in addition to above fee if the hoist is not already permitted)

Same equipment if installed in a private residence, each:

Up to and including \$10,000.00 of valuation\$ 15.00

For each additional \$1,000.00 valuation or fraction thereof\$ 1.00

Installation fees for equipment other than personnel hoists include an operating permit for the first year of operation, where applicable.

Installation fees for personnel hoists include a limited permit for the first 90 days of operation.

117.7.2 Inspections. The building official shall not be obliged to perform the test or inspection if the building official does not then have qualified personnel to perform it. If the jurisdiction provides the inspections, fees shall be payable to the building official as follows:

1. Each personnel hoist:

Acceptance load test* (includes two monthly inspections)\$150.00

Periodic test, three months (includes two monthly inspections)\$75.00

Addition to tower plus any test fee, single-cage hoist\$50.00

Addition to tower plus any test fee, twin-cage hoist\$75.00

2. Acceptance inspection for each elevator (new installation and alteration)\$300.00

3. Acceptance inspection for each escalator, dumbwaiter, wheelchair lift, manlift or moving walk (new installation or alteration)\$150.00

- 4. Annual inspection for each elevator except where lesser fee is provided below \$125.00
Reinspection fee \$ 50.00
- 5. Escalator annual inspection, each\$125.00
- 6. Moving walk annual inspection, each\$125.00
- 7. Wheelchair lift annual inspection, each\$125.00
- 8. Dumbwaiter annual inspection, each dumbwaiter
For 2 through 10 landings\$100.00
For each additional landing\$5.00
- 9. Manlift or inclined stairway chairlift annual inspection, each\$125.00
- 10. Traction elevator maintenance load test*
Five-year maintenance load test\$250.00
Counter-weight safeties, add\$75.00
With reduced stroke buffer, add\$20.00
With spring buffer, add\$125.00
- 11. Hydraulic elevator three-year load test¹ \$125.00
- 12. Reschedule of test:
Additional fee if owner or elevator company cancels, unless notice is given to the building official by at least 1:00 p.m. on the preceding working day\$100.00
- 13. If an elevator test cannot be completed within eight hours because the elevator did not comply with the requirements of this code when the test was begun, there shall be an additional fee of \$50.00 for each additional hour or portion thereof.

117.7.3 Reinspection fee. In the event it becomes necessary to make a reinspection of any work or equipment due to deficiencies in order to issue an approved inspection report, the applicant shall pay to the building official for each reinspection a fee of \$50.00.

¹*Load test shall be performed by an elevator maintenance/installation company and the test shall be witnessed by the building official or an approved agency

117.7.4 Operating permit or limited permit. An operating permit or limited permit shall be required for each elevator, dumbwaiter, escalator, manlift, moving walk, inclined stairway chairlift, personnel hoist or wheelchair lift. An operating permit shall be valid for one year, and a limited permit shall be valid for 90 days. The fees for operating permits and limited permits shall be:

<u>Each elevator</u>	<u>\$25.00</u>
<u>Each escalator or moving walk</u>	<u>\$15.00</u>
<u>Each dumbwaiter</u>	<u>\$10.00</u>
<u>Each personnel hoist</u>	<u>\$25.00</u>
<u>Each wheelchair lift</u>	<u>\$15.00</u>
<u>Each manlift</u>	<u>\$15.00</u>
<u>Each inclined stairway chairlift</u>	<u>\$15.00</u>

Each escalator or moving walk unit powered by one motor shall be considered as a separate unit.

117.7.5 Alarms, Detectors, Central Station Security and Testing. Fees for alarms, detectors, central station security and testing shall be as follows:

1. <u>Smoke- or heat-actuated detectors-1 to 10</u>	<u>\$25.00</u>
<u>Each additional detector</u>	<u>\$ 2.00</u>
2. <u>Each emergency central alarm system/station</u>	<u>\$25.00</u>
3. <u>Emergency public address system-1 to 9 floors</u>	<u>\$40.00</u>
<u>Each additional floor</u>	<u>\$ 4.00</u>
4. <u>Security system, minimum</u>	<u>\$25.00</u>
<u>Each floor in excess of two</u>	<u>\$10.00</u>
5. <u>Retest entire emergency system</u>	<u>\$75.00</u>
6. <u>Retest any single-type system</u>	<u>\$25.00</u>

117.8 Signs. Fees for all signs covered by the Sign Code shall be as follows:

- 1. **Site inspections**\$59.00
 - 2. **Reinspection fee:**
Site, hole and electrical\$25.00
 - 3. **Construction or reconstruction permit**
For the first 50 square feet of one sign face or fraction thereof\$45.00
Each square foot or fraction thereof of one sign face exceeding 50 square feet\$0.33
 - 4. **Operating permit--on-premises signs:**
For the first 50 square feet of sign face or fraction thereof\$15.00
Each square foot of sign face or fraction thereof exceeding 50 square feet\$0.27
 - 5. **Operating permit.** Off-premises signs that advertise the sale or rental of real property or direct persons to the location of real property for sale or rent, which signs are limited to 40 square feet in sign face area for a nonrenewable three-year permit as authorized in Section 4612 (b) of the Sign Code\$100.00
 - 6. **Operating permit.** Off-premises signs other than as provided above\$40.00
 - 7. **Replacement of lost or damaged operating tag**\$25.00
 - 8. **Plan examination fee**\$25.00
 - 9. **Plan reexamination due to alteration of approved plan**\$25.00
- In addition to the above fees, the fees required by Section 117.1.1 shall be paid. Fees for signs requiring electrical permits shall be paid as set out in Section 117.6.

117.9 Medical gas permits.

- \$2.00 per each gas outlet, with a minimum fee of\$30.00

CHAPTER 2

DEFINITIONS

201.3 Terms defined in other codes. Where terms are not defined in this code and are defined in the *International City of Houston Plumbing Code*, *International City of Houston Mechanical Code*, *City of Houston Electrical Code*, ~~*International Fuel Gas Code*~~, or *International City of Houston Fire Code*, such terms shall have the meanings ascribed to them as in those codes.

SECTION 202

DEFINITIONS

(A)

~~**ACCESSIBLE.** See Section 1102.1.~~

~~**ACCESSIBLE ROUTE.** See Section 1102.1.~~

APPROVED SOURCE. An independent person, firm, or corporation, approved by the building official, who is competent and experienced in the application of engineering principles to materials, methods or systems analysis.

(B)

~~**BUILDING OFFICIAL.** The officer or other designated authority charged with the administration and enforcement of this code~~ jurisdiction's Director of Planning and Development, or a duly authorized representative or representatives.

(C)

~~**CIRCULATION PATH.** See Section 1102.1~~

CITY CODE. *The Code of Ordinances, Houston, Texas.*

CORROSION RESISTANCE. The ability of a material to withstand deterioration of its surface or its properties when exposed to its environment.

(D)

DANGEROUS BUILDING CODE. The ordinances of this jurisdiction relating to abatement of dangerous buildings.

~~**DWELLING UNIT TYPE A.** See Section 1102.~~

~~**DWELLING UNIT, TYPE B.** See Section 1102.~~

~~**DWELLING UNIT, GROUND FLOOR.** See Section 1102.1.~~

~~**DWELLING UNIT, MULTISTORY.** Section 1102.~~

(E)

ELECTRICAL CODE. The National Electrical Code promulgated by the National Fire Protection Association, as adopted by this jurisdiction, and the City of Houston Electrical Code. See Section 101.4.1.

EXISTING STRUCTURE. A structure erected prior to the date of adoption of the appropriate this code, or one for which a legal building permit has been issued.

(F)

FAMILY. An individual or two or more persons related by blood or marriage or a group of not more than 10 persons (excluding servants) who need not be related by blood or marriage living together in a dwelling unit.

FIRE CODE. The City of Houston Fire Code, as adopted by this jurisdiction. See Section 101.4.6.

FIRE MARSHAL. The fire marshal of this jurisdiction or such other person as the fire chief of this jurisdiction may designate.

(I)

ICC ELECTRICAL CODE. The National Electrical Code promulgated by the National Fire Protection Association, as adopted by this jurisdiction, and the City of Houston Electrical Code. See Section 101.4.1.

INTERNATIONAL ENERGY CONSERVATION CODE. The International Energy Conservation Code as adopted by the State of Texas and amended by this jurisdiction. See Section 101.4.7.

INTERNATIONAL FIRE CODE. The City of Houston Fire Code, as adopted by this jurisdiction. See Section 101.4.6.

INTERNATIONAL FUEL GAS CODE. The City of Houston Plumbing Code, as adopted by the jurisdiction. See Section 101.4.2.

INTERNATIONAL MECHANICAL CODE. The City of Houston Mechanical Code as adopted by this jurisdiction. See Section 101.4.3.

INTERNATIONAL PLUMBING CODE. The City of Houston Plumbing Code, as adopted by this jurisdiction. See Section 101.4.4.

INTERNATIONAL RESIDENTIAL CODE. The International Residential Code as adopted by the State of Texas and amended by this jurisdiction. See Section 101.2.

(L)

LOT LINE. A line dividing one ~~lot~~ portion or parcel of land considered as a unit from another, or from a street or any public place, sometimes referred to as a property line.

(M)

MECHANICAL CODE. *The City of Houston Mechanical Code*, as adopted by this jurisdiction. See Section 101.4.3.

(P)

PLUMBING CODE. *The City of Houston Plumbing Code*, as adopted by this jurisdiction. See Section 101.4.4.

~~**PUBLIC ENTRANCE.** See Section 1102.1~~

~~**PUBLIC USE AREA.** See Section 1102.1~~

(S)

SIGN CODE. Chapter 46 of this code.

~~**SITE.** See Section 1102.1.~~

~~**SLEEPING ACCOMMODATIONS.** See Section 1102.1.~~

SLEEPING UNIT. A room or space in which people sleep, which can also include permanent provisions for living, eating, and either sanitation or kitchen facilities but not both. Such rooms and spaces that are also part of a dwelling are not sleeping units.

HFD

~~**[F] STANDPIPE, TYPES OF.** See Section 902.1.~~

~~**Automatic dry.** See Section 902.1.~~

~~**Automatic wet.** See Section 902.1.~~

~~Manual dry.~~ See Section 902.1.

~~Manual wet.~~ See Section 902.1.

~~Semiautomatic dry.~~ See Section 902.1.

(T)

~~THROUGH PENETRATION FIRESTOP SYSTEM.~~ See Section 702.1. A material, device or construction installed to resist, for a prescribed time period, the passage of flame, heat and hot gases through openings that penetrate the entire fire-resistive assembly in order to accommodate cables, cable trays, conduit, tubing, pipes or similar items.

TRANSIT SHED. A covered structure erected on a wharf or quay for the temporary storage of goods in transit between ship and land carriers or warehouse.

TOWER STRUCTURE. A structure other than a building as defined previously in this chapter that has a height normally greater than its largest horizontal dimension. Examples of tower structures include antenna supports, chimneys, tank supports, sign supports, equipment supports and other structures as determined by the building official.

(W)

~~WHEELCHAIR SPACE.~~ See Section 1102.1

~~WHEELCHAIR SPACE CLUSTER.~~ See Section 1102.1

*NOTE: All other portions of Section 202 remain as set forth in the International Building Code.

CHAPTER 3

USE AND OCCUPANCY CLASSIFICATION

302.1.1 Incidental use areas. ~~Areas~~ Spaces that are incidental to the main occupancy shall be separated and protected in accordance with Table 302.1.1 and shall be classified in accordance with the main occupancy of the portion of the building in which the incidental use area is located.

Exception: Incidental use areas within and serving a dwelling unit are not required to comply with this section.

**TABLE 302.1.1
INCIDENTAL USE AREAS**

ROOM OR AREA	SEPARATION ^a
Furnace room where largest piece of equipment is over 400,000 BTU per hour input	1 hour or provide automatic fire-extinguishing system.
Boilers over 15 psi and 10 horsepower	1 hour or provide automatic fire-extinguishing system
Refrigerant machinery rooms	1 hour or provide automatic fire-extinguishing system
Automotive parking garage in other than Group R-3	2 hours <u>or 1 hour and provide automatic fire extinguishing system</u>
Incinerator rooms	2 hours and automatic sprinkler system
Paint shops, not classified as a Group H, located in occupancies other than Group F	2 hours; or 1 hour and provide automatic fire-extinguishing systems
Laboratories and vocational shops, not classified as Group H, located in Group E and I-2 occupancies	1 hour or provide automatic fire-extinguishing system
Laundry rooms over 100 square feet	1 hour <u>or provide automatic fire extinguishing system</u>
Storage rooms over 100 square feet	1 hour <u>or provide automatic fire extinguishing system</u>
Group I-3 padded cells	1 hour
Waste and linen collection rooms over 100 square feet	1 hour <u>or provide automatic fire extinguishing system</u>
Stationary lead-acid battery systems having a liquid capacity of more than 100 gallons used for facility standby power, emergency power or uninterrupted	1 hour fire barriers and floor-ceiling assemblies in Group B, F, M, H, M, S and U occupancies. 2 hour fire barriers and floor-ceiling assemblies in Group A,

power supplies	E, I and R occupancies
----------------	------------------------

For SI: 1 square foot = 0.0929 m², 1 pound per square inch = 6.9 kPa, 1 British thermal unit = 0.293 watts, 1 horsepower = 746 watts, 1 gallon = 3.785 L

- a. Where an automatic fire-extinguishing system is provided, it need only be provided in the incidental use room or area.

302.3.1 Two or more uses. Where the building is occupied for two or more uses not included in the same occupancy, the building or portion thereof shall comply with Section 302.3.2 or 302.3.3 or combinations of these sections, except that areas of Group H shall be separated from other occupancies in accordance with Section 302.3.3. Areas of Group H-1, H-2 or H-3 shall be in a separate and detached building and structure where required by Table 415.3.2. Also, see Section 508 for special provisions for buildings containing mixed uses.

302.3.3 Separated uses. Each portion of the building shall be individually classified as to use and shall be completely separated from adjacent areas by fire barrier walls or horizontal assemblies or both having a fire-resistance rating determined in accordance with Table 302.3.3 for the uses being separated. Each fire area shall comply with the code based on the use of that space. Each fire area shall comply with the height limitations based on the use of that space and the type of construction classification. In each story, the building area shall be such that the sum of the ratios of the floor area of each use divided by the allowable area for each use shall not exceed 1.

Exceptions:

1. Except for Group H and I-2 areas, where the building is equipped throughout with an automatic sprinkler system, the fire-resistance ratings in Table 302.3.3 shall be reduced by 1 hour but to not less than 1 hour and to not less than that required for floor construction according to the type of construction.
2. The private garage shall be separated from the ~~residence~~ dwelling unit and its attic area ~~be~~ by means of minimum ½-inch (12.7 mm) gypsum board applied to the garage side. Garages beneath habitable rooms shall be separated from all habitable rooms above by not less than 5/8 inch Type X gypsum board or equivalent. Door openings

between the garage and the residence shall be equipped with either solid wood doors not less than 1³/₈ inches (35 mm) thick, solid or honeycomb core steel doors not less than 1³/₈ inches (35 mm) thick or doors in compliance with Section 714.2.3. Openings from a private garage directly into a room used for sleeping purposes shall not be permitted.

3. Ducts in the garage and ducts penetrating the walls or ceilings separating the dwelling from the garage shall be constructed of a minimum No. 26 gage (0.48 mm) sheet steel and shall have no openings into the garage.
4. A separation is not required between a Group R-3 and ~~Group U~~ a noncombustible carport provided the carport is entirely open on two or more sides and there are not enclosed uses above. The area of the carport shall be considered as a separate building for determining the allowable area.

302.4 Spaces used for different purposes. A room or space that is intended to be occupied at different times for different purposes shall comply with all the requirements that are applicable to each of the purposes for which the room or space will be occupied.

303.1 Assembly Group A. Assembly Group A occupancy includes, among others, the use of a building or structure, or a portion thereof, for the gathering together of persons for purposes such as civic, social or religious functions, recreation, food or drink consumption or awaiting transportation. A room or space used for assembly purposes by less than 50 persons and accessory to another occupancy shall be included as a part of that occupancy. Assembly occupancies shall include the following:

A-1 Assembly uses, usually with fixed seating, intended for the production and viewing of the performing arts or motion pictures including, but not limited to:

Motion picture theaters

Symphony and concert halls

Television and radio studios admitting an audience

Theaters

A-2 Assembly uses intended for food and/or drink consumption including, but not limited to:

Banquet halls

Night clubs

Restaurants

Taverns and bars

A-3 Assembly uses intended for worship, recreation or amusement and other assembly uses not classified elsewhere in Group A, including, but not limited to:

Amusement arcades

Art galleries

~~Auditoriums~~

Bowling alleys

Churches

Community halls

Courtrooms

Dance halls (not including food or drink consumption)

Exhibition halls

Funeral parlors

Gymnasiums (without spectator seating)

Indoor swimming pools (without spectator seating)

Indoor tennis courts (without spectator seating)

Lecture halls

Libraries

Museums

Passenger stations (waiting area)

Pool and billiard parlors

A-4 Assembly uses intended for viewing of indoor sporting events and activities with spectator seating, including, but not limited to:

- Arenas
- Skating rinks
- Swimming pools
- Tennis courts

A-5 Assembly uses intended for participation in or viewing outdoor activities including, but not limited to:

- Amusement park structures
- Bleachers
- Grandstands
- Stadiums

304.1 Business Group B. Business Group B occupancy includes, among others, the use of a building or structure, or a portion thereof, for office, professional or service-type transactions, including storage of records and accounts. Business occupancies shall include, but not be limited to, the following:

- Airport traffic control towers
- Animal hospitals, kennels and pounds
- Assemblies with an occupant load less than 50
- Banks
- Barber and beauty shops
- Car wash
- Civic administration
- Clinic—outpatient
- Dry cleaning and laundries; pick-up and delivery stations and self-service
- Educational occupancies above the 12th grade
- Electronic data processing

Fire and police stations
Laboratories; testing and research
Motor vehicle showrooms
Post offices
Print shops
Professional services (architects, attorneys, dentists, physicians, engineers, etc.)
Radio and television stations
Telephone exchanges

306.2 Factory Industrial F-1 Moderate-Hazard Occupancy. Factory Industrial uses which are not classified as Factory Industrial F-2 Low Hazard shall be classified as F-1 Moderate Hazard and shall include, but not be limited to, the following:

Aircraft
Appliances
Athletic equipment
Automobiles and other motor vehicles
Bakeries
Beverages (~~alcoholic~~) over 12% in alcoholic content
Bicycles
Boats; building
Brooms or brushes
Business machines
Cameras and photo equipment
Canvas or similar fabric
Carpets and rugs (includes cleaning)
Clothing
Construction and agricultural machinery
Disinfectants
Dry cleaning and dyeing

Electric light plants and power houses
Electronics
Engines (including rebuilding)
Food processing
Furniture
Hemp products
Jute products
Laundries
Leather products
Machinery
Metals
Millwork (sash & door)
Motion pictures and television filming
Musical instruments
Optical goods
Paper mills or products
Photographic film
Plastic products
Printing or publishing
Recreational vehicles
Refuse incineration
Shoes
Soaps and detergents
Textiles
Tobacco
Trailers
Upholstering
Wood; distillation
Woodworking (cabinet)

306.3 Factory Industrial F-2 Low-Hazard Occupancy. Factory industrial uses that involve the fabrication or manufacturing of noncombustible materials which during finishing, packing or processing do not involve a significant fire hazard shall be classified as F-2 occupancies and shall include, but not be limited to, the following:

Beverages (~~nonalcoholic~~) up to and including 12% in alcoholic content

Brick and masonry

Ceramic products

Foundries

Glass products

Gypsum

Ice

Metal products (fabrication and assembly)

307.2 Definitions. The following words and terms shall, for the purposes of this section and as used elsewhere in this code, have the meanings shown herein.

OPERATING BUILDING. A building occupied in conjunction with the manufacture, transportation, or use of explosive materials. Operating buildings are separated from one another with the use of intraplant or intraline distances.

***NOTE: All other portions of Section 307.2 remain as set forth in the International Building Code.**

307.3 Group H-1 structures. Buildings and structures that contain materials that pose a detonation hazard, shall be classified as Group H-1. Such materials shall include, but not be limited to:

The following classifications of explosives:

Division 1.1

Division 1.2

Division 1.3

Exception: Materials that are used and maintained in a form where either confinement or configuration will not elevate the hazard shall be allowed in an H-2 Occupancy.

Division 1.5

Division 1.6

Organic peroxides, unclassified detonable

Oxidizers, Class 4

Unstable (reactive) materials, Class 3 detonable and Class 4

Detonable pyrophoric materials

307.4 Group H-2 structures. Buildings and structures that contain materials that present a deflagration hazard or a hazard from accelerated burning, shall be classified as Group H-2. Such materials shall include, but not be limited to:

Class I, or II or III-A flammable or combustible liquids that are used or stored in normally open containers or systems, or in closed containers or systems pressurized at more than 15 pounds per square inch ~~gauge~~ (103.4 kPa) gauge.

Combustible dusts

Cryogenic liquids, flammable

Flammable gases

Organic peroxides, Class I

Oxidizers, Class 3, that are used or stored in normally open containers or systems, or in closed containers or systems pressurized at more than 15 pounds per square inch ~~gauge~~ (103.4 kPa) gauge.

Pyrophoric liquids, solids and gases, nondetonable

Unstable (reactive) materials, Class 3, nondetonable

Water-reactive materials, Class 3

307.5 Group H-3 structures. Buildings and structures that contain materials that readily support combustion or present a physical hazard, shall be classified as Group H-3. Such materials shall include but not be limited to:

~~Aerosols, Level 2 and Level 3~~

Class I, II or III A flammable or combustible liquids that are used or stored in normally closed containers or systems pressurized at less than 15 pounds per square inch ~~gauge~~ (103 kPa) gauge.

Combustible fibers

~~Consumer fireworks, 1.4 G (Class C, Common)~~

Cryogenic liquids, oxidizing

The following classifications of explosives:

Consumer fireworks, 1.4 G (Class C Common)

Division 1.4 restricted to articles, including articles packaged for shipment that are not regulated as an explosive under Bureau of Alcohol Tobacco and Firearms regulations, or unpackaged articles used in process operations that do not propagate a detonation or deflagration between articles.

Flammable solids

Organic peroxides, Class II and Class III

Oxidizers, ~~Class 1 and~~ Class 2

Oxidizers, Class 3, that are used or stored in normally closed containers or systems pressurized at less than 15 pounds per square inch (103 kPa) gauge.

Oxidizing gases

Unstable (reactive) materials, Class 2

Water-reactive materials, Class 2

**[F] TABLE 307.7(1)
MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF HAZARDOUS MATERIAL
POSING A PHYSICAL HAZARD^{a,j}**

MATERIAL	CLASS	GROUP WHEN THE MINIMUM ALLOWABLE QUANTITY IS EXCEEDED	STORAGE ^b			USE-CLOSED SYSTEMS ^b			USE-OPEN SYSTEMS ^b	
			Solid pounds (cubic feet)	Liquid gallons (pounds)	Gas cubic feet	Solid pounds (cubic feet)	Liquid gallons (pounds)	Gas cubic feet	Solid pounds (cubic feet)	Liquid gallons (pounds)
Combustible liquid ^{e,i}	II	H-2 or H-3		120 ^{d,e}			120 ^d			30 ^d
	IIIA IIIB	H-2 or H-3	N/A	330 ^{d,e} 13,200 ^{e,f}	N/A	N/A	220 ^d 13,200 ^{e,f}	N/A	N/A	80 ^d 3,300 ^f
Combustible fiber	Loose Baled	H-3	(100) (1,000)	N/A	N/A	(100) (1,000)	N/A	N/A	(20) (200)	N/A
Consumer fireworks (Class C, Common)	1.4 g	H-3H-3	125 ^{d,e,l}	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cryogenics, flammable		H-2	N/A	45 ^d	N/A	N/A	45 ^d	N/A	N/A	10 ^d
Cryogenics, oxidizing	N/A	H-3	N/A	45 ^d	N/A	N/A	45 ^d	N/A	N/A	10 ^d
Explosives		H-1	1 ^{e,g}	(1) ^{e,g}	N/A	¼ ^g	(¼) ^g	N/A	¼ ^g	(¼) ^g
Flammable gas	Gaseous Liquefied	H-2	N/A	N/A 30 ^{d,e}	1000 ^{d,e} N/A	N/A	N/A 30 ^{d,e}	1000 ^{d,e} N/A	N/A	N/A
Flammable liquid ^e	1A	H-2 or H-3	N/A	30 ^{d,e}	N/A	N/A	30 ^d	N/A	N/A	10 ^d
	1B			60 ^{d,e}			60 ^d			15 ^d
	1C			90 ^{d,e}			90 ^d			20 ^d
Combination (1A, 1B, 1C)		H-2 or H-3	N/A	120 ^{d,e,h}	N/A	N/A	120 ^{d,h}	N/A	N/A	30 ^{d,h}
Flammable solid		H-3	125 ^{d,e}	N/A	N/A	125 ^d	N/A	N/A	25 ^d	N/A
Organic peroxide	U ^d	H-1	1 ^{e,f}	(1) ^{e,g}	N/A	¼ ^g	(¼) ^g	N/A	¼ ^g	(¼) ^g
	I	H-2	5 ^{d,e}	(5) ^{d,e}	N/A	1 ^d	(1) ^d	N/A	1 ^d	(1) ^d
	II	H-3	50 ^{d,e}	(50) ^{d,e}	N/A	50 ^d	(50) ^d	N/A	10 ^d	(10) ^d
	III	H-3	125 ^{d,e}	(125) ^{d,e}	N/A	125 ^d	(125) ^d	N/A	25 ^d	(25) ^d
	IV V		NL NL	NL NL	N/A N/A	NL NL	NL NL	N/A N/A	NL NL	NL NL
Oxidizer	4	H-1	1 ^g	(1) ^{eg}	N/A	¼ ^g	(¼) ^g	N/A	¼ ^g	(¼) ^g
	3 ^k	H-2	10 ^{d,e}	(10) ^{d,e}	N/A	2 ^d	(2) ^d	N/A	2 ^d	(2) ^d
	2	H-3	250 ^{d,e}	(250) ^{d,e}	N/A	25 ^d	(250) ^d	N/A	50 ^d	(50) ^d
	1	H-3	4000 ^{e,fd,e}	(4000) ^{e,fd,e}	N/A	4000 ^f	(4000) ^{fd}	N/A	1000 ^{fd}	(1000) ^{fd}
Oxidizing gas	Gaseous	H-3	N/A	N/A	1,500 ^{d,e}	N/A	N/A	1,500 ^{d,e}	N/A	N/A
	Liquefied		N/A	15 ^{d,e}	N/A	15 ^{d,e}	N/A	N/A		
Pyrophoric		H-2	4 ^{e,g}	(4) ^{e,g}	50 ^{e,g}	1 ^g	(1) ^g	10 ^{e,g}	0	0

material										
Unstable (reactive)	4	H-1	1 ^{e,g}	(1) ^{e,g}	10 ^{d,g}	¼ ^g	(¼) ^g	2 ^{e,g}	0.25 ^g	(¼) ^g
	3	H-1 or	5 ^{d,e}	(5) ^{d,e}	50 ^{d,e}	1 ^d	(1) ^d	10 ^{d,e}	1 ^d	(1) ^d
	2	H-2	50 ^{d,e}	(50) ^{d,e}	250 ^{d,e}	50 ^d	(50) ^d	250 ^{d,e}	10 ^d	(10) ^e
	1	H-3	NL	NL	NL	NL	NL	NL	NL	NL
Water reactive	3		5 ^{d,e}	(5) ^{d,e}	N/A	5 ^d	(5) ^d	N/A	1 ^d	(1) ^d
	2	H-2	50 ^{d,e}	(50) ^{d,e}	N/A	50 ^d	(50) ^d	N/A	10 ^d	(10) ^d
	1	H-3	NL	NL	N/A	NL	NL	N/A	NL	NL

Notes to Table 307.7(1).

For SI: 1 cubic foot = 0.023 m³, 1 pound = 0.454 kg, 1 gallon = 3.785 L.

NL = Not Limited; N/A = Not Applicable

- a. For use of control areas, see Section 414.2.
- b. The aggregate quantity in utilization and storage shall not exceed the quantity listed for storage.
- c. The quantities of alcoholic beverages in retail and wholesale sales occupancies shall not be limited providing the liquids are packaged in individual containers not exceeding 1.3 gallons. In retail and wholesale sales occupancies the quantities of medicines, foodstuffs, consumer or industrial products, and cosmetics containing not more than 50 percent by volume of water-miscible liquids with the remainder of the solutions not being flammable shall not be limited, provided that such materials are packaged in individual containers not exceeding 1.3 gallons (5 L).
- d. Maximum quantities shall be increased 100 percent in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. Where Note e also applies, the increase for both notes shall be applied accumulatively.
- e. Quantities shall be increased 100 percent when stored in approved cabinets, gas cabinets, exhausted enclosures, or safety cans as specified in the ~~International Fire Code~~. Where Note d also applies, the increase for both notes shall be applied accumulatively.
- f. The permitted quantities shall not be limited in a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
- g. Permitted only in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
- h. Containing not more than the maximum allowable quantity per control area of Class I-A, Class I-B or Class I-C flammable liquids.
- i. Inside a building, the maximum capacity of a combustible liquid storage system that is connected to a fuel-oil piping system shall be 660 gallons provided such system conforms to the ~~International Fire Code~~.
- j. Quantities in parenthesis indicate quantity units in parenthesis at the head of each column.
- k. A maximum quantity of 200 pounds of solid or 20 gallons of liquid Class 3 oxidizers is allowed when such materials are necessary for maintenance purposes, operation or sanitation of equipment. Storage containers and the manner of storage shall be approved.
- l. Net weight of the pyrotechnic composition of the fireworks. Where the net weight of the pyrotechnic composition of the fireworks is not known, 25 percent of the gross weight of the fireworks including packaging shall be used.

[F] TABLE 307.7(2)
MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF HAZARDOUS MATERIAL
POSING A HEALTH HAZARD^{a,b,c}

MATERIAL	STORAGE ^d			USE-CLOSED SYSTEMS ^d			USE-OPEN SYSTEMS ^d	
	Solid pounds ^{e,f}	Liquid gallons (pounds) ^{e,f}	Gas cubic feet ^e	Solid pounds ^e	Liquid gallons (pounds) ^e	Gas cubic feet ^e	Solid pounds ^e	Liquid gallons (pounds) ^e
Corrosive	5,000	500	810 ^g	5,000	500	810 ^g	1,000	100
Highly toxic	10	(10) ⁱ	20 ^h	10	(10) ⁱ	20 ^h	3	3 ⁱ
Toxic	500	(500) ⁱ	810 ^f	500	(500) ⁱ	810 ^f	125	(125) ⁱ

SI: 1 cubic foot = 0.028 m³, 1 pound = 0.454 kg, 1 gallon = 3.785 L.

- a. For use of control areas, see Section 414.2.
- b. In retail and wholesale sales occupancies, the quantities of medicines, foodstuffs consumer or industrial products, and cosmetics, containing not more than 50 percent by volume of water-miscible liquids and with the remainder of the solutions not being flammable, shall not be limited, provided that such materials are packaged in individual containers not exceeding 1.3 gallons.
- c. For storage and display quantities in Group M and storage quantities in Group S occupancies complying with Section 414.2.4, see Table 414.2.4.
- d. The aggregate quantity in use and storage shall not exceed the quantity listed for storage.
- e. Quantities shall be increased 100 percent in buildings equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1. Where Note e-f also applies, the increase for both notes shall be applied accumulatively.
- f. Quantities shall be increased 100 percent when stored in approved storage cabinets, gas cabinets, or exhausted enclosures as specified in the *International Fire Code*. Where Note d-e also applies, the increase for both notes shall be applied accumulatively.
- g. A single cylinder containing 150 pounds or less of anhydrous ammonia in a single control area in a nonsprinklered building shall be considered a maximum allowable quantity. Two cylinders, each containing 150 pounds or less in a single control area shall be considered a maximum allowable quantity provided the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
- h. Allowed only when stored in approved exhausted gas cabinets or exhausted enclosures as specified in the *International Fire Code*.
- i. Quantities in parenthesis indicate quantity units in parenthesis at the head of each column.

307.9 Exceptions: The following shall not be classified in Group H, but shall be classified in the occupancy which they most nearly resemble. Hazardous materials in any quantity shall conform to the requirements of this code, including Section 414, and the *International Fire Code*.

1. Buildings and structures that contain not more than the maximum allowable quantities per control area of hazardous materials as shown in Tables 307.7(1) and 307.7(2) provided that such buildings are maintained in accordance with the *International Fire Code*.

2. Buildings utilizing control areas in accordance with Section 414.2 that contain not more than the maximum allowable quantities per control area of hazardous materials as shown in Tables 307.7(1) and 307.7(2)
3. Buildings and structures occupied for the application of flammable finishes, provided that such buildings or areas conform to the requirements of Section 416 and NFPA 33, NFPA 34 and the *International-Fire Code*.
4. Wholesale and retail sales and storage of flammable and combustible liquids in mercantile occupancies conforming to NFPA 30 and the *International-Fire Code*.
5. Closed systems housing flammable or combustible liquids or gases utilized for the operation of machinery or equipment.
6. Cleaning establishments that utilize combustible liquid solvents having a flash point of 140°F (60°C) or higher in closed systems employing equipment listed by an approved testing agency, provided that this occupancy is separated from all other areas of the building by 1-hour fire-resistance-rated fire barrier walls or horizontal assemblies or both.
7. Cleaning establishments which utilize a liquid solvent having a flash point at or above 200°F (93°C).
8. Liquor stores and distributors without bulk storage.
9. Refrigeration systems.
10. The storage or utilization of materials for agricultural purposes on the premises.
11. Stationary batteries utilized for facility emergency power, uninterrupted power supply or telecommunication facilities provided that the batteries are provided with safety venting caps and ventilation is provided in accordance with the *International-Mechanical Code*.
12. Corrosives, irritants and sensitizers shall not include personal or household products in their original packaging used in retail display or commonly used building materials.
13. Buildings and structures occupied for aerosol manufacturing or storage shall be classified as Group F-1 or S-1, provided that such buildings conform to the requirements of NFPA 30B and the *International-Fire Code*.

14. Display and storage of nonflammable solid and nonflammable or noncombustible liquid hazardous materials in quantities not exceeding the maximum allowable quantity per control area in Group M or S occupancies complying with Section 414.2.4.
15. The storage of black powder, smokeless propellant and small arms primers in Groups M and R-3 and special industrial explosive devices in Groups B, F, M and S, provided such storage conforms to the quantity limits and requirements prescribed in the *International Fire Code*.

308.2 Group I-1. This occupancy shall include a building or part thereof housing more than 16 persons, on a 24-hour basis, who because of age, mental disability or other reasons, live in a supervised residential environment that provides personal care services. The occupants are capable of responding to an emergency situation without physical assistance from staff. This group shall include, but not be limited to, the following: residential board and care facilities, assisted living facilities, half-way houses, group homes, congregate care facilities, social rehabilitation facilities, alcohol and drug centers and convalescent facilities. A facility such as the above with five or fewer persons shall be classified as a Group R-3 or shall comply with the *International Residential Code*. A facility such as above, housing at least six and not more than 16 persons shall be classified as a Group R-4.

308.3 Group I-2. This occupancy shall include buildings and structures used for medical, surgical, psychiatric, nursing or custodial care on a 24-hour basis of more than five persons who are not capable of self-preservation. This group shall include, but not be limited to the following: hospitals, nursing homes (both intermediate care facilities and skilled nursing facilities), mental hospitals and detoxification facilities. A facility such as the above with five or fewer persons shall be classified as a Group R-3 or shall comply with the *International Residential Code* in accordance with Section 101.2.

308.4.3 Condition 3. This occupancy condition shall include buildings in which free movement is allowed within individual smoke compartments, such as within a residential unit comprised of individual sleeping ~~rooms~~ units and group activity spaces, where egress is impeded by remote-

controlled release of means of egress from such a smoke compartment to another smoke compartment.

308.4.4 Condition 4. This occupancy condition shall include buildings in which free movement is restricted from an occupied space. Remote-controlled release is provided to permit movement from sleeping ~~rooms~~ units, activity spaces and other occupied areas within the smoke compartment to other smoke compartments.

308.4.5 Condition 5. This occupancy condition shall include buildings in which free movement is restricted from an occupied space. Staff-controlled manual release is provided to permit movement from sleeping ~~rooms~~ units, activity spaces and other occupied areas within the smoke compartment to other smoke compartments.

308.5 Group I-4, day care facilities. This group shall include buildings and structures occupied by persons of any age who receive custodial care for less than 24 hours by individuals other than parents or guardians, relatives by blood, marriage, or adoption, and in a place other than the home of the person cared for. A facility such as the above with five or fewer persons shall be classified as a Group R-3 or shall comply with the *International Residential Code* in accordance with Section 101.2. Places of worship during religious functions are not included.

308.5.2 Child care facility. A facility, that provides supervision and personal care on less than a 24-hour basis for more than five children 21/2 years of age or less shall be classified as Group I-4.

Exception: A child day care facility that provides care for more than five but no more than 100 children 21/2 years or less of age, when the rooms where such children are cared for are located on the level of exit discharge and each of these child care rooms has an exit door directly to the exterior or the fire area is sprinklered, shall be classified as Group E.

309.1 Mercantile Group M. Mercantile Group M occupancy includes, among others, buildings and structures or a portion thereof, for the display and sale of merchandise, and involves stocks of goods, wares or merchandise incidental to such purposes and accessible to the public. Mercantile occupancies shall include, but not be limited to, the following:

Department stores

Drug stores

Markets

Motor vehicle service stations, including oil changing facilities

Retail or wholesale stores

Sales rooms

310.1 Residential Group "R." Residential Group R includes, among others, the use of a building or structure, or a portion thereof, for sleeping ~~accommodations~~ purposes when not classed as an Institutional Group I. Residential occupancies shall include the following:

R-1 Residential occupancies where the occupants are primarily transient in nature (~~less than 30 days~~) including:

Boarding houses (transient)

Hotels (~~including motels~~) (transient)

Motels (transient)

R-2 Residential occupancies containing sleeping units or more than two dwelling units where the occupants are primarily permanent in nature, including:

Apartment houses

Boarding houses (not transient)

Convents

Dormitories

Fraternities and sororities

Monasteries

Vacation timeshare properties

Hotels (non transient)

Motels (non transient)

R-3 Residential occupancies where the occupants are primarily permanent in nature and not classified as R-1, R-2 or I and where buildings do not contain more than two dwelling units, ~~or adult and child care facilities that provide accommodations for five or fewer persons of any age for less than 24 hours~~ as applicable in Section 101.2. Adult and child care facilities that are within a single family home are permitted to comply with the *International Residential Code* in accordance with Section 101.2.

R-4 Residential occupancies shall include buildings arranged for occupancy as Residential Care/Assisted Living Facilities including more than five but not more than 16 occupants, excluding staff.

Group R-4 occupancies shall meet the requirements for construction as defined for Group R-3 ~~except for the height and area limitations provided in Section 503~~ as otherwise provided for in this code or shall comply with the *International Residential Code* in accordance with Section 101.2.

310.2 Definitions. The following words and terms shall, for the purposes of this section and as used elsewhere in this code, have the meanings shown herein.

RESIDENTIAL CARE/ASSISTED LIVING FACILITIES. A building or part thereof housing a ~~maximum of 16~~ persons, on a 24-hour basis, who because of age, mental disability or other reasons, live in a supervised residential environment which provides personal care services. The occupants are capable of responding to an emergency situation without physical assistance from staff. This classification shall include, but not be limited to, the following: residential board and care facilities, assisted living facilities, halfway houses, group homes, congregate care facilities, social

rehabilitation facilities, alcohol and drug abuse centers and convalescent facilities. ~~Residential care/assisted living facilities housing more than 16 persons shall be classified as a Group I-1.~~

***NOTE: All other portions of Section 310.2 remain as set forth in the International Building Code.**

310.3 Required dwelling unit and ~~guestroom~~sleeping unit separation. Walls and floors separating dwelling units in the same building, or ~~guest rooms~~sleeping units in Group R-1 hotel occupancies, shall be fire partitions or horizontal assemblies as required by Sections 708 and 710.

311.2 Moderate-hazard storage, Group S-1. Buildings occupied for storage uses which are not classified as Group S-2 including, but not limited, to storage of the following:

- Aerosols, Level 2 and Level 3
- Aircraft repair hangars
- Bags, cloth, burlap and paper
- Bamboos and rattan
- Baskets
- Belting, canvas and leather
- Books and paper in rolls or packs
- Boots and shoes
- Buttons, including cloth covered, pearl or bone
- Cardboard and cardboard boxes
- Clothing, woolen wearing apparel
- Cordage
- Furniture
- Furs
- Glues, mucilage, pastes and size
- Grains
- Horns and combs, other than celluloid
- Leather
- Linoleum

Lumber

Motor vehicle repair garages complying with the maximum allowable quantities of hazardous materials listed in Table 307.7(1). (See Section 406.6.)

Petroleum warehouses for storage of lubricating oils with a flash point of 200°F (93°C) or higher

Photo engravings

Resilient flooring

Silks

Soaps

Sugar

Tires, bulk storage of

Tobacco, cigars, cigarettes and snuff

Upholstery and mattresses

Wax candles

311.3 Low-hazard storage, Group S-2. Includes, among others, buildings used for the storage of noncombustible materials such as products on wood pallets or in paper cartons with or without single thickness divisions; or in paper wrappings. Such products may have a negligible amount of plastic trim such as knobs, handles or film wrapping. Storage uses include, but are only limited to, storage of the following:

Aircraft hanger

Asbestos

~~Beer or wine~~ Beverages up to and including 12-percent alcohol in metal, glass or ceramic containers

Cement in bags

Chalk and crayons

Dairy products in nonwaxed coated paper containers

Dry cell batteries

Electrical coils

Electrical motors

Empty cans
Food products
Foods in noncombustible containers
Fresh fruits and vegetables in nonplastic trays or containers
Frozen foods
Glass
Glass bottles, empty or filled with noncombustible liquids
Gypsum board
Inert pigments
Ivory
Meats
Metal cabinets
Metal desks with plastic tops and trim
Metal parts
Metals
Mirrors
Oil-filled and other types of distribution transformers
Parking garages, open or enclosed
Porcelain and pottery
Stoves
Talc and soapstones
Washers and dryers

312.1 General. Buildings and structures of an accessory character and miscellaneous structures not classified in any specific occupancy shall be constructed, equipped and maintained to conform to the requirements of this code commensurate with the fire and life hazard incidental to their occupancy. Group U shall include, but not be limited to, the following:

Agricultural buildings

Aircraft hangars, accessory to a one- or two-family residence (See Section 412.3)

Barns
Carports
Fences ~~more than 6 feet (1829 mm) high~~
Grain silos, accessory to a residential occupancy
Greenhouses
Livestock shelters
Private garages
Retaining walls

312.2 Tower structures. Tower structures shall be designed and constructed to sustain, with the stress limitations specified in this code, all loads specified in Chapter 16 and all other anticipated loads based on the use of the tower.

312.3 Fences.

312.3.1 Location. Fence location is not restricted on property, but its foundation shall be subject to the same regulations on extensions onto public property as building foundations.

312.3.2 Barbed wire. Barbed wire for fences shall be allowed only 6 feet above ground except as otherwise allowed by the City Code.

312.3.3 Electric. Electrically charged fences are prohibited.

312.3.4 Design. Design of fences shall be in accordance with Chapter 16 with loading as required for signs.

CHAPTER 4

SPECIAL DETAILED REQUIREMENTS BASED ON USE AND OCCUPANCY

402.4.6 Service areas fronting on exit passageways, ~~and corridors~~. Mechanical rooms, electrical rooms, building service areas and service elevators are permitted to open directly into exit passageways ~~and corridors~~ provided that the ~~required fire resistance rating of the exit passageway or corridor is maintained~~ is separated from such rooms with 1-hour fire resistance rated walls and 1-hour opening protectives.

402.6 Types of construction. The area of any covered mall building, including anchor buildings of Types I, II, III and IV construction shall not be limited provided the covered mall building and attached anchor buildings and parking structures are surrounded on all sides by a permanent open space of not less than 60 feet (18 288 mm). Anchor buildings four or more stories in height must comply with Section 503, as modified by Sections 504 and 506. The construction type of enclosed parking garages and open parking structures shall comply with Sections 406.3 and 406.4.

402.7.1 Attached garage. An attached garage for the storage of passenger vehicles having a capacity of not more than nine persons and open parking garages shall be considered as a separate building where they are separated from the covered mall building by a fire barrier having a fire-resistance rating of at least 2 hours.

Exception: Where an open parking garage or enclosed parking garage is separated from the covered mall building or anchor building a distance greater than 10 feet (3048 mm) the provisions of Table 602 shall apply. Pedestrian walkways and tunnels that attach the open parking garage or enclosed parking garage to the covered mall building or anchor building shall be constructed in accordance with Section 3104.

402.7.2 Tenant separations. Each tenant space shall be separated from other tenant spaces by a fire partition complying with Section 708. A tenant separation wall is not required between any tenant space and the mall, ~~except for occupancy separations required elsewhere in this code.~~

402.7.2.1 Openings between anchor building and mall. Except for the separation between Group R-1 sleeping rooms ~~units~~ and the mall, openings between anchor buildings of Types IA, IB, IIA and IIB construction and the mall need not be protected.

[F] 402.8.1 Standpipe system. The covered mall building ~~and other buildings connected~~ shall be provided throughout with a standpipe system in accordance with Section 905.3.4.

402.10 Kiosks. Kiosks and similar structures (temporary or permanent) shall meet the following requirements:

- ~~1. Combustible kiosks or other structures shall not be located within the mall unless constructed of fire-retardant treated wood.~~
- ~~2. Kiosks or similar structures located within the mall shall be provided with approved fire suppression and detection devices.~~
31. The minimum horizontal separation between kiosks, or groupings thereof and other structures within the mall shall be 20 feet (6096 mm).
42. Each kiosk or similar structure, or groupings thereof shall have a maximum area of 300 square feet (28 m²).

402.14.5 Foam plastics. Foam plastics shall have a maximum heat-release rate of 150 kilowatts when tested in accordance with UL 1975 and shall have physical characteristics ~~in accordance with Sections 402.14.5.1 and 402.14.5.2, specified in this section.~~ Foam plastic signs installed in accordance with Section 402.14 shall not be required to comply with the flame spread and smoke-developed indexes specified in Section 2603.3.

403.1 Applicability. The provisions of this section shall apply to buildings having occupied floors located more than 75 feet (22 860 mm) above ~~the lowest level of fire department vehicle access~~ grade.

Exception: The provisions of this section shall not apply to the following buildings and structures.

1. Airport traffic control towers in accordance with Section 412.
2. Open parking garages in accordance with Section 406.3.
3. Buildings with an occupancy in Group A-5 in accordance with Section 303.1.
4. Low-hazard special industrial occupancies in accordance with Section 503.1.2.
5. Buildings with an occupancy in Group H-1, ~~H-2 or H-3~~ in accordance with Section 415.

^{HFD} **403.2 Automatic sprinkler system.** Buildings and structures shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 and a secondary water supply where required by Section 903.3.5.2. The sprinkler system shall also be designed in accordance with the following:

1. Shutoff valves and a water-flow device shall be provided for each floor. In addition to activating a local alarm on the floor upon which the water flow is detected, such valves shall be continuously monitored at the buildings's central control station room.
2. The sprinkler riser may be combined with the standpipe riser.
3. Automatic sprinkler system piping on adjacent floors shall be connected to different fire risers.

Exception: An automatic sprinkler system shall not be required in spaces or areas of:

1. Open parking garages in accordance with Section 406.3.
2. Telecommunications equipment buildings used exclusively for telecommunications equipment, associated electrical power distribution equipment, batteries and standby engines, provided that those spaces or areas are equipped throughout with an automatic fire detection system in accordance with Section 907.2 and are separated from the remainder of the building with fire barriers consisting of 1-hour fire-resistance-rated walls and 2-hour fire-resistance-rated floor/ceiling assemblies.

403.3 Reduction in fire-resistance rating. ~~The fire-resistance-rating reductions listed in Sections 403.3.1 and 403.3.2 shall be allowed in buildings that have sprinkler control valves equipped with supervisory initiating devices and water-flow initiating devices for each floor. Reduction will be allowed as set forth in Table 601.~~

403.3.1 Type of construction. ~~The following reductions in the minimum construction type allowed in Table 601 shall be allowed as provided in Section 403.3:~~

- ~~1. Type IA construction shall be allowed to be reduced to Type IB.~~
- ~~2. In other than Groups F-1, M and S-1, Type IB construction shall be allowed to be reduced to Type IIA.~~

403.3.2 Shaft enclosures. ~~The required fire-resistance rating of the fire barrier walls enclosing vertical shafts, other than exit enclosures and elevator hoistway enclosures, shall be reduced to 1-hour where automatic sprinklers are installed within the shafts at the top and at alternate floor levels.~~

403.10 Standby power, light and emergency systems. ~~A standby power, light and emergency systems shall complying with Section 2702 shall be provided for standby power loads specified in the requirements of Sections 403.10.2.1 through 403.10.3.~~

403.10.1 Special requirements for standby power systems. ~~A standby power system conforming to the requirements of Section 2702 shall be provided. If the standby system is a generator set inside a the building, the system shall be located in a separate room enclosed with 2-hour fire-resistance-rated fire barrier assemblies. System supervision with manual start and transfer features shall be provided at the fire command center.~~

403.10.1.1 Fuel supply. ~~An on-premises fuel supply, sufficient for not less than 2-hour full-demand operation of the system, shall be provided.~~

Exception: ~~Where the system is supplied with pipeline natural gas and is approved.~~

~~**403.10.1.2 Capacity.** The standby system shall have a capacity and rating that supplies equipment required to be operational at the same time. The generating capacity is not required to be sized to operate all of the connected electrical equipment simultaneously if automatic load shedding is provided.~~

~~**403.10.1.3 Connected facilities.** Power and lighting facilities for the fire command center and elevators specified in Sections 403.8 and 403.9, as applicable, and electrically powered fire pumps required to maintain pressure, shall be automatically transferable to the standby source. Standby power shall be provided for at least one elevator to serve all floors and be transferable to any elevator.~~

~~**403.10.2 Separate circuits and fixtures.** Separate lighting circuits and fixtures shall be required to provide sufficient light with an intensity of not less than 1 foot-candle (10.76 lux) measured at floor level in means of egress corridors, stairways, smoke proof enclosures, elevator cars and lobbies, and other areas that are clearly a part of the escape route. **Standby power loads.** The following are classified as standby power loads:~~

- ~~1. Power and lighting for the fire command center required by Section 403.8.~~
- ~~2. Electrically powered fire pumps; and~~
- ~~3. Ventilation and automatic fire detection equipment for smokeproof enclosures.~~
- ~~4. Standby power shall be provided for elevators in accordance with Section 3003.~~

~~**403.10.2.1 Other circuits.** Circuits supplying lighting for the fire command center and mechanical equipment rooms shall be transferable to the standby source.~~

~~**403.10.3 Emergency systems.** Exit signs, exit illumination as required by Chapter 10, and elevator car lighting are classified as emergency systems and shall operate within 10 seconds of failure of the normal power supply and shall be capable of being transferred to the standby source.~~

Exception: Exit sign, exit and means of egress illumination are permitted to be powered by a standby source in buildings of Groups F and S occupancies.

~~403.11 Stairway door operation.~~ Stairway doors other than the exit discharge doors shall be permitted to be locked from stairway side. Stairway doors that are locked from the stairway side shall be capable of being unlocked simultaneously without unlatching upon a signal from the fire command center. **Emergency power systems.** An emergency power system complying with Section 2702 shall be provided for emergency power loads specified in Section 403.11.1.

403.11.1 Emergency power loads. The following are classified as emergency power loads:

1. Exit signs and means of egress illumination required by Chapter 10;
2. Elevator car lighting;
3. Emergency voice/alarm communications systems;
4. Automatic fire detection systems; and
5. Fire alarm systems.

~~403.11~~ **403.12 Stairway door operation.** Stairway doors other than the exit discharge doors shall be permitted to be locked from stairway side. Stairway doors that are locked from the stairway side shall be capable of being unlocked simultaneously without unlatching upon a signal from the fire command center.

~~403.11.1~~ **403.12.1 Stairway communications system.** A telephone or other two-way communications system connected to an approved constantly attended station shall be provided at not less than every fifth floor in each required stairway where the doors to the stairway are locked.

~~403.12~~ **403.13 Seismic considerations.** For seismic considerations, see Chapter 16.

404.1.1 Definition. The following term shall, for the purposes of this chapter and as used elsewhere in this code, have the meaning shown herein.

ATRIUM. An opening ~~through~~ connecting two three or more floor levels other than enclosed stairways, elevators, hoistways, escalators, plumbing, electrical, air-conditioning or other equipment, which is closed at the top and not defined as a mall. Floor levels, as used in this definition, do not include balconies within assembly groups or mezzanines that comply with Section 505.

404.4 Smoke control. A smoke-control system shall be installed in accordance with Section 909.

Exceptions:

- ~~1. Smoke control is not required for a floor opening connecting only two floors meeting the requirements of Section 707.2, Exception 7.~~
- 2.—Smoke control is not required for floor openings meeting the requirements of Section 707.2, Exception 2, 8 or 9.

404.5 Enclosure of atriums. Atrium spaces shall be separated from adjacent spaces by a 1-hour fire barrier wall.

Exceptions:

1. A glass wall forming a smoke partition where automatic sprinklers are spaced 6 feet (1829 mm) or less along both sides of the separation wall, or on the room side only if there is not a walkway on the atrium side, and between 4 and 12 inches (102 and 305 mm) away from the glass and so designed that the entire surface of the glass is wet upon activation of the sprinkler system. The glass shall be installed either:
 - 1.1. In a gasketed frame so installed that the framing system deflects without break (loading) the glass before the sprinkler system operates, or
 - 1.2. As a glass block wall assembly in accordance with Section 2110 and the listing for a ¾-hour fire-resistance rating.

2. The adjacent spaces of any three floors of the atrium shall not be required to be separated from the atrium where such spaces are included in computing the atrium volume for the design of the smoke control system.
3. Open exit-access balconies, unenclosed elevators or escalators and unrequired stairs are permitted within the atrium.

405.8 Exits. Means of egress.

405.8.2 Smokeproof enclosure. Every required stairway serving floor levels more than 30 feet (9144 mm) below its level of exit discharge shall comply with the requirements for a smokeproof enclosure as provided in Section 1005.3.2.5.

[F] 405.9 Standby power. A standby power system complying with Section 2702 shall be provided for standby power loads specified in Section 405.9.1.

~~405.9.1 Automatic startup.~~ The system shall be equipped with suitable means for automatically starting the generator set upon failure of the normal electrical service and for automatic transfer and operation of electrical functions. **405.9.3 Standby power loads.** The following loads are classified as standby power loads.

1. Smoke control system.
2. Ventilation and automatic fire detection equipment for smokeproof enclosures.
3. Fire pumps.
4. Standby power shall be provided for elevators in accordance with Section 3003.

~~405.9.2 Fuel supply.~~ An on-premises fuel supply sufficient for not less than 2 hours full demand operation of the system shall be provided.

~~Exception:~~ Where the system is supplied with pipeline natural gas and is approved.

~~**405.9.3 Standby power loads.** The following loads are classified as standby power loads. The standby power load shall be sized to supply the following:~~

- ~~1. Smokeproof management system.~~
- ~~2. Smokeproof enclosure.~~
- ~~3. Fire pumps.~~
- ~~4. One elevator to serve all floors with the capability of transferring power to any elevator.~~
- ~~5. Emergency power loads.~~

~~**405.9.4 Pick-up time.** The standby power system shall pick up its connected loads within 60 seconds of failure of the normal power supply.~~

[F] **405.10 Emergency power.** An emergency power system complying with Section 2702 shall be provided for emergency power loads specified in Section 405.10.1.

405.10.1 Emergency power loads. The following loads are classified as emergency power loads:

1. Emergency voice/alarm communications system.
2. Fire alarm systems.
3. Automatic fire detection systems.
4. Elevator car lighting.
5. Egress lighting and exit sign illumination.

~~**405.10.2 Pick-up time.** The emergency power system shall pick up its connected loads within 10 seconds of failure of the normal power supply.~~

~~**405.10.3 Power load transfer.** Emergency power loads shall be capable of being transferred to the standby power system.~~

406.1.4 Carports. Noncombustible carports that are open on two or more side and have no use above, may be constructed adjacent to any building without separation. For area purposes the carport shall be considered a separate building. The carport shall not be considered to block any yard of the adjacent building when an open yard of at least 30 feet between the carport and property line is provided.

406.4.1 Heights and areas. Enclosed vehicle parking garages and portions thereof that do not meet the definition of open parking garages shall be limited to the allowable heights and areas specified in Table 503. Roof parking is permitted and shall be of noncombustible construction.

406.2.6.1 Slope of parking surfaces. The area of floor used for parking of automobiles or other vehicles shall be sloped to facilitate the movement of liquids to a drain or toward the main vehicle entry doorway.

406.2.7 Mixed separation. ~~Parking~~ Enclosed parking garages shall be separated from other occupancies in accordance with Section 302.3.1.

406.2.10 Enclosure of vertical openings. Enclosure shall not be required for vertical openings except as specified in Section 406.2.8.

406.3.4 Uses. Except as allowed under the special provisions of Sections 508.3, ~~and~~ 508.8, and 508.9 open parking garages shall be used exclusively for the parking or storage of private motor vehicles.

Exception: The ~~grade level tier parking garage~~ may contain minor accessory uses such as an offices, elevator lobbies, waiting and toilet rooms ~~having a total combined area of not more than 1,000 square feet (93 m²).~~ Such areas need not be separated from the open parking garage.

406.3.8 ~~Stairs and exits~~ Means of egress. Where persons other than parking attendants are permitted, stairs and exits shall meet the requirements of Chapter 10. Where no persons other than parking attendants are permitted, there shall not be less than two 36-inch-wide (914 mm) stairs. Lifts shall be permitted to be installed for use of employees only, provided they are completely enclosed by noncombustible materials.

406.3.11 ~~Enclosure of vertical openings.~~ ~~Enclosure shall not be required for vertical openings except as specified in Section 406.2.8.~~ **Reserved.**

406.4.2 Ventilation. A mechanical ventilation system shall be provided in accordance with the *International Mechanical Code*.

Exception: Garages that provide openings as required in Section 406.3.3.1.

406.5.2 Canopies. Canopies under which fuels are dispensed shall have a clear, unobstructed height of not less than 13 feet 6 inches (4115 mm) to the lowest projecting element in the vehicle drive through area. Canopies and their supports over pumps shall be of noncombustible materials, fire-retardant-treated wood complying with Chapter 23, wood of Type IV sizes, or of construction providing 1-hour fire resistance. Combustible materials used in or on a canopy shall comply with one of the following:

1. Shielded from the pumps by a noncombustible element of the canopy, or wood of Type IV sizes; or
2. Plastics covered by aluminum facing having a minimum thickness of ~~0.020 inch (0.51 mm)~~ 0.010 inch or (.30 mm) or corrosion-resistant steel having a minimum base metal thickness of 0.016 inch (0.41 mm). The plastic shall have a flame spread index of 25 or less and a smoke-developed index of 450 or less when tested in the form intended for use in accordance with ASTM E 84 and a self-ignition temperature of 650°F (343°C) or greater when tested in accordance with ASTM D 1929; or
3. Panels constructed of light-transmitting plastic materials shall be permitted to be installed in canopies erected over motor vehicle fuel-dispensing station fuel dispensers, provided

the panels are located at least 10 feet (3048 mm) from any building on the same property and face yards or streets not less than 40 feet (12 192 mm) in width on the other sides. The aggregate areas of plastics shall not exceed 1,000 square feet (93 m²). The maximum area of any individual panel shall not exceed 100 square feet (9.3 m²).

407.2.1 Spaces of unlimited area. Waiting areas and similar spaces constructed as required for corridors shall ~~not~~ be open to a corridor, ~~except only~~ where all of the following criteria are met:

1. The spaces are not occupied for patient sleeping rooms, treatment rooms hazardous or incidental use areas as defined in Section 302.1.1.
2. The open space is protected by an automatic fire detection system installed in accordance with Section 907.
3. The corridors onto which the spaces open, in the same smoke compartment, are protected by an automatic fire detection system installed in accordance with Section 907, or the smoke compartment in which the spaces are located is equipped throughout with quick response sprinklers in accordance with Section 903.3.2.
4. The space is arranged so as not to obstruct access to the required exits.

407.2.2 Nurses' stations. Spaces for doctors' and nurses' charting, communications and related clerical areas shall ~~not~~ be permitted to be open to the corridor, ~~except where when~~ such spaces are constructed as required for corridors.

407.2.3 Mental health treatment areas. Areas wherein mental health patients who are not capable of self-preservation are housed, or group meeting or multipurpose therapeutic spaces other than incidental use areas as defined in Section 302.1.1, under continuous supervision by facility staff, shall ~~not~~ be open to the corridor, ~~except~~ where the following criteria are met.

1. Each area does not exceed 1,500 square feet (140 m²).
2. The area is located to permit supervision by the facility staff.
3. The area is arranged so as not to obstruct any access to the required exits.

4. The area is equipped with an automatic fire detection system installed in accordance with Section 907.2.
5. Not more than one such space is permitted in any one smoke compartment.
6. The walls and ceilings of the space are constructed as required for corridors.

407.2.4 Gift shops. Gift shops ~~shall not be open to the corridor except where such spaces are~~ less than 500 square feet (46.5 m²) in area shall be permitted to be open to the corridor provided ~~and both~~ the gift shop and any storage ~~rooms~~ areas are protected in accordance with Section 302.1.1.

408.3.1 Door width. Doors to resident sleeping ~~rooms~~ units shall have a clear width of not less than 28 inches (711 mm).

409.1.1 Projection room required. Every motion picture machine projecting film as mentioned within the scope of this section shall be enclosed in a projection room. Appurtenant electrical equipment, such as rheostats, transformers and generators, shall be within the projection room or in an adjacent room of equivalent construction. ~~There shall be posted on the outside of each projection room door and within the projection room itself, a conspicuous sign with 1-inch (25.4 mm) block letters stating: SAFETY FILM ONLY PERMITTED IN THIS ROOM.~~

412.5.1 General. Heliports and helistops ~~may~~ shall not be erected on buildings or other locations unless where they are constructed in accordance with this section and all other applicable laws and ordinances.

412.5.5 Exits and stairways Means of egress. ~~Exits and stairways~~ The means of egress from heliports and helistops shall comply with the provisions of Chapter 10, except no stairwell, stairway, guardrail or other structure shall be required or allowed to penetrate the take-off and landing area specified for the helistop. All ~~L~~ landing areas located on buildings or structures shall have two or more ~~exits~~ means of egress. For ~~L~~ landing platforms or roof areas less than 60 feet

(18 288 mm) in length, or less than 2,000 square feet (187 m²) in area, ~~shall have at least two exits complying with Chapter 10 or shall have one exit complying with Chapter 10 and a the second means of egress may be a fire escape or ladder leading to the floor below.~~

414.2.4 Hazardous material in Group M display and storage areas and in Group S storage areas. The aggregate quantity of nonflammable solid and nonflammable or noncombustible liquid hazardous materials permitted within a single control area of a Group M or S occupancy or an outdoor control area is permitted to exceed the maximum allowable quantities per control area specified in Tables 307.27(1) and 307.27(2) without classifying the building or use as a high-hazard occupancy, provided that the materials are displayed and stored in accordance with the *International Fire Code* and quantities do not exceed the maximum allowable quantities specified in Table 414.2.4.

414.5.4 Standby or emergency power. Where mechanical ventilation, treatment, temperature control, alarm, detection or other electrically operated systems are required, such systems shall be ~~connected to~~ provided with an emergency ~~electrical system~~ or standby power system in accordance with ~~Section 2702~~ the *Electrical Code*.

Exceptions:

1. Storage areas for Class 1 and 2 oxidizers.
2. Storage areas for Class III, IV and V organic peroxides.
3. Storage, use and handling areas for highly toxic or toxic materials as provided for in the *International Fire Code*.
4. Standby power for mechanical ventilation, treatment systems and temperature control systems shall not be required where an approved fail-safe engineered system is installed.

414.6.1 Weather protection. Where weather protection is provided for sheltering outside hazardous material storage or use areas, such storage or use shall be considered outside storage or use, provided that all of the following conditions are met:

1. Structure supports and walls shall not obstruct more than one side nor more than 25 percent of the perimeter of the storage or use area.
2. The distance from the structure and the structure supports to buildings, lot lines, public ways or means of egress to a public way shall not be less than the distance required for an outside hazardous material storage or use area without weather protection.
3. The overhead structure shall be of ~~approved~~ noncombustible construction ~~with a maximum area of 1,500 square feet (140 m²).~~

~~**Exception:** The increases permitted by Section 506 apply.~~

4. The structure shall be classified in the appropriate Group H occupancy only for determining maximum area purposes as described in Table 503 including increases as provided in Section 506.

415.3.1 Group H minimum distance to lot lines. Regardless of any other provisions, buildings containing Group H occupancies shall be set back a minimum distance from lot lines as set forth Items 1 through 4 below. Distances shall be measured from the walls enclosing the occupancy to lot lines, including those on a public way.

1. Group H-1. Not less than 75 feet (22 860 mm) and not less than required by the ~~International Fire Code.~~ Table 415.3.1.

~~**Exception:** Fireworks manufacturing buildings separated in accordance with NFPA 1124.~~

2. Group H-2. Not less than 30 feet (9144 mm) where the area of the occupancy exceeds 1,000 square feet (93 m²) and it is not required to be located in a detached building.
3. Group H-2 and H-3. Not less than 50 feet (15 240 mm) where a detached building is required. See Table 415.3.2.
4. Group H-2 and H-3. Occupancies containing materials with explosive characteristics. Not less than the distances required by Table 415.3.1.

**TABLE 415.3.1
MINIMUM SEPARATION DISTANCES FOR BUILDINGS CONTAINING EXPLOSIVE MATERIALS**

QUANTITY OF EXPLOSIVE MATERIAL ^a		MINIMUM DISTANCE (feet)		
		Lot lines ^b and inhabited buildings ^c		Separation of magazine ^{d,e,f}
Pounds over	Pounds not over	Barricaded ^d	Unbarricaded	
2	5	70	140	12
5	10	90	180	16
10	20	110	220	20
20	30	125	250	22
30	40	140	280	24
40	50	150	300	28
50	75	170	340	30
75	100	190	380	32
100	125	200	400	36
125	150	215	430	38
150	200	235	470	42
200	250	255	510	46
250	300	270	540	48
300	400	295	590	54
400	500	320	640	58
500	600	340	680	62
600	700	355	710	64
700	800	375	750	66
800	900	390	780	70
900	1,000	400	800	72
1,000	1,200	425	850	78
1,200	1,400	450	900	82
1,400	1,600	470	940	86
1,600	1,800	490	980	88
1,800	2,000	505	1,010	90
2,000	2,500	545	1,090	98
2,500	3,000	580	1,160	104
3,000	4,000	635	1,270	116
4,000	5,000	685	1,370	122
5,000	6,000	730	1,460	130

QUANTITY OF EXPLOSIVE MATERIAL ^a		MINIMUM DISTANCE (feet)		
		Lot lines ^b and inhabited buildings ^c		Separation of magazine ^{d,e,f}
Pounds over	Pounds not over	Barricaded ^d	Unbarricaded	
6,000	7,000	770	1,540	136
7,000	8,000	800	1,600	144
8,000	9,000	835	1,670	150
9,000	10,000	865	1,730	156
10,000	12,000	875	1,750	164
12,000	14,000	885	1,770	174
14,000	16,000	900	1,800	180
16,000	18,000	940	1,880	188
18,000	20,000	975	1,950	196
20,000	25,000	1,055	2,000	20
25,000	30,000	130	2,000	224
30,000	23,000	1,205	2,000	238
35,000	40,000	1,275	2,000	248
40,000	45,000	1,340	2,000	258
45,000	50,000	1,400	2,000	270
50,000	55,000	1,460	2,000	280
55,000	60,000	1,515	2,000	290
60,000	65,000	1,565	2,000	300
65,000	70,000	1,610	2,000	310
70,000	75,000	1,655	2,000	320
75,000	80,000	1,695	2,000	330
80,000	85,000	1,730	2,000	340
85,000	90,000	1,760	2,000	350
90,000	95,000	1,790	2,000	360
95,000	100,000	1,815	2,000	370
100,000	110,000	1,835	2,000	390
110,000	120,000	1,855	2,000	410
120,000	130,000	1,875	2,000	430
130,000	140,000	1,890	2,000	450
140,000	150,000	1,900	2,000	470
150,000	160,000	1,935	2,000	490
160,000	170,000	1,965	2,000	510

QUANTITY OF EXPLOSIVE MATERIAL ^a		MINIMUM DISTANCE (feet)		
		Lot lines ^b and inhabited buildings ^c		Separation of magazine ^{d,e,f}
Pounds over	Pounds not over	Barricaded ^d	Unbarricaded	
170,000	180,000	1,990	2,000	530
180,000	190,000	2,010	2,010	550
190,000	200,000	2,030	2,030	570
200,000	210,000	2,055	2,055	590
210,000	230,000	2,100	2,100	630
230,000	250,000	2,155	2,155	670
250,000	275,000	2,215	2,215	720
275,000	300,000	2,275	2,275	770

For S: 1 pound = 0.454 kg, 1 foot = 304.8 mm.

- a. The number of pounds of explosives listed is the number of pounds of trinitrotoluene (TNT) or the equivalent pounds of other explosive.
- b. The distance listed is the distance to lot line, including lot lines at public ways.
- c. Inhabited building is any building on the same property that is regularly occupied by human beings. Where two or more buildings containing explosives or magazines are located on the same property, each building or magazine shall comply with the minimum distances specified from inhabited buildings, and, in addition, they shall be separated from each other by not less than the distances shown for "Separation of Magazines," except that the quantity of explosive materials contained in detonator buildings or magazines shall govern in regard to the spacing of said detonator buildings or magazines from buildings or magazines containing other explosive materials. If any two or more buildings or magazines are separated from each other by less than the specified "Separation of Magazines" distances, then such two or more buildings or magazines, as a group, shall be considered as one building or magazine, and the total quantity of explosive materials stored in such group shall be treated as if the explosive were in a single building or magazine located on the site of any building or magazine of the group, and shall comply with the minimum distance specified from other magazines or ~~inhabited~~ inhabited buildings.
- d. Barricades shall effectively screen the building containing explosives from other buildings, public ways or magazines. Where mounds or reverted walls of earth are used for barricades, they shall not be less than 3 feet in thickness. A straight line from the top of any side wall of the building containing explosive materials to the eave line of any other building, magazine or a point 12 feet above the center line of a public way shall pass through the barricades.
- e. Magazine is a building or structure other than an operating building, approved for storage of explosive materials. Portable or mobile magazines not exceeding 120 square feet in area need not comply ~~In addition to~~ with the requirements of this code, however all magazines shall comply with the ~~International Fire Code~~.
- f. The distance listed may be reduced by 50 percent where approved natural or artificial barriers are provided in accordance with the requirements in Note d.

**TABLE 415.3.2
REQUIRED DETACHED STORAGE**

DETACHED STORAGE IS REQUIRED WHEN THE QUANTITY OF MATERIAL EXCEEDS THAT LISTED HEREIN			
MATERIAL	CLASS	SOLIDS AND LIQUIDS (tons)^{a,b}	GASES (cubic feet)^{a,b}
Explosives, blasting agents, black powder, fireworks 1.3 G, detonatable organic peroxides	Not Applicable	Maximum Allowable Quantity	Maximum Allowable Quantity
Oxidizers	Class 4	Maximum Allowable Quantity	Maximum Allowable Quantity
Unstable (reactives) detonatable	Class 3 or 4	Maximum Allowable Quantity	Maximum Allowable Quantity
Oxidizer, liquids and solids	Class 3 Class 4	1,200 2,000	Not Applicable Not Applicable
Organic peroxides	Class I Class II Class III	Maximum Allowable Quantity 25 50	Not Applicable Not Applicable Not Applicable
Unstable (reactives) nondetonatable		1 25	2,000 10,000
Water reactives		1 25	Not Applicable Not Applicable
Pyrophoric gases	Not Applicable	Not Applicable	2,000

For SI: 1 foot = 304.8 mm, 1 square foot = 0.093m²

- a. For materials that are detonable, the distance to other buildings or property lines shall be as specified in Table 415.3.2 based on trinitrotoluene (TNT) equivalence of the material. For all other materials, the distance shall be as indicated in Section 415.3.1. For materials classified as explosives, see the *Fire Code* for additional requirements.
- b. "Maximum Allowable Quantity" means the maximum allowable quantity per control area set forth in Table 307.7(1).

415.6 Smoke and heat venting. Smoke and heat vents complying with Section 910 shall be installed in the following locations:

1. In occupancies classified as Group H-1, H-2 or H-3, any of which are over 15,000 square feet (1394 m²) in single floor area.

Exception: Buildings of noncombustible construction containing only noncombustible materials.

2. In areas of buildings in Group H used for storing Class 2, 3, and 4 liquid and solid oxidizers, Class 1 and unclassified detonable organic peroxides, Class 3 and 4 unstable (reactive) materials, or Class 2 or 3 water-reactive materials as required for a Class V hazard classification.

Exception: Buildings of noncombustible construction containing only noncombustible materials.

415.7.2.7 Tank vent. Storage tank vents for Class I, II, or III A liquids shall terminate to the outdoor air in accordance with the *International Fire Code*.

415.9.4.4 ~~Exiting~~ Means of egress. The maximum distance of travel from any point in a service corridor to an ~~exterior exit door, egress exit access corridor, horizontal exit, exit passageway, enclosed stairway~~ or door into a fabrication area shall not exceed 75 feet (22 860 mm). Dead ends shall not exceed 4 feet (1219 mm) in length. There shall be not less than two exits, and not more than one-half of the required ~~exits~~ means of egress shall ~~be~~ require travel into ~~the~~ a fabrication area. Doors from service corridors shall swing in the direction of ~~exit~~ egress travel and shall be self-closing.

415.9.6.2.1 HPM having a health-hazard ranking of 3 or 4. Systems supplying gaseous HPM liquids or gases having a health-hazard ranking of 3 or 4 shall be welded throughout, except for connections, ~~valves and fittings,~~ to the systems that are within a ventilated enclosure if the material is a gas, or an approved method of drainage or containment is provided for the connections if the materials is a liquid.

CHAPTER 5

GENERAL BUILDING HEIGHTS AND AREAS

501.2 Premises identification. Approved numbers or addresses shall be provided for new buildings under construction in such a position as to be clearly visible and legible from the street or roadway fronting the property. Letters or numbers shall be a minimum 3 inches (76 mm) in height and stroke of minimum 0.5 inch (12.7 mm) of a contrasting color to the background itself. All new and existing buildings are required to be numbered as provided in Article V of Chapter 10 of the City Code.

504.1 General. The heights permitted by Table 503 shall only be increased in accordance with this section.

Exception: The height of one-story aircraft hangars, aircraft paint hangars, aircraft repair hangars and buildings used for the manufacturing of aircraft shall not be limited if the building is provided with an automatic fire-extinguishing system in accordance with Chapter 9 and is entirely surrounded by public ways or yards not less in width than ~~one and one-half times~~ the height of the building.

505.3 Egress. Each occupant of a mezzanine shall have access to at least two independent means of egress when required by Section 1004.2.1. ~~where the common path of egress travel exceeds the limitations of Section 1004.2.5.~~ Where a stairway provides a means of exit access from a mezzanine, the maximum travel distance includes the distance traveled on the stairway measured in the plane of the tread nosing.

Exception: ~~A single means of egress shall be permitted in accordance with Section 1004.2.1.~~

505.4 Openness. A mezzanine shall be open and unobstructed to the room in which such mezzanine is located except for walls not more than 42 inches (1067 mm) high, columns and posts.

Exceptions:

1. Mezzanines or portions thereof are not required to be open to the room in which the mezzanines are located, provided that the occupant load of the aggregate area of the enclosed space does not exceed 10.
2. A mezzanine having two or more means of egress is not required to be open to the room in which the mezzanine is located, if at least one of the means of egress provides direct access to an exit from the mezzanine level.
3. Mezzanines or portions thereof are not required to be open to the room in which the mezzanines are located, provided that the aggregate floor area of the enclosed space does not exceed 10 percent of the mezzanine area.
4. In industrial facilities, mezzanines used for control equipment are permitted to be glazed on all sides.
5. In Group F occupancies of unlimited area, meeting the requirements of Section 507.2 or Section 507.3, mezzanines or portions thereof are not required to be open to the room in which the mezzanines are located, provided that an approved fire alarm system is installed throughout the entire building or structure and notification appliances are installed throughout the mezzanines in accordance with the provisions of NFPA 72. In addition, the fire alarm system shall be initiated by automatic sprinkler water flow ~~and manual activation.~~

505.5.2 Fire suppression. Where located in a building that is required to be protected by an automatic sprinkler system, industrial equipment platforms shall be fully protected by ~~an automatic sprinklers system~~ above and below the platform, ~~installed in accordance with where~~ required by the standards referenced in Section 903.3.

506.2.1 Width limits. W must be at least 20 feet (6096 mm) and the quantity W divided by 30 shall not exceed 1.0 ~~except that for buildings which are permitted to be unlimited in area by Section 503.1.2, Section 507 or Section 508, the quantity W divided by 30 shall not exceed 2.0.~~

507.2 Sprinklered, one-story. The area of a one-story, Group A-4, B, F, M or S or a one story, Group A-4 building of other than Type V construction shall not be limited when the building is provided with an automatic sprinkler system throughout in accordance with Section 903.3.1.1, and is surrounded and adjoined by public ways or yards not less than 60 feet (18 288 mm) in width.

Exceptions:

1. Buildings and structures of Types I and II construction for rack storage facilities, which do not have access by the public shall not be limited in height provided that such buildings conform to the requirements of Section 507.1 and NFPA 231C.
2. The automatic sprinkler system shall not be required in areas occupied for indoor participant sports, such as tennis, skating, swimming and equestrian activities, in occupancies in Group A-4, provided that:
 - 2.1. Exit doors directly to the outside are provided for occupants of the participant sports areas, and
 - 2.2. The building is equipped with a fire alarm system with manual fire alarm boxes installed in accordance with Section 907.

507.5 Group A-3 buildings. The area of a one-story, Group A-3 building used as a church, community hall, dance hall, exhibition hall, gymnasium, lecture hall, indoor swimming pool or tennis court of Type I or II construction shall not be limited when all of the following criteria are met:

1. The building shall not have a stage other than a platform.
2. The building shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.1.1.
3. The assembly floor shall be located at, or within 21 inches (533 mm) of street or grade level and all exits are provided with ramps complying with Section 1003.3.4 to the street or grade level.
4. The building shall be surrounded and adjoined by public ways or yards not less than 60 feet (18 288 mm) in width.

~~507.5~~ 507.6 High-hazard use groups. Groups H-2, H-3 and H-4 fire areas shall be permitted in unlimited area buildings having occupancies in Use Groups F and S, in accordance with the limitations of this section. Fire areas located at the perimeter of the unlimited area building shall not exceed 10 percent of the area of the building nor the area limitations specified in Table 503 as modified by Section 506.2, based upon the percentage of the perimeter of the fire area that fronts on a street or other unoccupied space. Other fire areas shall not exceed 25 percent of the area limitations specified in Table 503. Fire-resistance rating requirements of fire barrier assemblies shall be in accordance with Table 302.3.3.

~~507.6~~ 507.7 Aircraft paint hangar. The area of a one-story, Group H-2 aircraft paint hangar shall not be limited where such aircraft paint hangar complies with the provisions of Section 412.4 and is entirely surrounded by public ways or yards not less in width than one and one-half times the height of the building.

~~507.7~~ 507.8 Group E buildings. The area of a one-story Group E building of Type II, III A or IV construction shall not be limited when the following criteria are met:

1. Each classroom shall have not less than two means of egress, with one of the means of egress being a direct exit to the outside of the building complying with Section 1005.
2. The building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. The building is surrounded and adjoined by public ways or yards not less than 60 feet (18 288 mm) in width.

~~507.8~~ 507.9 Motion picture theaters. In buildings of Type I or II construction, the area of one-story motion picture theaters shall not be limited when the building is provided with an automatic sprinkler system throughout in accordance with Section 903.3.1.1 and is surrounded and adjoined by public ways or yards not less than 60 feet (18 288 mm) in width.

508.9 Basement and first story of open parking garages. Other provisions of this code not withstanding, a basement or first story located below an open parking garage may be considered as a separate and distinct building for the purpose of occupancy, area limitation and type of construction, when the basement or first story is separated from the open parking garage above with a three-hour occupancy separation and the basement and first floor is protected throughout by an automatic sprinkler system.

508.10 Transit sheds. The area of a Type II-B building meeting the definition of a "transit shed" may be increased to 250,000 square feet, provided there is no other building located closer than 200 feet to the building and there is a paved access road at least 60 feet in width on all sides of the building.

SECTION 509

FOUNDATION ELEVATION

509.1 General. All new buildings constructed within this jurisdiction shall have the finished floor of the building not less than 12 inches above the nearest sanitary sewer manhole rim, or, where no sewer is available, the finished floor shall not be less than 4 inches above the crown of the street.

Exception: Where a greater elevation is required by Chapter 19 of the City Code, then Chapter 19 shall control.

509.2 Plans and applications. All construction plans and applications submitted for construction, sewer connections or septic systems shall reflect the elevations of the finished floor of the building and the elevation of the nearest manhole or crown of the street, whichever is applicable.

509.3 Damage risk. All permits for connection shall be issued on the condition that the owner take all the risk of damage that may result from water backing up into the premises from the sewer.

509.4 Existing structures. Existing structures required to be connected with public or private sewer shall have the finished floor a minimum of 12 inches above the nearest manhole.

Exception: Where the public or private sewer is not of sufficient depth, or where structures required to be connected to the sewer cannot meet the minimum requirements of this section and other ordinances, the building official may authorize the issuance of a permit for an alternate method of construction or installation when this will not be detrimental to the health, welfare, and safety of the public.

CHAPTER 6

TYPES OF CONSTRUCTION

TABLE 601
FIRE RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (hours)

BUILDING ELEMENT ^a	TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
	A	B	A ^d	B	A ^d	B	HT	A ^d	B
Structural frame ^a Including columns, girders, trusses	3 ^b	2 ^b	1	0	1	0	HT	1	0
Bearing walls									
Exterior ^f	3	2	1	0	2	2	2	1	0
Interior	3 ^b	2 ^b	1	0	1	0	1/HT	1	0
Nonbearing walls and partitions	See Table 602 See Section 602								
Exterior									
Interior ^e									
Floor construction Including supporting beams and joists	2	2	1	0	1	0	HT	1	0
Roof construction Including supporting beams and joists	1½ ^c	1 ^c	1 ^c	0 ^c	1 ^c	0	HT	1 ^c	0

For SI: 1 foot = 304.8 mm.

- a. The structural frame shall be considered to be the columns and the girders, beams, trusses and spandrels having direct connections to the columns and bracing members designed to carry gravity loads. The members of floor or roof panels which have no connection to the columns shall be considered secondary members and not a part of the structural frame.
- b. Roof supports: Fire-resistance ratings of structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.
- c.
 1. Except in Factory-Industrial (F-1), Hazardous (H), Mercantile (M) and Moderate Hazard Storage (S-1) occupancies, fire protection of structural members shall not be required, including protection of roof framing and decking where every part of the roof construction is 20 feet or more above any floor immediately below. Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.
 2. In all occupancies, heavy timber shall be allowed where a 1-hour or less fire-resistance rating is required.
 3. In Type I and Type II construction, fire-retardant-treated wood shall be allowed in buildings not over two stories including girders and trusses as part of the roof construction.
- d. An approved automatic sprinkler system in accordance with Section 903.3.1.1 shall be allowed to be substituted for 1-hour fire-resistance-rated construction, provided such system is not otherwise required by other provisions of the code or used for an allowable area increase in accordance with Section 506.3 or an allowable height increase in accordance with Section 504.2. The 1-hour substitution for the fire resistance of exterior walls shall not be permitted.

- e. For interior nonbearing partitions in Type IV construction, also see Section 602.4.6.
- f. Not less than the fire-resistance rating based on fire separation distance (see Table 602.).
- g. When an automatic sprinkler system is provided throughout a building, the fire-resistive time periods may be reduced by one hour for permanent partitions, interior-bearing walls, floor construction, roof construction and beams supporting roofs.

**TABLE 602
FIRE RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE
SEPARATION DISTANCE ^a**

FIRE SEPARATION DISTANCE (Feet)	TYPE OF CONSTRUCTION	GROUP H	GROUP F-1, M, S-1	GROUP A, B, E, F-2, I, R ^b , S-2, U	GROUP S-2 OPEN PARKING GARAGES
< 5 ^c	<u>II-B, V-B</u> All Others	$\frac{3}{3}$	$\frac{1}{2}$	$\frac{1}{1}$	$\frac{1}{1}$
≥ 5 <10	I-A <u>II-B, V-B</u> Others	3 $\frac{2}{2}$	2 $\frac{0}{1}$	1 $\frac{0^d}{1}$	$\frac{1}{1}$
≥10 <30	I-A, I-B II-B, V-B Others	2 1 1	1 0 1	1 0 1	$\frac{0}{0}$
≥30	All	0	0	0	$\frac{0}{0}$

For SI: 1 foot = 304.8 mm.

- a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
- b. Group R-3 and Group U when used as accessory to Group R-3, as applicable in Section 101.2 shall not be required to have a fire-resistance rating where fire separation distance is 3 feet or more.
- c. See Section 503.2 for party walls.
- d. Not applicable to A, E, and I occupancies.

603.1 Allowable uses. Combustible materials ~~are~~ shall be permitted in buildings of Type I ~~and or~~ Type II construction in the following applications and in accordance with Section 603.1.1 through 603.1.3:

1. Fire-retardant-treated wood shall be permitted in:
 - 1.1. Nonbearing partitions where the required fire-resistance rating is 2 hours or less.
 - 1.2. Nonbearing exterior walls where no fire rating is required.
 - 1.3. Roof construction as permitted in Table 601, Note c, Item 3.

2. Thermal and acoustical insulation, other than foam plastics, having a flame spread index of not more than 25.

Exceptions:

1. Insulation placed between two layers of noncombustible materials without an intervening air space shall be allowed to have a flame spread index of not more than 100.
2. Insulation installed between a finished floor and solid decking without intervening air space shall be allowed to have a flame spread index of not more than 200.
3. Foam plastics in accordance with Chapter 26.
4. Roof coverings that have an A, B or C classification.
5. Interior floor finish and interior finish, trim and millwork such as doors, door frames, window sashes and frames.
6. Where not installed over 15 feet (4572 mm) above grade, show windows, nailing or furring strips, wooden bulkheads below show windows, their frames, aprons and show cases.
7. Finish flooring applied directly to the floor slab or to wood sleepers that are firestopped in accordance with Section 716.2.7.
8. Partitions dividing portions of stores, offices or similar places occupied by one tenant only and which do not establish a corridor serving an occupant load of 30 or more may be constructed of fire-retardant-treated wood, 1-hour fire-resistive construction or of wood panels or similar light construction up to 6 feet (1829 mm) in height.
9. Platforms as permitted in Section 410.
- ~~10. Materials complying with Section 602 of the *International Mechanical Code*.~~
- ~~11~~ 10. Combustible exterior wall coverings, balconies, bay or oriel windows, or similar appendages in accordance with Chapter 14.
- ~~12~~ 11. Blocking such as for handrails, millwork, cabinets, and window and door frames.
- ~~13~~ 12. Light-transmitting plastics as permitted by Chapter 26.
- ~~14~~ 13. Mastics and caulking materials applied to provide flexible seals between components of exterior wall construction.
- ~~15~~ 14. Exterior plastic veneer installed in accordance with Section 2605.2.

- ~~1615.~~ Nailing or furring strips as permitted by Section ~~803.3~~.
- ~~1716.~~ Heavy timber as permitted by Note C, Item 2, to Table 601 and Sections 602.4.7 and 1406.3.
- ~~1817.~~ Aggregates, component materials and admixtures as permitted by Section 703.2.2.
- ~~1918.~~ Sprayed cementitious and mineral fiber fire-resistive materials installed to comply with Section 1704.11.
- ~~2019.~~ Materials used to protect penetrations in fire-resistance-rated assemblies in accordance with Section 711.
- ~~2120.~~ Materials used to protect joints in fire-resistance-rated assemblies in accordance with Section 712.
- ~~2221.~~ Materials allowed in the concealed spaces of buildings of Types I and II construction in accordance with Section 716.5.

603.1.1 Ducts. The use of nonmetallic ducts shall be permitted when installed in accordance with the limitations of the *Mechanical Code*.

603.1.2 Piping. The use of combustible piping materials shall be permitted when installed in accordance with the limitations of the *Mechanical Code* and the *Plumbing Code*.

603.1.3 Electrical. The use of electrical wiring methods with combustible insulation, tubing, raceways and related components shall be permitted when installed in accordance with the limitations of the *Electrical Code*.

CHAPTER 7

FIRE-RESISTANCE-RATED CONSTRUCTION

SECTION 702

DEFINITIONS

FIRE-RESISTANT JOINT SYSTEM. An assemblage of specific materials or products that are designed, tested, and fire-resistance rated in accordance with either ASTM E 1966 or UL 2079 to resist for a prescribed period of time the passage of fire through joints made in or between fire-resistance-rated assemblies.

FIRE SEPARATION DISTANCE. The distance measured from the building face to the closest interior lot line to the centerline of a street, alley or public way, or to an imaginary line between two buildings on the property lot. The distance shall be measured at right angles from the lot line face of the wall.

***NOTE:** All other portions of Section 702 remain as set forth in the International Building Code.

TABLE 704.8
MAXIMUM AREA OF EXTERIOR WALL OPENINGS^a

CLASSIFICATION OF OPENING	FIRE SEPARATION DISTANCE (feet)							
	<u>Less than 0 to 3^{e,h}</u>	<u>Greater than 3 but less than 5^{b,f}</u>	<u>Greater than 5 but less than 10^{b,d,f}</u>	<u>Greater than 10 but less than 15^{c,b,f}</u>	<u>Greater than 15 but less than 20^{c,f}</u>	<u>Greater than 20 but less than 25^{c,f}</u>	<u>Greater than 25 but less than 30^{c,f}</u>	<u>Greater than 30 or More</u>
Unprotected	NP ^g	NP ^{b,g}	10% ^g	15% ^g	25%	45% ^g	70% ^g	UL
Protected	NP	15 %	25 %	45%	75%	UL	UL	UL

For SI: 1 foot = 304.8 mm.

- a. Values given are percentage of the area of the exterior wall in any story.
- b. For occupancies in Group R-3, as applicable in Section 101.2, the maximum percentage of unprotected and protected exterior wall openings shall be 25 percent.

- c. The area of openings in an open parking structure with a fire separation distance of ~~greater than~~ 10 feet or greater shall not be limited.
- d. For occupancies in Group H-2 or H-3, unprotected openings shall not be permitted for openings with fire separation distance of ~~15 feet or less~~ than 15 feet.
- e. For requirements for fire walls for buildings with differing roof heights, see Section 705.6.1.
- f. The area of unprotected and protected opening is not limited for occupancies in Group R-3, as applicable in Section 101.2, with a fire separation distance ~~greater than~~ 5 feet or greater.
- g. Buildings whose exterior bearing wall, exterior nonbearing wall and exterior structural frame are not required to be fire-resistance rated shall be permitted to have unlimited unprotected openings.
- h. Includes accessory buildings to Group R-3 as applicable in Section 101.2.

704.8.1 Automatic sprinkler system. In buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 and 903.3.1.2, the maximum allowable area of unprotected openings in occupancies other than Groups H-1, H-2, and H-3 shall be the same as the tabulated limitations for protected openings.

704.9 Vertical separation of openings. Openings in exterior walls in adjacent stories shall be separated vertically to protect against fire spread on the exterior of the buildings where the openings are within 5 feet (1524 mm) of each other horizontally and the opening in the lower story is not a protected opening in accordance with Section 714.3.7. Such openings shall be separated vertically at least 3 feet (914 mm) by spandrel girders, exterior walls or other similar assemblies that have a fire-resistance rating of at least 1 hour or by flame barriers that extend horizontally at least 30 inches (762 mm) beyond the exterior wall. Flame barriers shall also have a fire-resistance rating of at least 1 hour. The unexposed surface temperature limitations specified in ASTM E 119 shall not apply to the flame barriers or vertical separation unless otherwise required by the provisions of this code.

Exceptions:

1. This section shall not apply to buildings that are three stories or less in height.
2. This section shall not apply to buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.
3. Open parking garages.

704.11 Parapets. Parapets shall be provided on exterior walls of buildings.

Exceptions: A parapet need not be provided on an exterior wall where any of the following conditions exist:

1. The wall is not required to be fire-resistance rated in accordance with Table 602 because of fire separation distance.
2. The building has an area of not more than ~~1,000~~ 2,000 square feet (93 m²) on any floor.
3. Walls that terminate at roofs of not less than 2-hour fire-resistance-rated construction or where the roof, including the deck and supporting construction, is constructed entirely of noncombustible materials.
4. One-hour fire-resistance-rated exterior walls that terminate at the underside of the roof sheathing, deck or slab, provided:
 - 4.1. Where the roof/ceiling framing elements are parallel to the walls, such framing and elements supporting such framing shall not be of less than 1-hour fire-resistance-rated construction for a width of 4 feet (1220 mm) measured from the interior side of the wall for Groups R and U and 10 feet (3048 mm) for other occupancies.
 - 4.2. Where roof/ceiling framing elements are not parallel to the wall, the entire span of such framing and elements supporting such framing shall not be of less than 1-hour fire-resistance-rated construction.
 - 4.3. Openings in the roof shall not be located within 5 feet (1524 mm) of the 1-hour fire-resistance-rated exterior wall for Groups R and U and 10 feet (3048 mm) for other occupancies.
 - 4.4. The entire building shall be provided with not less than a Class B roof covering.
5. In occupancies of Groups R-2 and R-3 as applicable in Section 101.2, both provided with a Class C roof covering, the exterior wall shall be permitted to terminate at the roof sheathing or deck in Types III, IV and V construction provided:
 - 5.1. The roof sheathing or deck is constructed of approved noncombustible materials or of fire-retardant-treated wood, for a distance of 4 feet (1220 mm); or
 - 5.2. The roof is protected with 0.625-inch Type X gypsum board directly beneath the underside of the roof sheathing or deck, supported by a minimum of nominal 2-

inch (51 mm) ledgers attached to the sides of the roof framing members, for a minimum distance of 4 feet (1220 mm).

6. Where the wall is permitted to have at least 25 percent of the exterior wall areas containing unprotected openings based on ~~the location from a lot line~~ fire separation distance as determined in accordance with Section 704.8.

705.1 General. Each portion of a building separated by one or more fire walls that comply with the provisions of this section shall be considered a separate building. The extent and location of such fire walls shall provide a complete separation. Where a fire wall also separates groups that are required to be separated by a fire barrier wall, the most restrictive requirements of each separation shall apply. Fire rated walls that are required to have protected openings and extend into a plenum or concealed space shall be effectively and permanently identified with signs or stenciling. The letters shall be not less than 1 inch (25 mm) high on a contrasting background. Each sign or stencil shall be spaced 10 feet on center and be reasonably visible. Such identification shall be above any decorative ceiling and in concealed spaces. Suggested wording: FIRE AND SMOKE BARRIER - PROTECT ALL OPENINGS.

Fire walls located on property lines shall also comply with Section 503.2. Such fire walls (party walls) shall be constructed without openings.

706.1 General. Fire barriers used for separation of vertical exit enclosures, exit passageways, horizontal exits, incidental use areas, to separate different occupancies or to separate a single occupancy into different fire areas, shall comply with this section. Fire rated walls that are required to have protected openings and extend into a plenum or concealed space shall be effectively and permanently identified with signs or stenciling. The letters shall be not less than 1 inch (25 mm) high on a contrasting background. Each sign or stencil shall be spaced 10 feet on center and be reasonably visible. Such identification shall be above any decorative ceiling and in concealed spaces. Suggested wording: FIRE AND SMOKE BARRIER - PROTECT ALL OPENINGS.

706.3.5 Separation of occupancies and fire areas. Where the provisions of Section 302.3.3 are applicable ~~the~~ fire barrier separating mixed occupancies, or a single occupancy into different fire areas, shall have a fire-resistance rating of not less than that indicated in Section 302.3.3 based on the occupancies being separated.

707.4 Fire-resistance rating. Shaft enclosures including exit enclosures shall have a fire-resistance rating of not less than 2 hours where connecting four stories or more and 1 hour where connecting less than four stories. Shaft enclosures shall have a fire-resistance rating not less than the floor assembly penetrated, but need not exceed 2 hours.

Exception: The fire resistive time period for shafts other than the stairway enclosures and elevator shafts may be reduced to one hour when sprinklers are installed within the shafts at alternate floors.

707.14.1 Elevator lobby. Elevators opening into a fire-resistance-rated corridor as required by Section 1004.3.2.1 shall be provided with an elevator lobby at each floor containing such a corridor. The lobby shall completely separate the elevators from the corridor by fire barriers and the required opening protection. Elevator lobbies shall have at least one means of egress complying with Chapter 10 and other provisions within this code.

Exceptions:

1. In ~~office~~ buildings, separations are not required from a street floor elevator lobby. ~~provided the entire street floor is equipped with an automatic sprinkler system in accordance with Section 903.3.1.1.~~
2. Elevators not required to be located in a shaft in accordance with Section 707.2
3. Where additional doors are provided in accordance with Section 3002.6.
4. In other than Groups ~~I-2 and~~ I-3, and buildings more than four stories above ~~the lowest level grade of fire department vehicle access,~~ lobby separation is not required where the building, including the lobby and corridors leading to the lobby, is protected by an automatic sprinkler system installed throughout in accordance with Section 903.3.1.1 or 903.3.1.2.

5. In all occupancies, separation need not be provided when the building is protected with an automatic sprinkler system.
6. Existing buildings that were permitted before January 25, 1997.

708.1 General. Wall assemblies installed as required by Sections 310.3, 402.7.2 and 1004.3.2.1 shall comply with this section. These include:

1. Walls separating dwelling units.
2. Walls separating ~~guest rooms~~ sleeping units in occupancies in Group R-1.
3. Walls separating tenant spaces in covered mall buildings.
4. Corridor walls.

708.3 Fire-resistance rating. The fire-resistance rating of the walls shall be 1 hour.

Exceptions:

1. Corridor walls as permitted by Table 1004.3.2.1.
2. Dwelling unit and ~~guestroom~~ sleeping units separations in buildings of Types IIB, IIIB and VB construction shall have fire-resistance ratings of not less than ½ hour in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

708.4 Continuity. Fire partitions shall extend from the top of the floor assembly below to the underside of the floor/roof slab or deck above or to the fire-resistance-rated floor/ceiling or roof/ceiling assembly above, and shall be securely attached thereto. If the partitions are not continuous to the deck, and where constructed of combustible construction, the space between the ceiling and the deck above shall be fire-blocked or draftstopped in accordance with Sections 716.2.1 and 716.3.1 at the partition line. The supporting construction shall be protected to afford the required fire-resistance rating of the wall supported, except for tenant and ~~guestroom~~ sleeping units separation walls and exit access corridor walls in buildings of Types IIB, IIIB, and VB construction.

Exceptions:

1. The wall need not be extended into the crawl space below where the floor above the crawl space has a minimum 1-hour fire-resistance rating.
2. Where the room-side fire-resistance-rated membrane of the corridor is carried through to the under-side of a fire-resistance-rated floor or roof above, the ceiling of the corridor shall be permitted to be protected by the use of ceiling materials as required for a 1-hour fire-resistance-rated floor or roof system.
3. Where the corridor ceiling is constructed as required for the corridor walls, the walls shall be permitted to terminate at the upper membrane of such ceiling assembly.
4. The fire partition separating tenant spaces in a mall, complying with Section 402.7.2, are not required to extend beyond the underside of a ceiling that is not part of a fire-resistance-rated assembly. A wall is not required in attic or ceiling spaces above tenant separation walls.
5. Fireblocking or draftstopping is not required at the partition line in Group R-2 buildings that do not exceed four stories in height provided the attic space is subdivided by draftstopping into areas not exceeding 3,000 square feet (279 m²) or above every two dwelling units, whichever is smaller.
6. Fireblocking or draftstopping is not required at the partition line in buildings equipped with an automatic sprinkler system installed throughout in accordance with Section 903.3.1.1 or 903.3.1.2 provided that automatic sprinklers are installed in combustible floor/ceiling and roof/ceiling spaces.

710.3 Fire-resistance rating. The fire-resistance rating of floor and roof assemblies shall not be less than that required by the building type of construction. Where the provisions of Section 302.3.3 are applicable and ~~W~~ where the floor assembly separates occupancies, or separates a single occupancy into different fire areas, the assembly shall have a fire-resistance rating of not less than that required by Section 302.3.3 based on the occupancies separated. Floor assemblies separating dwelling units or guestrooms shall be a minimum of 1-hour fire-resistance-rated construction.

Exception: Dwelling unit and guestroom separations in buildings of Types IIB, IIIB, and VB construction shall have fire-resistance ratings of not less than ½ hour in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

712.3 Fire test criteria. Fire-resistant joint systems shall be tested in accordance with the requirements of either ASTM E 1966 or UL 2079. Nonsymmetrical wall joint systems shall be tested with both faces exposed to the furnace, and the assigned fire-resistance rating shall be the shortest duration obtained from the two tests. When evidence is furnished to show that the wall was tested with the least fire-resistant side exposed to the furnace, subject to acceptance of the building official, the wall need not be subjected to tests from the opposite side.

Exception: For exterior walls with a horizontal fire separation distance greater than 5 feet (1524 mm), the joint system shall be required to be tested for interior fire exposure only.

713.5 Exterior structural members. Structural members located within exterior walls or along on the outer lines outside of a building or structure shall be protected provided with the highest fire resistance rating as determined in accordance with the following:

1. As required by Table 601 for the type of building element based on the type of construction of the building;
2. As required by Table 601 for exterior load-bearing walls based on the type of construction. Structural frame elements in an exterior wall that is located where openings are not permitted or where protection of openings is required shall be protected against external fire exposure; and
3. As required by Table 602 for exterior bearing walls or the structural frame, based on the fire separation distance whichever is greater.

714.2.3 Doors in corridors and smoke barriers. Fire doors required to have a minimum fire-protection rating 20 minutes where located in corridor walls or smoke barrier walls having a fire-resistance rating in accordance with Table 714.2 shall be tested in accordance with NFPA 252 or UL 10C without the hose stream test. If a 20-minute fire door or fire door assembly contains

glazing material, the glazing material in the door itself shall have a minimum fire-protection rating of 20 minutes and be exempt from the hose stream test. Glazing material in any other part of the door assembly, including transom lites and sidelites, shall be tested in accordance with NFPA 257, including the hose stream test, in accordance with Section 714.3. ~~Fire doors shall also meet the requirements for a smoke and draft control door assembly tested in accordance with UL 1784 with an artificial bottom seal installed across the full width of the bottom of the door assembly. The air leakage rate of the door assembly shall not exceed 3.0 cfm per square foot (0.01524 m³/s•m²) of door opening at 0.10 inch (24.9 Pa) of water for both the ambient temperature and elevated temperature tests. Louvers shall be prohibited.~~

Exceptions:

1. Viewports that require a hole not larger than 1 inch (25.4 mm) in diameter through the door, have at least a 0.25-inch-thick (6.4 mm) glass disc and the holder is of metal that will not melt out where subject to temperatures of 1,700°F (927°C).
2. Corridor doors in occupancies of Group I-2 shall be in accordance with Section 407.3.1.
3. Unprotected openings shall be permitted for corridors in multi theater complexes where each motion picture auditorium has at least one-half of its required exit or exit access doorways opening directly to the exterior or into an exit passage-way.

714.2.4 Doors in vertical exit enclosures and exit passageways. Fire door assemblies in vertical exit enclosures and exit passageways shall have a maximum transmitted temperature end point of not more than 450°F (232°C) above ambient at the end of 30 minutes of standard fire test exposure.

Exception: The maximum transmitted temperature end point is not required in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.

714.2.7 Door closing. Fire doors shall be self-closing or automatic-closing in accordance with this section.

Exception: Fire doors located in common walls separating ~~guestrooms~~ sleeping units in Group R-1 hotels and motels shall be permitted without automatic-closing or self-closing devices.

714.3 Fire-protection-rated glazing. Glazing in fire window assemblies shall be fire-protection rated in accordance with this section. Glazing in fire doors shall comply with Section 714.2.6. Fire-protection-rated glazing installed as an opening protective in fire partitions and fire barriers shall be tested in accordance with and shall meet the acceptance criteria of NFPA 257 for a fire-protection rating of 45 minutes. Fire-protection-rated glazing shall also comply with NFPA 80. Fire-protection-rated glazing required in accordance with Section 704.12 for exterior wall opening protection shall be tested in accordance with and shall meet the acceptance criteria of NFPA 257 for a fire-protection rating as required in Section 714.3.6.7.

Exception: Wired glass in accordance with Section 714.3.2.

714.3.2 Wired glass. ~~Steel-Metal~~ window frame assemblies of 0.125-inch (6.35 mm) minimum solid section or of not less than nominal 0.048-inch-thick (1.2 mm) formed sheet ~~steel-metal~~ members fabricated by pressing, mitering, riveting, interlocking or welding and having provision for glazing with ¼ inch (6.4 mm) wired glass where securely installed in the building construction and glazed with ¼ inch (6.4 mm) labeled wired glass shall be deemed to meet the requirements for a ¾-hour fire window assembly. Wired glass panels shall conform to the size limitations set forth in Table 714.3.2.

715.5 Where required. Fire dampers, smoke dampers, combination fire/smoke dampers and ceiling radiation dampers shall be provided at the locations prescribed in this section and in Table 715.5. Where an assembly is required to have both fire dampers and smoke dampers, combination fire/smoke dampers or a fire damper and a smoke damper shall be required.

**TABLE 715.5
FIRE AND SMOKE DAMPER LOCATIONS**

<u>Location</u>		<u>Fire Dampers</u>	<u>Smoke Dampers</u>
<u>Fire Walls</u>		<u>Yes</u>	<u>No</u>
<u>Fire Barriers - separated uses, incidental use areas, horizontal exits, atrium enclosures, exit passageways, and elevator lobbies, etc.</u>		<u>Yes</u> ^{1,2,3}	<u>No</u>
<u>Shaft enclosures</u>		<u>Yes</u> ^{1,2,3,4,5}	<u>Yes</u> ^{4, 17}
<u>Fire Partitions - corridor, R-1/R-2 unit separations, and mall tenant separations, etc.</u>		<u>Yes</u> ^{6,7}	<u>No</u>
<u>Corridor enclosure</u>		<u>Yes</u> ^{6,7}	<u>Yes</u> ^{8, 16}
<u>Smoke barriers</u>		<u>No</u>	<u>Yes</u> ⁹
<u>Horizontal assemblies</u> ¹⁰	<u>Through penetrations</u>	<u>Yes</u> ¹¹	<u>No</u>
	<u>Membrane penetrations</u>	<u>Yes</u> ¹²	<u>No</u>
	<u>Nonfire-resistance-rated assemblies</u>	<u>Yes</u> ^{13, 14, 15}	<u>No</u>

1. Not required for penetrations tested in accordance with ASTM E 119 as part of the rated assembly.
2. Not required for ducts used as a part of an approved smoke control system in accordance with Section 909.
3. Not required in sprinklered building of other than Group H penetrated by ducted HVAC systems.
4. Not required for steel exhaust subducts extending at least 22 inches vertically in exhaust shafts having continuous airflow upward to the outside.
5. Not required in parking garage supply or exhaust shafts that are separated from other building shafts by a minimum of 2-hour fire-resistance-rated construction.
6. Not required in sprinklered buildings of other than Group H for tenant separations and corridor walls.
7. Not required in buildings of other than Group H where duct penetration is limited to 100 square inches; is of minimum 0.0217-inch steel; does not have communicating openings between a corridor and adjacent spaces; is installed above a ceiling ; and does not terminate at a wall register of the fire-resistance-rated wall.
8. Not required for corridor penetrations of minimum 0.019-inch steel ducts with no openings into corridor.
9. Not required where openings in steel ducts are limited to a single smoke compartment.
10. General requirement mandates shaft enclosures for openings in floor and roof systems.
11. In other than Group I-2 and Group I-3, fire dampers are permitted in lieu of shaft enclosures for penetration of fire-resistance-rated horizontal assembly that connects two floors.
12. Where shaft enclosure is not provided, an approved ceiling damper is required at the ceiling line of a fire-resistance-rated floor/ceiling assembly.
13. Not required, provided that the shaft enclosure, does not connect more than two stories and the annular space around the duct is filled with noncombustible material.
14. Limited to three connected stories without shaft enclosures, provided fire dampers are installed at each floor line and annular space is filled.
15. Not required in ducts within individual dwelling units.
16. Not required in building with a smoke control system if not necessary for operation and control of system.
17. Shafts with openings on only one floor in buildings three stories or less.

715.5.2 Fire barriers. Duct and air transfer openings of fire barriers shall be protected with approved fire dampers installed in accordance with their listing.

Exception: Fire dampers are not required at penetrations of fire barriers where any of the following apply:

1. Penetrations are tested in accordance with ASTM E 119 as part of the fire-resistance rated assembly.
2. Ducts are used as part of an approved smoke-control system in accordance with Section 909.
3. Such walls are penetrated by ducted HVAC systems, ~~have a required fire-resistance rating of 1-hour or less,~~ are in areas of other than Group H and are in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

715.5.3.1 Penetrations of shaft enclosures. Shaft enclosures that are permitted to be penetrated by ducts and air transfer openings shall be protected with approved fire and smoke dampers installed in accordance with their listing.

Exceptions:

1. Fire dampers are not required at penetrations of shafts where:
 - 1.1. Steel exhaust subducts extend at least 22 inches (559 mm) vertically in exhaust shafts provided there is a continuous airflow upward to the outside.
 - 1.2. Penetrations are tested in accordance with ASTM E 119 as part of the fire-resistance rated assembly.
 - 1.3. Ducts are used as part of an approved smoke-control system in accordance with Section 909.
 - 1.4. The penetrations are in parking garage exhaust or supply shafts that are separated from other building shafts by not less than 2-hour fire-resistance-rated construction.

- 1.5. Buildings equipped with automatic sprinkler systems.
2. Smoke dampers are not required at penetrations of shafts where:
 - 2.1 Shafts with openings on only one floor in buildings three stories or less.
 - 2.2 Exhaust only openings serving domestic clothes dryers and environmental air ducts equipped with individual backdraft dampers where shaft protection is provided by use of steel exhaust air subducts extending vertically upward at least 22 inches above the top of the opening in a shaft served by a continuously operating fan where the airflow is upward.

715.5.5 Smoke barriers. A listed smoke damper designed to resist the passage of smoke shall be provided at each point a duct or air transfer opening penetrates a smoke barrier. Smoke dampers and smoke damper actuation methods shall comply with Section 715.3.2.1.

Exception: Smoke dampers are not required where the openings in ducts are limited to a single smoke compartment and the ducts are constructed of steel.

715.6.2 Membrane penetrations. Where duct systems constructed of approved materials in accordance with the *International Mechanical Code* penetrate a ceiling of a fire-resistance-rated floor/ceiling or roof/ceiling assembly, shaft enclosure protection is not required provided an approved ceiling radiation damper is installed at the ceiling line. Where a duct is not attached to a diffuser that penetrates a ceiling of a fire-resistance-rated floor/ceiling or roof/ceiling assembly, shaft enclosure protection is not required provided an approved ceiling radiation damper is installed at the ceiling line. Ceiling radiation dampers shall be ~~installed~~ tested in accordance with UL 555C and constructed in accordance with the details listed in a fire-resistance-rated assembly or shall be labeled to function as a heat barrier for air-handling outlet/inlet penetrations in the ceiling of a fire-resistance-rated assembly. Ceiling radiation dampers shall not be required where ASTM E 119 fire tests have shown that ceiling radiation dampers are not necessary in order to maintain the fire-resistance rating of the assembly.

716.2.2 Concealed wall spaces. Fireblocking shall be provided in concealed spaces of stud walls and partitions, including furred spaces, at the ceiling and floor levels ~~and at 10-foot (3048 mm) intervals both vertical and horizontal.~~ Concealed horizontal furred spaces shall also be fireblocked at intervals not exceeding 10 feet (3048 mm).

716.2.4 Stairways. Fireblocking shall be provided in concealed spaces between stair stringers at the top and bottom of the run ~~and between studs along and in line with the run of stairs if the walls under the stairs are unfinished.~~ Enclosed spaces under stairs shall also comply with Section 1005.3.2.2.

716.3.2 Groups R-1, R-2, R-3 and R-4. Draftstopping shall be provided in floor/ceiling spaces in Group R-1 buildings, in Group R-2 buildings as applicable in Section 101.2 with three or more dwelling units, in Group R-3 buildings as applicable in Section 101.2 with two dwelling units and in Group R-4 buildings. Draftstopping shall be located above and in line with the dwelling unit and ~~tenant~~ sleeping unit separations.

Exceptions:

1. Draftstopping is not required in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
2. Draftstopping is not required in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.2, provided that automatic sprinklers are also installed in the combustible concealed spaces.

716.4.2 Groups R-1 and R-2. Draftstopping shall be provided in attics, mansards, overhangs or other concealed roof spaces of Group R-2 buildings with three or more dwelling units and in all Group R-1 buildings. Draftstopping shall be installed above, and in line with, ~~tenant~~ sleeping unit and dwelling unit separation walls that do not extend to the underside of the roof sheathing above.

Exceptions:

1. Where corridor walls provide a ~~tenant~~ sleeping unit or dwelling unit separation, draftstopping shall only be required above one of the corridor walls.
2. Draftstopping is not required in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. In occupancies in Group R-2 that do not exceed four stories in height, the attic space shall be subdivided by draftstops into areas not exceeding 3,000 square feet (279 m²) or above every two dwelling units, whichever is smaller.
4. Draftstopping is not required in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.2, provided that automatic sprinklers are also installed in the combustible concealed spaces.

Notes to Table 719.1(2)

- a. Staples with equivalent holding power and penetration shall be permitted to be used as alternate fasteners to nails for attachment to wood framing.
- b. Thickness shown for brick and clay tile are nominal thicknesses unless plastered, in which case thicknesses are net. Thickness shown for concrete masonry and clay masonry is equivalent thickness defined in Section 720.3.1 for concrete masonry and Section 720.4.1.1 for clay masonry. Where all cells are solid grouted or filled with silicone-treated perlite loose-fill insulation; vermiculite loose-fill insulation; or expanded clay, shale or slate lightweight aggregate, the equivalent thickness shall be the thickness of the block or brick using specified dimensions as defined in Chapter 21. Equivalent thickness may also include the thickness of applied plaster and lath or gypsum wallboard, where specified.
- c. For units in which the net cross-sectional area of cored brick in any plane parallel to the surface containing the cores is at least 75 percent of the gross cross-sectional area measured in the same plane.
- d. Shall be used for nonbearing purposes only.
- e. For all of the construction with gypsum wallboard described in this table, gypsum base for veneer plaster of the same size, thickness and core type shall be permitted to be substituted for gypsum wallboard, provided attachment is identical to that specified for the wallboard, and the joints on the face layer are reinforced and the entire surface is covered with a minimum of $\frac{1}{16}$ -inch gypsum veneer plaster.
- f. The fire resistance time period for concrete masonry units meeting the equivalent thicknesses required for a 2-hour fire resistance rating in Item 6, and having a thickness of not less than $\frac{7}{8}$ inches is 4 hours when cores which are not grouted are filled with silicone-treated perlite loose-fill insulation; vermiculite loose-fill insulation; or expanded clay, shale or slate lightweight aggregate, sand or slag having a maximum particle size of $\frac{3}{8}$ inch.
- g. The fire-resistance rating of concrete masonry units composed of a combination of aggregate types or where plaster is applied directly to the concrete masonry shall be determined in accordance with ACI 216.1/TMS 216. Lightweight aggregates shall have a maximum combined density of 65 pounds per cubic foot.
- h. See also Footnote b. The equivalent thickness shall be permitted to include the thickness of cement plaster or 1.5 times the thickness of gypsum plaster applied in accordance with the requirements of Chapter 25.
- i. Concrete walls shall be reinforced with horizontal and vertical temperature reinforcement as required by Chapter 19.
- j. Studs are welded truss wire studs with 0.18 inch (No. 7 B.W. gage) flange wire and 0.18 inch (No. 7 B.W. gage) truss wires.
- k. Nailable metal studs consist of two channel studs spot welded back to back with a crimped web forming a nailing groove.
- l. Wood structural panels shall be permitted to be installed between the fire protection and the wood studs on either the interior or exterior side of the wood-frame assemblies in this table, provided the length of the fasteners used to attach the fire protection are increased by an amount at least equal to the thickness of the wood structural panel.
- m. The design stress of studs shall be reduced to 78 percent of allowable F'_c with the maximum not greater than 78 percent of the calculated stress with studs having a slenderness ratio l_e/d of 33.
- n. For properties of cooler or wallboard nails, see ASTM C 514, ASTM C 547 or ASTM F 1667.
- o. Generic fire-resistance ratings (those not designated as PROPRIETARY* in the listing) in the GA 600 shall be accepted as if herein listed.
- p. NCMA TEK 5-8, shall be permitted for the design of fire walls.
- q. The design stress of the studs shall be equal to a maximum of 100 percent of the allowable F'_c calculated in accordance with Section 2306.

Notes to Table 719.1(3)

- a. Staples with equivalent holding power and penetration shall be permitted to be used as alternate fasteners to nails for attachment to wood framing.
- b. When the slab is in an unrestrained condition, minimum reinforcement cover shall not be less than $1\frac{5}{8}$ inches for 4-hour (siliceous aggregate only); $1\frac{1}{4}$ inches for 4- and 3-hour; 1 inch for 2-hour (siliceous aggregate only); and $\frac{3}{4}$ inch for all other restrained and unrestrained conditions.
- c. For all of the construction with gypsum wallboard described in this table, gypsum base for veneer plaster of the same size, thickness and core type s be permitted to be substituted for gypsum wallboard, provided attachment is identical to that specified for the wallboard, and the joints on the face la are reinforced and the entire surface is covered with a minimum of $\frac{1}{16}$ -inch gypsum veneer plaster.
- d. Slab thickness over steel joists measured at the joists for metal lath form and at the top of the form for steel form units.
- e. (a) The maximum allowable stress level for H-Series joists shall not exceed 22,000 psi.
(b) The allowable stress for K-Series joists shall not exceed 26,000 psi, the nominal depth of such joist shall not be less than 10 inches and the nominal joist weight shall not be less than 5 pounds per lineal foot.
- f. Cement plaster with 15 pounds of hydrated lime and 3 pounds of approved additives or admixtures per bag of cement.
- g. Gypsum wallboard ceilings attached to steel framing shall be permitted to be suspended with $1\frac{1}{2}$ -inch cold-formed carrying channels spaced 48 inches on center, which are suspended with No. 8 SWG galvanized wire hangers spaced 48 inches on center. Cross-furring channels are tied to the carrying channels with No. 18 SWG galvanized wire hangers spaced 48 inches on center. Cross-furring channels are tied to the carrying channels with 18 SWG galvanized wire (double strand) and spaced as required for direct attachment to the framing. This alternative is also applicable to those s framing assemblies recognized under Footnote q.
- h. Six-inch hollow clay tile with 2-inch concrete slab above.
- i. Four-inch hollow clay tile with $1\frac{1}{2}$ -inch concrete slab above.
- j. Thickness measured to bottom of steel form units.
- k. Five-eighths inch of vermiculite gypsum plaster plus $\frac{1}{2}$ inch of approved vermiculite acoustical plastic.
- l. Furring channels spaced 12 inches on center.
- m. Double wood floor shall be permitted to be either of the following:
 1. Subfloor of 1-inch nominal boarding, a layer of asbestos paper weighing not less than 14 pounds per 100 square feet and a layer of 1-inch nominal tongue-and-groove finish flooring; or
 2. Subfloor of 1-inch nominal tongue-and-groove boarding or $1\frac{5}{32}$ -inch wood structural panels with exterior glue and a layer of 1-inch nominal tongue-and-groove finish flooring or $\frac{19}{32}$ -inch wood structural panel finish flooring or a layer of Type I Grade M-1 particleboard not less than $\frac{5}{8}$ inch thick.
- n. The ceiling shall be permitted to be omitted over unusable space, and flooring shall be permitted to be omitted where unusable space occurs above.
- o. For properties of cooler or wallboard nails, see ASTM C 514, ASTM C 547 or ASTM F 1667.
- p. Thickness measured on top of steel deck unit.
- q. Generic fire-resistance ratings (those not designated as PROPRIETARY* in the listing) in the GA 600 shall be accepted as if herein listed.

720.1 General. The provisions of this section contain procedures by which the fire resistance of specific materials or combinations of materials is established by calculations. These procedures apply only to the information contained in this section and shall not be otherwise used. The calculated fire resistance of concrete, concrete masonry, and clay masonry assemblies shall be permitted in accordance with ACI 216.1/TMS 0216.1. The calculated fire resistance of steel assemblies shall be permitted in accordance with ASCE/ SFPE 29.

TABLE 720.6.2(5)
TIME ASSIGNED FOR ADDITIONAL PROTECTION

DESCRIPTION OF ADDITIONAL PROTECTION	FIRE RESISTANCE, (minutes)
Add to the fire resistance rating of wood stud walls if the spaces between the studs are completely filled with glass fiber mineral wool batts weighing not less than 2 pounds per cubic foot (0.6 pounds per square foot of wall surface) or rockwool or slag mineral wool batts weighing not less than 3.3 pounds per cubic foot (1 pound per square foot of wall surface), <u>or cellulose insulation having a nominal density not less than 2.6 pounds per cubic foot.</u>	15

720.6.2.5 Additional protection. Table 720.6.2(5) indicates the time increments to be added to the fire resistance where glass fiber, rockwool, ~~or~~ slag mineral wool, or cellulose insulation is incorporated in the assembly.



INTERIOR FINISHES

801.1 Scope. Provisions of this chapter shall govern the use of materials used as interior finishes, trim and decorative materials.

~~[F] 801.1.2 Decorative materials and trim.~~ Decorative materials and trim shall be restricted by combustibility and flame resistance in accordance with Section 805.

~~801.1.3 Applicability.~~ For buildings in flood hazard areas as established in Section 1612.3, interior finishes, trim and decorative materials below the design flood elevation shall be flood-damage-resistant materials.

803.5.1.1 Method A test protocol. During the Method A protocol, flame shall not spread to the ceiling during the 40 kW exposure. During the 150 kW exposure, the textile wall covering shall comply with all of the following:

1. Flame shall not spread to the outer extremity of the sample on the 8 foot by 12 foot (2.4 m by 3.6 m) wall.
2. The specimen shall not burn to the outer extremity of the 2-foot (610 mm) wide samples mounted in the corner of the room.
3. Burning droplets deemed capable of igniting textile wall coverings or that burn for 30 seconds or more shall not form.
4. Flashover, as defined in NFPA 265, shall not occur. ~~Flashover shall be judged to occur when two of the following conditions have been attained:~~
 - 4.1. ~~A heat flux of 25 kW/m² at the floor level.~~
 - 4.2. ~~An average upper air temperature of 1,200°F (649°C).~~
 - 4.3. ~~Flames issue from the door opening.~~
 - 4.4. ~~Spontaneous ignition of a paper target on the floor occurs.~~

5. The maximum net instantaneous peak heat release rate, determined by subtracting the burner output from the maximum heat release rate, does not exceed 300 kW.

803.5.1.2 Method B test protocol. During the Method B protocol, flames shall not spread to the ceiling at any time during the 40 kW exposure. During the 150 kW exposure, the textile wall covering shall comply with the following:

1. Flame shall not spread to the outer extremities of the samples on the 8 foot by 12 foot (203 mm by 305 mm) walls.
2. Flashover, ~~as described by NFPA 265,~~ shall not occur. ~~Flashover shall be judged to occur when two of the following conditions have been attained:~~
 - 2.1. ~~—A heat flux of 25 kW/m² at the floor level.~~
 - 2.2. ~~—An average upper air temperature of 1,200°F (649°C).~~
 - 2.3. ~~—Flames issue from the door opening.~~
 - 2.4. ~~—Spontaneous ignition of a paper target on the floor occurs.~~

804.1 General. Interior floor finish and floor covering materials shall comply with this section.

~~**Exception:** Floors and floor coverings of a traditional type, such as wood, vinyl, linoleum or terrazo, and resilient floor covering materials which are not comprised of fibers.~~

~~**804.2 Classification.** Interior floor finish and floor covering materials required by Section 804.5.1 to be of Class I or Class II materials shall be classified in accordance with NFPA 253. The classification referred to herein corresponds to the classifications determined by NFPA 253 as follows: Class I, 0.45 watts/cm² or greater; Class II, 0.22 watts/cm² or greater.~~

~~**804.3 Testing and identification.** Floor covering materials shall be tested by an approved agency in accordance with NFPA 253 and identified by a hang tag or other suitable method so as to identify the manufacturer or supplier and style, and shall indicate the interior floor finish or floor covering classification according to Section 804.2. Carpet type floor coverings shall be tested as proposed for~~

use, including underlayment. Test reports confirming the information provided in the manufacturer's product identification shall be furnished to the building official upon request.

804.4 ~~804.2~~ Application. Combustible materials installed in or on floors of buildings of Type I or Type II construction shall conform with the requirements of this section.

Exception: Stages and platforms constructed in accordance with Sections 410.3 and 410.4, respectively.

804.4.1 ~~804.2.1~~ Subfloor construction. Floor sleepers, bucks and nailing blocks shall not be constructed of combustible materials, unless the space between the fire-resistance-rated floor construction and the flooring is either solidly filled with approved noncombustible materials or fire-blocked in accordance with Section 716, and provided that such open spaces shall not extend under or through permanent partitions or walls.

804.4.2 ~~804.2.2~~ Wood finish flooring. Wood finish flooring is permitted to be attached directly to the embedded or fire-blocked wood sleepers and shall be permitted where cemented directly to the top surface of approved fire-resistance-rated construction or directly to a wood sub-floor attached to sleepers as provided for in Section 804.4.1.

804.4.3 ~~804.2.3~~ Insulating boards. Combustible insulating boards not more than 0.5-inch (12.7 mm) thick and covered with approved finish flooring are permitted, where attached directly to a noncombustible floor assembly or to wood subflooring attached to sleepers as provided for in Section 804.4.1.

~~804.5 Interior floor finish requirements.~~ ~~In all occupancies, interior floor finish in vertical exits, exit passageways, exit access corridors, and rooms or spaces not separated from exit access corridors by full-height partitions extending from the floor to the underside of the ceiling shall withstand a minimum critical radiant flux as specified in Section 804.5.1.~~

804.5.1 Minimum critical radiant flux. Interior floor finish in vertical exits, exit passageways and exit access corridors shall not be less than Class I in Groups I-2 and I-3 and not less than Class II in Groups A, B, E, H, I-4, M, R-1, R-2, and S. In all other areas, the interior floor finish shall comply with the DOC FF-1 "pill test" (CPSC 16 CFR 1630).

Exception: Where a building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, Class II materials are permitted in any area where Class I materials are required and materials complying with DOC FF-1 "pill test" (CPSC 16 CFR 1630) are permitted in any area where Class II materials are required.

[F] SECTION 805 DECORATIONS AND TRIM

805.1 General. In occupancies of Groups A, E, I, R-1 and dormitories in Group R-2, curtains, draperies, hangings and other decorative materials suspended from walls or ceilings shall be flame resistant in accordance with Section 805.2 and NFPA 701 or noncombustible.

In Groups I-1 and I-2, combustible decorations shall be flame retardant unless the decorations, such as photographs and paintings, are of such limited quantities that a hazard of fire development or spread is not present. In Group I-3, combustible decorations are prohibited.

805.1.1 Noncombustible materials. The permissible amount of noncombustible decorative material shall not be limited.

805.1.2 Flame resistant materials. The permissible amount of flame resistant decorative materials shall not exceed 10 percent of the aggregate area of walls and ceilings.

Exception: In auditoriums of Group A, the permissible amount of flame resistant decorative material shall not exceed 50 percent of the aggregate area of walls and ceiling where the building is equipped where the building is equipped throughout with an automatic sprinkler system and the material is installed in accordance with Section 803.3.

805.2 Acceptance criteria and reports. ~~Where required to be flame resistant, decorative materials shall be tested by an approved agency and pass Test 1 or Test 2, as appropriate, described in NFPA 701 or such materials shall be noncombustible. Reports of test results shall be prepared in accordance with NFPA 701 and furnished to the code official upon request.~~

805.3 Foam plastic. ~~Foam plastic used as trim in any occupancy shall comply with Section 2604.2.~~

805.4 Pyroxylin plastic. ~~Imitation leather or other material consisting of or coated with a pyroxylin or similarly hazardous base shall not be used in Group A occupancies.~~

805.5 Trim. ~~Material used as interior trim shall have a minimum Class C flame spread index and smoke developed index. Combustible trim, excluding handrails and guardrails, shall not exceed 10 percent of the aggregate wall or ceiling area in which it is located.~~

CHAPTER 9

FIRE PROTECTION SYSTEMS

HFD 901.4 Threads. Threads provided for fire department connections to sprinkler systems, standpipes, yard hydrants or any other fire hose connection shall be ~~compatible with the connections used by the local fire department~~ National Standard hose threads.

HFD 901.5 Acceptance tests. Fire protection systems shall be tested in accordance with the requirements of this code and the ~~International Fire Code~~. When required, the tests shall be conducted in the presence of the building official. Tests required by this code, the ~~International Fire Code~~ and the standards listed in this code shall be conducted at the expense of the owner or the owner's representative. It shall be unlawful to occupy portions of a structure until the required fire protection systems within that portion of the structure have been tested and approved.

The location of all fire department hose connections shall be approved by the fire marshal.

Inspection of fire-extinguishing systems shall be conducted by the fire marshal, and such inspection and reports shall be forwarded to the building official for posting to occupancy records. No building or structure requiring a fire-extinguishing system shall be permanently occupied without first obtaining the fire marshal's approval.

Exception: The building official shall have the authority to issue a temporary certificate of occupancy for the use of a portion or portions of a building prior to the completion of the entire structure.

HFD 901.7 Fire pumps. Fire pumps shall be listed by Factory Mutual, Underwriters Laboratory or another approved agency for, and shall deliver not less than, the required fire flow and pressure. Such pumps shall be automatic operation. See the Electrical Code for additional requirements.

HFD 901.8 Outside sprinkler control valve. Outside control in the form of a wall post indicator valve or post indicator valve shall be provided for each sprinkler system. An indicating-type gate valve shall be required when sprinkler systems are supplied by the standpipe system.

HFD 901.9 Two-way standpipe connections. Class I and Class III standpipe systems shall be equipped with a two-way fire department inlet connection. Systems with three or more standpipes shall be provided with not less than two two-way fire department inlet connections.

SECTION 902 DEFINITIONS

HFD [F] STANDPIPE, TYPES OF. Standpipe types are as follows:

Automatic dry. A dry standpipe system, normally filled with pressurized air, that is arranged through the use of a device, such as dry pipe valve, to admit water into the system piping automatically upon the opening of a hose valve. The water supply for an automatic dry standpipe system shall be capable of supplying the system demand.

Automatic wet. A wet standpipe system that has a water supply that is capable of supplying the system demand automatically.

Manual dry. A dry standpipe system that does not have a permanent water supply attached to the system. Manual dry standpipe systems require water from a fire department pumper to be pumped into the system through the fire department connection in order to supply the system demand.

Manual wet. A wet standpipe system connected to a water supply for the purpose of maintaining water within the system but does not have a water supply capable of delivering the system demand attached to the system. Manual wet standpipe systems require water from a fire

department pumper (or the like) to be pumped into the system in order to supply the system demand.

~~**Semiautomatic dry.** A dry standpipe system that is arranged through the use of a device, such as a deluge valve, to admit water into the system piping upon activation of a remote control device located at a hose connection. A remote control activation device shall be provided at each hose connection. The water supply for a semiautomatic dry standpipe system shall be capable of supplying the system demand.~~

***NOTE: All other portions of Section 902 remain as set forth in the International Building Code.**

~~**903.1.2 Residential systems.** Unless specifically allowed by this code, residential sprinkler systems installed in accordance with NFPA 13D or NFPA 13R shall not be recognized for the purposes of exceptions or reductions permitted by other requirements of this code.~~

903.2.1.1 Group A-1. An automatic sprinkler system shall be provided ~~throughout a fire area containing a~~ for Group A-1 occupancy occupancies where one of the following conditions exists:

1. The fire area exceeds 12,000 square feet (1115 m²).
2. The fire area has an occupant load of 300 or more.
3. The fire area is located on a floor other than the level of exit discharge.
4. The fire area contains a multi-theater complex.

903.2.1.2 Group A-2. An automatic sprinkler system shall be provided ~~throughout a fire area containing a~~ for Group A-2 occupancy occupancies where one of the following conditions exists:

1. The fire area exceeds 5,000 square feet (465 m²).
2. The fire area has an occupant load of 300 or more.
3. The fire area is located on a floor other than the level of exit discharge.

903.2.1.3 Group A-3. An automatic sprinkler system shall be provided ~~throughout a fire area containing a~~ for Group A-3 occupancy occupancies where one of the following conditions exists:

1. The fire area exceeds 12,000 square feet (1115 m²).
2. The fire area has an occupant load of 300 or more.
3. The fire area is located on a floor other than the level of exit discharge.

Exception: Areas used exclusively as participant sports areas where the main floor area is located at the same level as the level of exit discharge of the main entrance and exit.

903.2.1.4 Group A-4. An automatic sprinkler system shall be provided ~~throughout a fire area containing a~~ for Group A-4 occupancy occupancies where one of the following conditions exists:

1. The fire area exceeds 12,000 square feet (1115 m²).
2. The fire area has an occupant load of 300 or more.
3. The fire area is located on a floor other than the level of exit discharge.

Exception: Areas used exclusively as participant sport areas where the main floor area is located at the same level as the level of exit discharge of the main entrance and exit.

903.2.3 Group F-1. An automatic sprinkler system shall be provided throughout all buildings ~~where the fire area containing a~~ Group F-1 occupancy where one of the following conditions exists:

1. Where a Group F-1 fire area exceeds 12,000 square feet (1115 m²); or
2. Where a Group F-1 fire area is located more than three stories in height, above grade; or
3. Where the combined fire area of all Group F-1 fire areas on all floors, including any mezzanines, exceeds 24,000 square feet (2230 m²).

903.2.6 Group M. An automatic sprinkler system shall be provided throughout buildings ~~where the fire area containing a~~ Group M occupancy where one of the following conditions exists:

1. Where a Group M fire area exceeds 12,000 square feet (1115 m²); or

2. Where a Group M fire area is located more than three stories in height, above grade; or
3. Where the combined area of all Group M fire areas on all floors, including any mezzanines, exceeds 24,000 square feet (2230 m²).

HFD 903.2.7 Group R-1. An automatic sprinkler system shall be provided throughout buildings with a Group R-1 fire area where the fire area is three or more stories in height or contains 20 or more sleeping units.

Exceptions:

1. ~~Where guestrooms are not more than three stories above the lowest level of exit discharge and each guestroom has at least one door leading directly to an exterior exit access that leads directly to approved exits.~~
2. A residential sprinkler system installed in accordance with Section 903.3.1.2 shall be allowed in buildings, or portions thereof, of Group R-1.

903.2.10 Group S-1. An automatic sprinkler system shall be provided throughout all buildings ~~where the fire area containing a Group S-1 occupancy~~ where one of the following conditions exists:

1. Where a Group S-1 fire area exceeds 12,000 square feet (1115 m²); or
2. Where a Group S-1 fire area is located more than three stories in height, above grade; or
3. Where the combined area of all Group S-1 fire areas on all floors, including any mezzanines, exceeds 24,000 square feet (2230 m²).

903.2.10.1 Repair garages. An automatic sprinkler system shall be provided throughout all buildings used as repair garages in accordance with Section 406.6 as follows:

1. Buildings two or more stories in height, including basements, with a fire area containing a repair garage exceeding 10,000 square feet (929 m²).
2. One-story buildings with a fire area containing a repair garage exceeding 12,000 square feet (1115 m²).
3. Buildings with a repair garage servicing vehicles parked in the basement

903.2.13 Reserved. ~~During construction.~~ Automatic sprinkler systems required during construction, alteration and demolition operations shall be provided in accordance with the *International Fire Code*.

903.3.2 Quick-response and residential sprinklers. Where automatic sprinkler systems are required by this code, quick-response or residential automatic sprinklers shall be installed in the following areas in accordance with Section 903.3.1 and their listings:

1. Throughout all spaces within a smoke compartment containing patient sleeping ~~rooms~~ units in Group I-2 in accordance with this code.
2. Dwelling units, ~~guestrooms~~ and sleeping ~~rooms~~ units in Group R and I-1 occupancies.
3. Light-hazard occupancies as defined in NFPA 13.

903.3.6 Hose threads. Fire hose threads used in connection with automatic sprinkler systems shall ~~comply with NFPA 1963 or as otherwise~~ be approved, and shall be compatible with fire department hose threads.

^{HFD} **903.3.7 Fire department connections.** The location of fire department connections shall be approved by the ~~building official~~ fire marshal.

^{HFD} **903.4.1 Signals.** Alarm, supervisory and trouble signals shall be distinctly different and shall be automatically transmitted to an approved central station, remote supervising station or proprietary supervising station as defined in NFPA 72 or, when approved by the ~~building official~~ fire marshal, shall sound an audible signal at a constantly attended location.

904.11 Commercial cooking systems. The automatic fire-extinguishing system for commercial cooking systems shall be of a type recognized for protection of commercial cooking equipment and exhaust systems of the type and arrangement protected. Pre-engineered automatic dry- and wet-chemical extinguishing systems shall be tested in accordance with UL 300 and listed and labeled for the intended application. Other types of automatic fire-extinguishing systems shall be listed and

labeled for specific use as protection for commercial cooking operations. The system shall be installed in accordance with this code, its listing and the manufacturer's installation instructions. Automatic fire-extinguishing systems of the following types shall be installed in accordance with NFPA 96 and the referenced standard indicated, as follows:

1. Carbon dioxide extinguishing systems, NFPA 12.
2. Automatic sprinkler system, NFPA 13.
3. Foam-water sprinkler system or foam-water spray systems, NFPA 16.
4. Dry-chemical extinguishing systems, NFPA 17.
5. Wet-chemical extinguishing systems, NFPA 17A.

Exception: Commercial cooking recirculating systems that are tested in accordance with UL 197, listed, labeled and installed in accordance with the *Mechanical Code*.

905.1 General. Standpipe systems shall be provided in new buildings and structures in accordance with this section. Fire hose threads used in connection with standpipe systems shall ~~comply with NFPA 1963 or as otherwise~~ be approved and shall be compatible with fire department hose threads. The location of fire department hose connections shall be approved. In buildings used for high-piled combustible storage, fire protection shall be in accordance with the *International Fire Code*.

^{HAD} **905.3.1 Building height.** Class III standpipe systems shall be installed throughout buildings where the floor level of the highest story is located more than 30 feet (9144 mm) above ~~the lowest level of the fire department vehicle access grade,~~ or where the floor level of the lowest story is located more than 30 feet (9144 mm) below ~~the highest level of fire department vehicle access grade.~~

Exceptions:

1. Class I standpipes are allowed in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or Section 903.3.1.2.
2. Class I ~~manual~~ standpipes are allowed in open parking garages where the highest floor is located not more than 150 feet (45 720 mm) above the lowest level of fire department vehicle access.

~~3. Class I manual dry standpipes are allowed in open parking garages that are subject to freezing temperatures, provided that the hose connections are located as required for Class II standpipes in accordance with Section 905.5.~~

~~4.3. Class I standpipes are allowed in basements equipped throughout with an automatic sprinkler system.~~

~~**905.3.2 Reserved. Building area.** In buildings exceeding 10,000 square feet (929 m²) in area per story, Class I automatic wet or manual wet standpipes shall be provided where any portion of the building's interior area is more than 200 feet (60 960 mm) of travel, vertically and horizontally, from the nearest point of fire department vehicle access.~~

Exceptions:

- ~~1. Buildings equipped throughout with automatic sprinkler systems installed in accordance with Section 903.3.1.1.~~
- ~~2. Group A 4, A 5, F 2, R 2, S 2 or U occupancies.~~
- ~~3. Automatic dry and semiautomatic dry standpipes are allowed as provided for in NFPA 14.~~

^{HFD} **905.3.3 Group A.** Class I automatic wet standpipes shall be provided in nonsprinklered Group A buildings having an occupant load exceeding 1,000 persons.

Exceptions:

- ~~1. Open-air-seating spaces without enclosed spaces.~~
- ~~2. Class I automatic dry and semiautomatic dry standpipes or manual wet standpipes are allowed in buildings where the highest floor surface used for human occupancy is 75 feet (22 860 mm) or less above the lowest level of fire department vehicle access~~

905.3.4 Covered mall buildings. A covered mall buildings and buildings connected thereto shall be equipped throughout with a Class I automatic wet standpipe system where required by Section 905.3. Covered mall buildings not required to be equipped with a standpipe system by Section 905.3 shall be equipped with Class I hose connections connected to a system sized to

deliver 250 gallons per minute (946.4 L/min.) at the most hydraulically remote outlet. Hose connections shall be provided at each of the following locations:

1. Within the mall at the entrance to each exit passageway or exit.
2. At each floor-level landing within enclosed stairways opening directly to the mall.
3. At exterior public entrances to the mall.

HFD 905.3.5 Stages. Stages greater than 1,000 square feet in area (93 m²) shall be equipped with a Class ~~III~~II wet standpipe system with 1.5-inch (38 mm) and ~~2.5-inch (38 mm and 64 mm)~~ hose connections on each side of the stage.

Exception: Where the building or area is equipped throughout with an automatic sprinkler system, the hose connections are allowed to be supplied from the automatic sprinkler system and shall have a flow rate of not less than that required by NFPA 14 for Class III standpipes.

HFD 905.3.6 Underground buildings. Underground buildings shall be equipped throughout with a Class I automatic wet ~~or manual wet~~ standpipe system.

HFD 905.4 Location of Class I standpipe hose connections. Class I standpipe hose connections shall be provided in all of the following locations:

1. In every required stairway, a hose connection shall be provided for each floor level above or below grade.
2. Hose connections shall be located at ~~an intermediate~~ each floor level landing ~~between floors,~~ unless otherwise approved by the ~~building official~~ fire marshal.
3. On each side of the wall adjacent to the exit opening of a horizontal exit.
4. In every exit passageway at the entrance from the exit passageway to other areas of a building. In covered mall buildings, adjacent to each exterior public entrance to the mall and adjacent to each entrance from an exit passageway or exit corridor to the mall.
5. Where the roof has a slope less than four units vertical in 12 units horizontal (33.3-percent slope), each standpipe shall be provided with a hose connection located either on the roof or at the highest landing of stairways with stair access to the roof. An additional hose

connection shall be provided at the top of the most hydraulically remote standpipe for testing purposes.

6. Where the most remote portion of a nonsprinklered floor or story is more than 150 feet (45 720 mm) from a hose connection or the most remote portion of a sprinklered floor or story is more than 200 feet (60 960 mm) from a hose connection, the ~~building official~~ fire marshal is authorized to require that additional hose connections be provided in approved locations.

HF^D 905.5 Location of Class II standpipe hose connections. Class II standpipe hose connections shall be accessible and shall be located so that all portions of the building are within 30 feet (9144 mm) of a variable nozzle attached to 100 feet (30 480 mm) of hose.

HF^D 905.8 Dry standpipe. ~~In buildings requiring standpipes, dry standpipes complying with NFPA 14 are permitted when, in the opinion of the building official, an approved water supply is not available or when the standpipe is subject to freezing.~~ **Design pressure.** Design pressure at the uppermost valve for a Class II standpipe system shall be 35 psi.

HF^D 907.2.3 Group E. A manual and automatic fire alarm system shall be installed in Group E occupancies. When an automatic sprinkler systems or smoke detectors are is installed, ~~such the systems or detectors~~ shall be connected to the building fire alarm system. Smoke detectors, connected to the fire alarm system, shall be installed in any interior corridor serving as an exit and in storerooms, mechanical rooms, janitorial rooms and similar areas. Smoke detectors shall not be required in toilet rooms, class rooms or offices.

Exceptions:

1. Group E occupancies with an occupant load of less than 50.
2. Manual fire alarm boxes are not required in Group E occupancies where the building is protected throughout by an approved supervised automatic sprinkler system and having a local alarm to notify all occupants. ~~all the following apply:~~
 - 2.1. ~~Interior corridors are protected by smoke detectors with alarm verification.~~

- ~~2.2.— Auditoriums, cafeterias, gymnasiums and the like are protected by heat detectors or other approved detection devices.~~
 - ~~2.3.— Shops and laboratories involving dusts or vapors are protected by heat detectors or other approved detection devices.~~
 - ~~2.4.— Off-premises monitoring is provided.~~
 - ~~2.5.— The capability to activate the evacuation signal from a central point is provided.~~
 - ~~2.6.— In buildings where normally occupied spaces are provided with a two-way communication system between such spaces and a constantly attended receiving station from where a general evacuation alarm can be sounded, except in locations specifically designated by the building official.~~
3. Approved heat detectors may be installed in lieu of smoke detectors in mechanical rooms, janitorial rooms and similar areas.

^{HFD} **907.2.6 Group I.** A manual fire alarm system and an automatic fire detection system shall be installed in Group I occupancies. An electrically supervised, automatic smoke detection system shall be provided in waiting areas that open to corridors.

~~**Exception:** Manual fire alarm boxes in patient sleeping areas of Group I-1 and I-2 occupancies shall not be required at exits if located at all nurse's control stations or other constantly attended staff locations, provided such stations are visible and continuously accessible and that travel distances required in Section 907.3.1 are not exceeded.~~

^{HFD} **907.2.6.1 Group I-2.** Corridors in nursing homes (both intermediate care and skilled nursing facilities), detoxification facilities and spaces open to the corridors shall be equipped with an automatic fire detection system.

Exceptions:

- ~~1. Corridor smoke detection is not required where patient sleeping rooms are provided with smoke detectors that comply with UL 268. Such detectors shall~~

- ~~provide a visual display on the corridor side of each patient room and shall provide an audible and visual alarm at the nursing station attending each room.~~
- ~~2. Corridor smoke detection is not required where patient room doors are equipped with automatic door-closing devices with integral smoke detectors on the room sides installed in accordance with their listing, provided that the integral detectors perform the required alerting function.~~

^{HFD} 907.2.6.1 Patient rooms. Patient rooms within Group I-1 and I-2 occupancies shall be provided with UL 268 type smoke detectors. The smoke detectors shall provide a visual display on the corridor side of each patient room and shall provide an audible and visual alarm at the nursing station attending each patient room. In patient rooms equipped with automatic door closures having integral smoke detectors on the room side, the integral detector may substitute for the room smoke detector, provided it performs the required functions.

^{HFD} 907.2.6.2.3 Smoke detectors. An approved automatic smoke detection system shall be installed throughout resident housing areas, including sleeping areas and contiguous day rooms, group activity spaces and other common spaces normally accessible to residents.

Exceptions:

- ~~1. Other approved smoke-detection arrangements providing equivalent protection including, but not limited to, placing detectors in exhaust ducts from cells or behind protective guards listed for the purpose are allowed when necessary to prevent damage or tampering.~~
- ~~2. Sleeping rooms in Use Conditions II and III.~~
- ~~3. Smoke detectors are not required in sleeping rooms with four or fewer occupants in smoke compartments that are equipped throughout with an approved automatic sprinkler system.~~

907.2.7 Group M. A manual fire alarm system shall be installed in Group M occupancies, other than covered mall buildings complying with Section 402, having an occupant load of 500 or more persons or more than 100 persons above or below the lowest level of exit discharge.

Exception: Manual fire alarm boxes are not required if the building is equipped throughout with an automatic sprinkler system and the alarm notification appliances will activate upon sprinkler water flow.

907.2.8 Group R-1. A manual fire alarm system and an automatic fire detection system shall be installed in Group R-1 occupancies.

Exceptions:

1. A manual fire alarm system is not required in buildings not over two stories in height where all individual guestrooms-sleeping units and contiguous attic and crawl spaces are separated from each other and public or common areas by at least 1-hour fire partitions and each individual guestroom-sleeping unit has an exit directly to a public way, exit court or yard.
2. An automatic fire detection system is not required in buildings that do not have interior corridors serving guestrooms-sleeping units and where guestrooms-sleeping units have a means of egress door opening directly to an exterior exit access that leads directly to the exits.
3. A separate fire alarm system is not required in buildings that are equipped throughout with an approved supervised automatic sprinkler system and which have a local fire alarm that meets the notification requirements of Section 907.9.2.

907.2.8.1 Fire detection system. System smoke detectors are not required in guestrooms sleeping units provided that the single-station smoke alarms required by Section 907.2.10 are connected to the emergency electrical system and are annunciated by guestroom-sleeping unit at a constantly attended location from which the fire alarm system is capable of being manually activated.

907.2.10.1.1 Group R-1. Single- or multiple-station smoke alarms shall be installed in all of the following locations in Group R-1:

1. In sleeping areas.
2. In every room in the path of the means of egress from the sleeping area to the door leading from the ~~guestroom or suite~~ sleeping unit.
3. In each story within the ~~guestroom or suite~~ sleeping unit, including basements. For ~~guestrooms or suites~~ sleeping units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.

907.2.10.1.5 Group E child day care facilities. All Group E child day care facilities shall be provided with a smoke alarm in every area over 20 square feet, unless the facility is provided with a fire alarm system in accordance with Section 907.2.3. All smoke detectors shall be interconnected in such a way that activation of any detector shall automatically activate the alarm of all detectors.

907.2.10.2 Power source. In new construction, required smoke alarms shall receive their primary power from the building wiring where such wiring is served from a commercial source and shall be equipped with a battery backup. Smoke alarms shall emit a signal when the batteries are low. Wiring shall be permanent and without a disconnecting switch other than as required for over current protection.

Exceptions:

- 1.—Smoke alarms are not required to be equipped with battery backup in Group R-1 where they are connected to an emergency electrical system.
- 2.—~~Smoke alarms are permitted to be solely battery operated in existing buildings, buildings not served from a commercial power source and in existing areas where alterations or repairs regulated by Section 907.2.10.1.4 do not result in the removal of interior wall or ceiling finishes exposing the structure, unless there is~~

~~an attic, crawl space or basement available which could provide access for building wiring without the removal of interior finishes.~~

907.2.10.3 Interconnection. Where more than one smoke alarm is required to be installed within an individual dwelling unit in Group R-2, R-3 or R-4, or within an individual ~~guestroom or suite~~ sleeping unit in Group R-1, the smoke alarms shall be interconnected in such a manner that the activation of one alarm will activate all of the alarms in the individual unit. The alarm shall be clearly audible in all bedrooms over background noise levels with all intervening doors closed.

907.2.12 High-rise buildings. Buildings having floors used for human occupancy located more than 75 feet (22 860 mm) above ~~the lowest level of fire department vehicle access grade~~ shall be provided with an automatic fire alarm system and an emergency voice/alarm communications system in accordance with Section 907.2.12.2.

Exceptions:

1. Airport traffic control towers in accordance with Section 412.
2. Open parking garages in accordance with Section 406.3.
3. Buildings with an occupancy in Group A-5.
4. Low-hazard special occupancies in accordance with Section 503.1.2.
5. Buildings with an occupancy in Group H-1, H-2 or H-3 in accordance with Section 415.

^{HFD} **907.2.12.1 Automatic fire detection.** Smoke detectors shall be provided in accordance with this section. Smoke detectors shall be connected to an automatic fire alarm system in accordance with NFPA 72-1996. The activation of any detector required by this section shall operate the emergency voice/alarm communication system and shall place into operation all stair pressurization and atria fans to restrict the recirculation of smoke. Activation of any detector or any flow detector shall initiate the designed function of smoke dampers, fans and

other components of the smoke-control system, unless the smoke-control system is designed or required to be manually activated only.

Rate of rise detectors may be used in lieu of smoke detectors in parking garages. Smoke detectors serving stairwell pressurization fans shall comply with Section 909.20.

Smoke detectors shall be located as follows:

1. In each mechanical equipment, electrical, transformer, telephone equipment, central control station, or similar room which is not provided with sprinkler protection, elevator machine rooms, and in elevator lobbies.
2. ~~In the main return air and exhaust air plenum of each air-conditioning system having a capacity greater than 2,000 cubic feet per minute (cfm) (0.94 m³/s). Such detectors shall be located in a serviceable area downstream of the last duct inlet. In either the return-air plenum or main supply air duct of every air-conditioning and mechanical ventilating system with fans having a rated capacity of 2200 cfm or greater. Activation of the products of combustion detector shall cut off electric current to the fan and shall operate the voice alarm signaling system of the required automatic fire alarm system.~~

Exception: If air movement provided by the air-conditioning system or mechanical ventilating system is a designed component of the smoke-control system, the smoke detector need not shut off electric current to the fan.

3. ~~At each connection to a vertical duct or riser serving two or more stories from a return air duct or plenum of an air-conditioning system. In Group R-1 and R-2 occupancies a listed smoke detector is allowed to be used in each return air riser carrying not more than 5,000 cfm (2.4 m³/s) and serving not more than 10 air-inlet openings. At each connection to a duct or riser serving two or more stories from a return-air duct or plenum of an air-conditioning system having an air volume of 2200 cfm or greater.~~
4. In each exit corridor within 3 feet of each exit-access door to a stair. When exit corridors are not clearly defined, they shall be assumed to be 8 feet wide connecting exit stairways.

5. In commercial kitchens.

Exception: Rate of rise detectors may be installed in lieu of smoke detectors, with spacing every 500 square feet.

HFD 907.2.12.2 Emergency voice/alarm communication system. The operation of any automatic fire detector, sprinkler or water-flow device ~~or manual fire alarm box~~ shall automatically sound an alert tone followed by voice instructions giving ~~approved~~ appropriate information and directions on a general or selective basis to the following terminal areas in accordance with the *International Fire Code*.

1. Elevator lobbies.
2. Corridors.
3. Rooms and tenant spaces exceeding 1,000 square feet (93 m²) in area.
4. Dwelling units in Group R-2 occupancies.
5. Hotel ~~guestrooms or suites~~ sleeping units in Group R-1 occupancies.
6. Areas of refuge as defined in this code.
7. Elevators.
8. Exit stairways.

The alarm shall be designed to be heard clearly by all occupants within the building or designated portions thereof as is required for the public address system. The alarm shall sound on the floor of incidence, the floor above, and the floor below.

A manual override for emergency voice communication shall be provided for all paging zones.

HFD 907.2.12.3 Fire department communication system. An approved two-way, fire department communication system designed and installed in accordance with NFPA 72 shall be provided for fire department use. It shall operate between a fire command center complying with Section 911 and elevators, elevator lobbies, emergency and standby power rooms, fire pump rooms, areas of refuge and inside enclosed exit stairways. The fire

department communication device shall be provided at each floor level within the enclosed stairway.

Exception: ~~Fire department radio systems where approved by the fire department.~~

907.9.1.2 Groups I-1 and R-1. Group I-1 and Group R-1 sleeping accommodations units in accordance with Table 907.9.1.2 shall be provided with a visible alarm notification appliance, activated by both the in-room smoke alarm and the building fire alarm system.

**TABLE 907.9.1.2
VISIBLE AND AUDIBLE ALARMS**

NUMBER OF SLEEPING UNITS ACCOMMODATIONS	SLEEPING UNITS ACCOMMODATIONS WITH VISIBLE AND AUDIBLE ALARMS
6 to 25	2
25 to 50	4
50 to 75	7
76 to 100	9
101 to 150	12
151 to 200	14
201 to 300	17
301 to 400	20
401 to 500	22
501 to 1,000	5% of total
1,001 and over	50 plus 3 for each 100 over 1,000

909.20 Smokeproof enclosures. Where required by Section 1005.3.2.5, a smokeproof enclosure shall be constructed in accordance with this section. A smokeproof enclosure shall consist of an enclosed interior exit stairway that conforms to Section 1005.3.2 and an outside balcony or a ventilated vestibule meeting the requirements of this section. Where access to the roof is required by Section 1003.3.3.12 ~~the *International Fire Code*~~, such access shall be from the smokeproof enclosure where a smokeproof enclosure is required.

~~909.20.4 Mechanical ventilation alternative.~~ The provisions of Sections 909.20.4.1 through 909.20.4.4 shall apply to ventilation of smokeproof enclosures by mechanical means. **Stair pressurization alternative.** As an alternative, stairways may be pressurized. If this option is elected, stairway enclosures shall be pressurized by mechanical means, and vestibules are not required. The stairway enclosure, including exit doors, shall be designed and constructed to pressurize air leakage to 300 cfm per floor when under a minimum pressure differential of 0.3 inches of water across the door.

~~909.20.4.1 Vestibule doors.~~ The door assembly from the building into the vestibule shall be a fire door complying with Section 714.2. The door assembly from the vestibule to the stairway shall have not less than a 20-minute fire protection rating in accordance with Section 714.2. The door from the building into the vestibule shall be provided with gaskets or other provisions to minimize air leakage. **Doors.** The maximum degree of pressurization shall be such that the opening of the stairway doors can be accomplished with a force not to exceed 35 pounds measured at the door latch.

~~909.20.4.2 Vestibule ventilation.~~ The vestibule shall be supplied with not less than one air change per minute and the exhaust shall not be less than 150 percent of supply. Supply air shall enter and exhaust air shall discharge from the vestibule through separate, tightly constructed ducts used only for that purpose. Supply air shall enter the vestibule within 6 inches (152 mm) of the floor level. The top of the exhaust register shall be located at the top of the smoke trap but not more than 6 inches (152 mm) down from the top of the trap, and shall be entirely within the smoke trap area. Doors in the open position shall not obstruct duct openings. Duct openings with controlling dampers are permitted where necessary to meet the design requirements, but dampers are not otherwise required. **Pressurization system.** The pressurization system shall be designed to provide 0.15 inch of water column minimum differential pressure across any enclosed stairway door with all doors closed.

The pressurization system shall also be designed with the assumption that during a fire situation the following doors are fully open: the fire floor, adjacent doors above and below

the fire floor and the door of exit discharge from the enclosure. The minimum average velocity at each open door with both fans operating shall be no less than 300 feet per minute measured on 12-inch centers in a horizontal and vertical traverse of the door opening no more than 6 inches or less than 3 inches from the edge of the opening with each velocity reading indicating positive airflow from the exit stairway.

Each stairway enclosure shall have a separate pressurization system independent of all other mechanical systems.

~~909.20.4.2.1 Engineered ventilation system.~~ Where a specially engineered system is used, the system shall exhaust a quantity of air equal to not less than 90 air changes per hour from any vestibule in the emergency operation mode and shall be sized to handle three vestibules simultaneously. Smoke detectors shall be located at the floor-side entrance to each vestibule and shall activate the system for the affected vestibule. Smoke detectors shall be installed in accordance with Section 907.10. **Supply fans.** The fan and associated air-distribution system serving the stairway pressurization system shall be enclosed in a two-hour fire-rated enclosure.

Exceptions:

1. Exposed roof-mounted fans.
2. Ductwork and fans located within the stairway enclosure.

~~909.20.4.3 Smoke trap.~~ The vestibule ceiling shall be at least 20 inches (508 mm) higher than the door opening into the vestibule to serve as a smoke and heat trap and to provide an upward moving air column. The height shall not be decreased unless approved and justified by design and test. **Supply air.** The supply air for each pressurization system shall be drawn from at least two points, one located within 20 feet of ground level and the other(s) located with at least a 50-foot separation in any direction, each served by a separate fan or fans sized for a portion of the total air. Each intake point shall be equipped with a products of combustion detector to deactivate the fan and close dampers associated with that intake point

so as to prevent smoke from being drawn in through the intake. Each system shall be ducted separately.

Not less than one point of injection of air for every three floors or portion thereof shall be provided.

~~**909.20.4.4 Stair shaft air movement system.** The stair shaft shall be provided with a dampered relief opening and supplied with sufficient air to maintain a minimum positive pressure of 0.10 inch of water (25 Pa) in the shaft relative to the vestibule with all doors closed.~~ **Operation of equipment.** The activation of the pressurization equipment shall be initiated by a smoke detector installed outside the enclosure door in an approved location. The activation of the closing device on any door shall activate the closing devices on all floors of the smoke-control enclosure at all levels. When the closing device for the stair shaft door is activated by a smoke detector or power failure, the pressurization system shall go into operation.

~~**909.20.5 Stair pressurization alternative.** Where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, the vestibule is not required, provided that interior exit stairways are pressurized to a minimum of 0.15 inch of water (37 Pa) and a maximum of 0.35 inch of water (87 Pa) in the shaft relative to the building measured with all stairway doors closed under maximum anticipated stack pressures.~~ **Standby power.** All pressurization fans and smoke-control devices shall be connected to the building standby power system.

~~**909.20.6 Ventilating equipment.** The activation of ventilating equipment required by the alternatives in Sections 909.20.4 and 909.20.5 shall be by smoke detectors installed at each floor level at an approved location at the entrance to the smokeproof enclosure. When the closing device for the stair shaft and vestibule doors is activated by smoke detection or power failure, the mechanical equipment shall activate and operate at the required performance levels. Smoke detectors shall be installed in accordance with Section 907.10.~~ **Acceptance testing.** Each

installation shall be tested prior to occupancy. Tests shall be scheduled to allow for observation by the building official and/or the fire marshal prior to issuance of a temporary or permanent certificate of occupancy. The following tests shall be performed to verify the function of each item and the complete system:

1. Smoke detectors, fire alarms, voice communication and intercommunication systems.
2. Static pressure test at any floor location.
3. Door opening force test at any floor location.
4. Airflow through the doors shall be measured in the traverse plane for every square foot of door opening area. This test shall be performed at the following four locations:
 - (i) The exit door.
 - (ii) Three adjacent floors picked at random by the building official.

Exception: Stair leakage rate tests need not be performed if the stair pressurization system meets all other requirements of this section.

~~**909.20.6.1 Ventilation systems.** Smokeproof enclosure ventilation systems shall be independent of other building ventilation systems. The equipment and ductwork shall comply with one of the following:~~

- ~~1. Equipment and ductwork shall be located exterior to the building and shall be directly connected to the smokeproof enclosure or connected to the smokeproof enclosure by ductwork enclosed by 2-hour fire-resistance-rated fire barriers.~~
- ~~2. Equipment and ductwork shall be located within the smokeproof enclosure with intake or exhaust directly from and to the outside or through ductwork enclosed by 2-hour fire-resistance-rated fire barriers.~~
- ~~3. Equipment and ductwork shall be located within the building if separated from the remainder of the building, including other mechanical equipment, by 2-hour fire-resistance-rated fire barriers.~~

~~909.20.6.2 Standby power.~~ Mechanical vestibule and stair shaft ventilation systems and automatic fire detection systems shall be powered by an approved standby power system conforming to Section 403.10.1 and Chapter 27.

~~909.20.6.3 Acceptance and testing.~~ Before the mechanical equipment is approved, the system shall be tested in the presence of the building official to confirm that the system is operating in compliance with these requirements.

910.1 General. Where required by this code ~~or otherwise installed~~, smoke and heat vents or mechanical smoke exhaust systems and draft curtains shall conform to the requirements of this section.

Exceptions:

- ~~1. Frozen food~~ Warehouses used solely for storage of Class I and Class II commodities where protected by an approved automatic sprinkler system.
2. Group S-1 aircraft hangars.

910.2.1 Groups F-1 and S-1. Buildings and portions thereof used as a Group F-1 or S-1 occupancies having more than 50,000 square feet (4645 m²) in undivided area.

Exceptions:

1. Group S-1 aircraft repair hangars.
2. Buildings protected by an automatic sprinkler system.

910.2.2 Group H. Buildings and portions thereof used as a Group H occupancy ~~in accordance with Section 415.6.~~ as follows:

1. In occupancies classified as Group H-2 or H-3, any of which are over 15,000 square feet (1394 m²) in single floor area.

Exception: Buildings containing only noncombustible materials.

2. In areas of buildings in Group H used for storing Class 2, 3, and 4 liquid oxidizers, Class 1 and unclassified detonable organic peroxides, Class 3 and 4 unstable (reactive)

materials, or Class 2 or 3 water reactive materials as required for a Class V Hazard Classification.

Exception: Buildings containing only noncombustible materials.

**TABLE 910.3
REQUIREMENTS FOR DRAFT CURTAIN BOARDS AND SMOKE VENTING^a**

OCCUPANCY GROUP AND COMMODITY CLASSIFICATION	DESIGNATED STORAGE HEIGHT (feet)	MINIMUM DRAFT CURTAIN BOARD DEPTH	MAXIMUM AREA FORMED BY DRAFT CURTAIN BOARDS ^b (square feet)	VENT AREA TO FLOOR AREA RATIO	MAXIMUM SPACING OF VENT CENTERS (feet)	MAXIMUM DISTANCE TO VENTS FROM WALL OR DRAFT CURTAIN BOARDS ^{cb} (feet)
Group F-1	—	0.2 × H but ≥ 4	50,000	1:100	120	60
Group S-1 I-IV (Option 1)	≤ 20	6	10,000	1:100	100	60
	> 20 ≤ 40	6	8,000	1:75	100	55
Group S-1 I-IV (Option 2)	≤ 20	4	3,000	1:75	100	55
	> 20 ≤ 40	4	3,000	1:50	100	50
Group S-1 High hazard (Option 1)	≤ 20	6	6,000	1:50	100	50
	> 20 ≤ 30	6	6,000	1:40	90	45
Group S-1 High hazard (Option 2)	≤ 20	4	4,000	1:50	100	50
	> 20 ≤ 30	4	2,000	1:30	75	40

- a. ~~Commodity classifications and~~ Requirements for rack storage heights in excess of those indicated shall be in accordance with the *International Fire Code*. For solid-piled storage heights in excess of those indicated, an approved engineered design shall be used.
- b. ~~When areas of buildings are equipped with early suppression fast response (ESFR) sprinklers, the curtain boards within these areas shall be located only at the separation between the ESFR and the conventional sprinkler systems.~~
- e. ~~The distance specified is the maximum distance from any vent in a particular draft curtained area to walls or draft curtains~~ boards that form the perimeter of the draft curtained area.

910.3.3 Vent locations. Smoke and heat vents shall be located 20 feet (6096 mm) or more from ~~lines of adjacent properties~~ property lines and fire walls and 10 feet (3048 mm) or more from fire barrier walls. Vents shall be uniformly located within the roof area above high-piled storage

areas, with consideration given to roof pitch, draft curtain board location, sprinkler ~~head~~ location and structural members.

910.3.4 Draft curtains~~boards~~. Where ~~curtain boards~~ are required, draft curtains they shall be provided in accordance with this section. Where areas of buildings are equipped with an automatic sprinkler system, draft curtains need not be provided within these areas.

910.3.4.1 Construction. Draft C~~curtains~~ ~~boards~~ shall be constructed of sheet metal, lath and plaster, gypsum board, or other approved materials that provide equivalent performance that will resist the passage of smoke. Joints and connections shall be smoke tight.

910.3.4.2 Location and depth. The location and minimum depth of the draft curtains ~~boards~~ shall be in accordance with Table 910.3.

911.1 Features. Where required by other sections of this code, a fire command center for fire department operations shall be provided. The location and accessibility of the fire command center room shall be on the building floor having street access. Access to the room shall be either directly from the exterior, through an entrance lobby or through a two-hour rated corridor leading directly to the exterior. The room shall be separated from the remainder of the building by not less than a 2- hour fire-resistance-rated fire barrier. The room shall be a minimum of 96 square feet (9 m²) with a minimum dimension of 8 feet (2438 mm). A layout of the fire command center and all features required by the section to be contained therein shall be submitted for approval prior to installation. The fire command center shall comply with NFPA 72 and shall contain the following features.:

1. The emergency voice/alarm communication system unit.
2. The fire department communications unit.
3. Fire detection and alarm system annunciator unit.
4. Annunciator visually indicating the location of the elevators and whether they are operational.
5. Status indicators and controls for air-handling systems.

6. The fire-fighter's control panel required by Section 909.16 for smoke control systems installed in the building.
7. Controls for unlocking stairway doors simultaneously.
8. Sprinkler valve and water-flow detector display panels.
9. Emergency and standby power status indicators.
10. A telephone for fire department use with controlled access to the public telephone system.
11. Fire pump status indicators.
12. Schematic building plans indicating the typical floor plan and detailing the building core, means of egress, fire protection systems, fire-fighting equipment and fire department access.
13. Work table.
14. Generator supervision devices, manual start and transfer features.
15. Public address system, where specifically required by other sections of this code.
16. Battery power pack to provide continuous power for fire detection and alarm systems during normal/standby power switchover.
17. A means to automatically switch an alarm signal to an approved central station.
18. Two handsets per each 10 stories in building height.

CHAPTER 10

MEANS OF EGRESS

SECTION 1002

DEFINITIONS

~~**ACCESSIBLE MEANS OF EGRESS.** A continuous and unobstructed way of egress travel from any point in a building or facility that provides an accessible route to an area of refuge, a horizontal exit or a public way.~~

~~**AREA OF REFUGE.** An area where persons unable to use stairways can remain temporarily to await instructions or assistance during emergency evacuation.~~

***NOTE: All other portions of Section 1002 remain as set forth in the International Building Code.**

1003.2.2 Design occupant load. In determining means of egress requirements, the number of occupants for whom means of egress facilities shall be provided shall be established by the largest number computed in accordance with Sections 1003.2.2.1 through 1003.2.2.3., unless a reduced occupant load is specifically approved by the building official.

**TABLE 1003.2.22
MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT^a**

OCCUPANCY	FLOOR AREA IN SQ. FT. PER OCCUPANT
Agricultural building	300 gross
Aircraft hangars	500 gross
Airport terminal Concourse Waiting Areas Baggage claim Baggage handling	100 gross 15 gross 20 gross 300 gross
Assembly Gaming floors (keno, slots, etc.)	11 gross
Assembly with fixed seats	See 1003.2.2.9
Assembly without fixed seats Concentrated (chairs only- not fixed) <u>auditoriums, churches and chapels, dance floors, lobby accessory to assembly occupancy, lodge rooms, reviewing stands, stadiums, waiting area</u> Standing space Unconcentrated (tables and chairs) <u>conference rooms, dining rooms, drinking establishments, gymnasiums, lounges, and stages</u>	7 net 5 net 15 net
Swimming centers, allow 5 persons for each lane including 15 feet of runway, and for each additional areas.	7 net
Business areas	100 gross
<u>Children's homes and homes for the aged</u>	<u>80 net</u>
Courtrooms- other than fixed seating areas	40 net
<u>Day care (for children or the aged)</u>	<u>35 net</u>
Dormitories	50 gross
Educational Classroom area Shops and other vocational areas	20 net 50 net
Exercise rooms	50 gross
H-5 Fabrication and manufacturing areas	200 gross
Industrial areas	100 gross
Institutional areas	

Inpatient treatment areas	240 gross
Outpatient treatment areas	100 gross
Sleeping areas	120 gross
Kitchens, commercial	200 gross
Library	
Reading rooms	50 net
Stack area	100 gross
Locker rooms	50 gross
Mercantile	
Basement and grade floor areas	30 gross
Areas on other floors	60 gross
Storage, stock, shipping areas	300 gross
Parking garages	200 gross
Residential	
<u>R-1, R-2, R-4</u>	200 gross
<u>R-3</u>	<u>300 gross</u>
Skating rinks, swimming pools	
Rink and pool	50 gross
Decks	15 gross
Accessory storage areas, mechanical equipment room	300 gross
Warehouses	500 gross

For SI: 1 square foot = 0.0929 m²

- a. Where an occupancy or use is not specifically listed, the building official shall determine the occupant load using the occupancy or use it most nearly resembles.

1003.2.2.3 Number by combination. Where occupants from accessory spaces egress through a primary area, the calculated occupant load for the primary space shall include the total occupant load of the primary space plus the number of occupants egressing through it from the accessory space.

Exception: Accessory spaces that are used by the primary occupants only.

1003.2.5 Protruding objects. ~~Protruding objects shall comply with the requirements of Sections 1003.2.5.1 through 1003.2.5.4.~~

~~**1003.2.5.1 Headroom.** Protruding objects are permitted to extend below the minimum ceiling height required by Section 1003.2.4 provided a minimum headroom of 80 inches (2032 mm) shall be provided for any walking surface, including walks, corridors, aisles and passageways. Not more than 50 percent of the ceiling area of a means of egress shall be reduced in height by protruding objects.~~

~~**Exception:** Door closers and stops shall not reduce headroom to less than 78 inches (1981 mm). A barrier shall be provided where the vertical clearance is less than 80 inches (2032 mm) high. The leading edge of such a barrier shall be located 27 inches (686 mm) maximum above the floor.~~

~~**1003.2.5.2 Free-standing objects.** A free-standing object mounted on a post or pylon shall not overhang that post or pylon more than 12 inches (305 mm) where the lowest point of the leading edge is more than 27 inches (686 mm) and less than 80 inches (2032 mm) above the walking surface.~~

~~**1003.2.5.3 Horizontal projections.** Structural elements, fixtures or furnishings shall not project horizontally from either side more than 4 inches (102 mm) over any walking surface between the heights of 27 (686 mm) and 80 inches (2032 mm) above the walking surface.~~

~~**Exception:** Handrails serving stairs and ramps are permitted to protrude 4.5 inches (114 mm) from the wall.~~

~~**1003.2.5.4 Clear widths.** Protruding objects shall not reduce the minimum clear width of accessible routes as required in Section 1104.~~

1003.2.9 Elevators, escalators, and moving walks. Elevators, escalators and moving walks shall not be used as a component of a required means of egress from any other part of the building.

~~**Exception:** Elevators used as an accessible means of egress in accordance with Section 1003.2.13.3.~~

1003.2.10.1 Where required. Exits and exit access doors shall be marked by an approved exit sign readily visible from any direction of egress travel. Access to exits shall be marked by readily visible exit signs in cases where the exit or the path of egress travel is not immediately visible to the occupants. Exit sign placement shall be such that no point in an exit access corridor is more than 100 feet (30 480 mm) from the nearest visible exit sign.

Exceptions:

1. Exit signs are not required in rooms or areas which require only one exit or exit access.
2. Main exterior exit doors or gates which obviously and clearly are identifiable as exits need not have exit signs where approved by the building official.
3. Exit signs are not required in occupancies in ~~Group R-3 as applicable in Section 101.2~~, Group U; guestrooms and individual sleeping units in Group R-1, or dwelling units in Groups R-1, R-2, or R-3 as applicable in Section 101.2 and sleeping rooms.
4. Exit signs are not required in sleeping ~~room~~ areas in occupancies in Group I-3.
5. In occupancies in Groups A-4 and A-5 that include grandstand seating arrangements, exit signs are not required on the seating side of vomitories or openings into seating areas where exit signs are provided in the concourse that are readily apparent from the vomitories. Egress lighting is provided to identify each vomitory or opening within the seating area in an emergency.

1003.2.10.3 ~~Reserved. Stairway exit signs.~~ ~~A tactile sign stating EXIT and complying with Chapter 11 ICC/ANSI A117.1 shall be provided adjacent to each door to an egress stairway.~~

1003.2.10.4 Exit sign illumination. Exit signs shall be internally or externally illuminated. The face of an exit sign illuminated from an external source shall have an intensity of not less than 5 foot-candles (54 lux). Internally illuminated signs shall provide equivalent luminance and be listed for the purpose.

Exceptions:

- 1.—Approved self-luminous exit signs that provide evenly illuminated letters shall have a minimum luminance of 0.06 foot-lamberts (0.21 cd/m²).
2. ~~Tactile signs required by Section 1003.2.10.3 need not be provided with illumination.~~

1003.2.10.5 Power source. Exit signs shall be illuminated at all times. To ensure continued illumination for a duration of not less than 90 minutes in case of primary power loss, the exit signs shall be connected to an emergency ~~electrical~~power system provided from storage batteries, unit equipment or an on-site generator. The installation of the emergency power system shall be in accordance with the ~~ICC *Electrical Code*~~ Section 2702.

Exception: Approved exit signs that provide continuous illumination independent of external power sources for a duration of not less than 90 minutes, in case of primary power loss, are not required to be connected to an emergency electrical system.

1003.2.11 Means of egress illumination. The means of egress, including the exit discharge, shall be illuminated at all times the building space served by the means of egress is occupied.

Exceptions:

1. Occupancies in Group U.
2. Aisle accessways in Group A.
3. ~~Guestrooms in Group R-1, Dwelling units and sleeping rooms units in Groups R-1, R-2 and R-3 as applicable in Section 101.2.~~
4. ~~Sleeping rooms and areas~~units of Group I occupancies.

1003.2.11.2 Illumination emergency power. The power supply for means of egress illumination shall normally be provided by the premise's electrical supply.

In the event of power supply failure, an emergency electrical system shall automatically illuminate all of the following areas:

1. Exit access corridors, passageways, and aisles in rooms and spaces which require two or more means of egress.

2. Exit access corridors and exit stairways located in buildings required to have two or more exits.
3. Interior exit discharge elements, as permitted in Section 1006.1, in buildings required to have two or more exits.
4. The portion of the exterior exit discharge immediately adjacent to exit discharge doorways in buildings required to have two or more exits.

The emergency power system shall provide power for a duration of not less than 90 minutes and shall consist of storage batteries, unit equipment or an on-site generator. The installation of the emergency power system shall be in accordance with ~~the ICC *Electrical Code* Section 2702.~~

1003.2.12.1 Height. Guards shall form a protective barrier not less than 42 inches (1067 mm) high, measured vertically above the leading edge of the tread, adjacent walking surface or adjacent seatboard.

Exceptions:

1. For occupancies in Group R-3, and within individual dwelling units in occupancies in Group R-2, both as applicable in Section 101.2, guards whose top rail also serves as a handrail shall have a height not less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from the leading edge of the stair tread nosing.
2. The height in assembly seating areas shall be in accordance with Section 1008.12.

~~**1003.2.13 Accessible means of egress.** Accessible means of egress shall comply with Sections 1003.2.13.1 through 1003.2.13.7.1. Accessible spaces shall be provided with not less than one accessible means of egress. Where more than one means of egress is required from any accessible space, each accessible portion of the space shall be served by not less than two accessible means of egress.~~

~~**Exception:** Accessible means of egress are not required in alterations to existing buildings.~~

~~**1003.2.13.1 General.** Each required accessible means of egress shall be continuous to a public way and shall consist of one or more of the following components:~~

- ~~1. Accessible routes complying with Section 1104.~~
- ~~2. Stairways within exit enclosures complying with Sections 1003.2.13.2 and 1005.3.2.~~
- ~~3. Elevators complying with Section 1003.2.13.3.~~
- ~~4. Horizontal exits.~~
- ~~5. Smoke barriers.~~

~~**Exceptions:**~~

- ~~1. Where the exit discharge is not accessible, an exterior area for assisted rescue must be provided in accordance with Section 1003.2.13.7.~~
- ~~2. Where the exit stairway is open to the exterior, the accessible means of egress shall include either an area of refuge in accordance with Section 1003.2.13.5 or an exterior area for assisted rescue in accordance with Section 1003.2.13.7.~~

~~**1003.2.13.1.1 Buildings with four or more stories.** In buildings where a required accessible floor is four or more stories above or below a level of exit discharge, at least one required accessible means of egress shall be an elevator complying with Section 1003.2.13.3.~~

~~**Exceptions:**~~

- ~~1. In buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required on floors provided with a horizontal exit and located at or above the level of exit discharge.~~
- ~~2. In buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required on floors provided with a ramp conforming to the provisions of Section 1003.3.4.~~

~~**1003.2.13.2 Enclosed stairways.**— An enclosed stairway, to be considered part of an accessible means of egress, shall have a clear width of 48 inches (1219 mm) minimum between handrails and shall either incorporate an area of refuge within an enlarged floor-level landing or shall be accessed from either an area of refuge complying with Section 1003.2.13.5 or a horizontal exit.~~

~~**Exceptions:**~~

- ~~1. Stairways serving a single guestroom or dwelling unit.~~
- ~~2. Stairways in buildings or facilities equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.~~
- ~~3. The clear width of 48 inches (1219 mm) between handrails is not required for enclosed stairways accessed from a horizontal exit.~~
- ~~4. Stairways serving open parking garages.~~

~~**1003.2.13.3 Elevators.**— An elevator to be considered part of an accessible means of egress shall comply with the emergency operation and signaling devices requirements of Section 211 of ASME A17.1. Standby power shall be provided in accordance with Sections 2702 and 3003. The elevator shall be accessed from either an area of refuge complying with Section 1003.2.13.5 or a horizontal exit.~~

~~**Exceptions:**~~

- ~~1. Elevators are not required to be accessed from an area of refuge or horizontal exit in open parking garages.~~
- ~~2. Elevators are not required to be accessed from an area of refuge or horizontal exit in buildings and facilities equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.~~

~~**1003.2.13.4 Platform lifts.**— Platform (wheelchair) lifts shall not serve as part of an accessible means of egress, except where allowed as part of a required accessible route in Section 1108.7. Platform lifts shall be installed in accordance with ASME A17.1.~~

~~**1003.2.13.5 Areas of refuge.** Every required area of refuge shall be accessible from the space it serves by an accessible means of egress. The maximum travel distance from any accessible space to an area of refuge shall not exceed the travel distance permitted for the occupancy in accordance with Section 1004.2.4. Every required area of refuge shall have direct access to an enclosed stairway complying with Sections 1003.2.13.2 and 1005.3.2 or an elevator complying with Section 1003.2.13.3. Where an elevator lobby is used as an area of refuge, the shaft and lobby shall comply with Section 1005.3.2.5 for smokeproof enclosures except where the elevators are in an area of refuge formed by a horizontal exit or smoke barrier.~~

~~**1003.2.13.5.1 Size.** Each area of refuge shall be sized to accommodate one wheelchair space of 30 inches (762 mm) by 48 inches (1219 mm) for each 200 occupants or portion thereof, based on the occupant load of the area of refuge and areas served by the area of refuge. Such wheelchair spaces shall not reduce the required means of egress width. Access to any of the required wheelchair spaces in an area of refuge shall not be obstructed by more than one adjoining wheelchair space.~~

~~**1003.2.13.5.2 Separation.** Each area of refuge shall be separated from the remainder of the story by a smoke barrier complying with Section 709. Each area of refuge shall be designed to minimize the intrusion of smoke.~~

~~**Exceptions:**~~

- ~~1. Areas of refuge located within a stairway enclosure.~~
- ~~2. Areas of refuge where the area of refuge and areas served by the area of refuge are equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.~~

~~**1003.2.13.5.3 Two-way communication.** Areas of refuge shall be provided with a two-way communication system between the area of refuge and a central control point. If the central control point is not constantly attended, the area of refuge shall also have~~

~~controlled access to a public telephone system. Location of the central control point shall be approved by the fire department. The two-way communication system shall include both audible and visible signals.~~

~~**1003.2.13.5.4 Instructions.** In areas of refuge that have a two-way emergency communications system, instructions on the use of the area under emergency conditions shall be posted adjoining the communications system. The instructions shall include all of the following:~~

- ~~1. Directions to find other means of egress.~~
- ~~2. Persons able to use the exit stairway do so as soon as possible, unless they are assisting others.~~
- ~~3. Information on planned availability of assistance in the use of stairs or supervised operation of elevators and how to summon such assistance.~~
- ~~4. Directions for use of the emergency communications system.~~

~~**1003.2.13.5.5 Identification.** Each door providing access to an area of refuge from an adjacent floor area shall be identified by a sign complying with ICC/ANSI A117.1, stating: AREA OF REFUGE, and including the International Symbol of Accessibility. Where exit sign illumination is required by Section 1003.2.10.4, the area of refuge sign shall be illuminated. Additionally, tactile signage complying with ICC/ANSI A117.1 shall be located at each door to an area of refuge.~~

~~**1003.2.13.6 Signage.** At exits and elevators serving a required accessible space but not providing an approved accessible means of egress, signage shall be installed indicating the location of accessible means of egress.~~

~~**1003.2.13.7 Exterior area for assisted rescue.** The exterior area for assisted rescue must be open to the outside air and meet the requirements of Section 1003.2.13.5.1. Separation walls shall comply with the requirements of Section 704 for exterior walls.~~

~~Where walls or openings are between the area for assisted rescue and the interior of the building, the building exterior walls within 10 feet (3048 mm) horizontally of a nonrated wall or unprotected opening shall be constructed as required for a minimum 1-hour fire-resistance rating with 0.75-hour opening protectives. This construction shall extend vertically from the ground to a point 10 feet (3048 mm) above the floor level of the area for assisted rescue or to the roof line, whichever is lower.~~

~~**1003.2.13.7.1 Openness.** The exterior area of refuge shall be at least 50 percent open, and the open area above the guards shall be so distributed as to minimize the accumulation of smoke or toxic gases.~~

1003.3.1 Doors. Means of egress doors shall meet the requirements of this section. Doors serving a means of egress system shall meet the requirements of this section and Section 1005.3.12. ~~Where additional doors are provided for egress purposes in numbers greater than required by this code, they shall conform to~~ meet the requirements of this section.

Means of egress doors shall be readily distinguishable from the adjacent construction ~~such that~~ and finishes the doors are easily recognizable as means of egress doors. Mirrors or similar reflecting materials shall not be used on means of egress doors. Means of egress doors shall not be concealed by curtains, drapes, decorations or similar materials.

1003.3.1.1 Size of doors. The minimum width of each door opening shall be sufficient for the occupant load thereof and shall provide a clear width of not less than 32 inches (813 mm). Clear openings of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees (1.57 rad). Where this section requires a minimum clear width of 32 inches (813 mm) and a door opening includes two door leaves without a mullion, one leaf shall provide a clear opening width of 32 inches (813 mm). The maximum width of a swinging door leaf shall be 48 inches (1219 mm) nominal. Means of egress doors in an occupancy in Group I-2 used for the movement of beds shall

provide a clear width not less than 41.5 inches (1054 mm). The height of doors shall not be less than 80 inches (2032 mm).

Exceptions:

1. The minimum and maximum width shall not apply to door openings that are not part of the required means of egress in occupancies in Groups R-2 and R-3 as applicable in Section 101.2.
2. Door openings to resident sleeping ~~rooms~~ units in occupancies in Group I-3 shall have a clear width of not less than 28 inches (711 mm).
3. Door openings to storage closets less than 10 square feet (0.93 m²) in area shall not be limited by the minimum width.
4. Width of door leafs in revolving doors that comply with Section 1003.3.1.3.1 shall not be limited.
5. Door openings within a dwelling unit shall not be less than 78 inches (1981 mm) in height.
6. Exterior door openings in dwelling units, other than the required exit door, shall not be less than 76 inches (1930 mm) in height.
7. Interior egress door within a dwelling unit which is not required to be adaptable or accessible.
8. Door openings required to be accessible within Type B dwelling units shall have a minimum clear width of 31.75 inches (806 mm).

1003.3.1.3.4 ~~Access-controlled egress doors~~ Electronic locks. ~~The entrance doors in a means of egress in buildings with an occupancy in Group A, B, E, M, R-1 or R-2 and entrance doors to tenant spaces in occupancies in Groups A, B, E, M, R-1 and R-2 are permitted to be equipped with an approved entrance and egress access control system which shall be installed in accordance with all of the following criteria:~~

- ~~1. A sensor shall be provided on the egress side arranged to detect an occupant approaching the doors. The doors shall be arranged to unlock by a signal from or loss of power to the sensor.~~

- ~~2. Loss of power to that part of the access control system which locks the doors shall automatically unlock the doors.~~
- ~~3. The doors shall be arranged to unlock from a manual unlocking device located 40 inches (1016 mm) to 48 inches (1219 mm) vertically above the floor and within 5 feet (1524 mm) of the secured doors. Ready access shall be provided to the manual unlocking device and the device shall be clearly identified by a sign that reads "PUSH TO EXIT". When operated, the manual unlocking device shall result in direct interruption of power to the lock independent of the access control system electronics and the doors shall remain unlocked for a minimum of 30 seconds.~~
- ~~4. Activation of the building fire alarm system, if provided, shall automatically unlock the doors, and the doors shall remain unlocked until the fire alarm system has been reset.~~
- ~~5. Activation of the building automatic sprinkler or fire detection system, if provided, shall automatically unlock the doors. The doors shall remain unlocked until the fire alarm system has been reset.~~
- ~~6. Entrance doors in buildings with an occupancy in Group A, B, E or M shall not be secured from the egress side during periods that the building is open to the general public.~~

1003.3.1.3.4.1 Definitions. For the purpose of this section, the following definitions apply:

FAIL SAFE. Shall mean that the loss of power to the part of the system that locks the door shall automatically unlock the door.

FAIL SECURE. Shall mean that the loss of power to the locking system will allow the doors to remain locked.

1003.3.1.3.4.2 Requirements. Except as specified in other parts of this code, electronic locks shall meet the following requirements:

1. Electronic locks that are electronically locked from the ingress side and can be mechanically unlocked from the egress side, can be fail secure from the ingress side.

Exception: Stairway enclosure re-entry doors required by Section 403 shall be fail safe.

2. Electronic locks that unlock electronically from the egress side shall be fail safe and must be unlocked by a listed direct power-interrupting device without time-delay. If a motion sensor is used, a secondary in-line releasing device in the form of a button conspicuously located near the door shall be installed. If the lock is controlled by a relay, removal of power from the relay shall also cause the lock to fail open.

Exception: Egress-control devices meeting the requirement of Section 1003.3.1.8.2 may be of the time-delay type.

3. Doors in excess of the number required for exits may be electronically controlled, provided there is a push button deactivating device (minimum of 1 ½ inch in size) conspicuously located near the door along with a sign stating "push to open door."
4. An exit door from an elevator lobby may be controlled by an electronic lock with an emergency release device (direct inline power interrupting switch) on the lobby side, provided the building has an automatic fire alarm system, including smoke detectors, located in the lobby and corridors and/or a complete sprinkler system that is interconnected to the fire alarm system. The release device may be either a manual fire alarm pull station or a push button (minimum of 1 ½ inch in size) located near the door with a sign stating: "Push/pull to release door in an emergency." The locking device must release upon activation of the fire alarm or the sprinkler system and must be manually reset after being released.

1003.3.1.4 Floor elevation. There shall be a floor or landing on each side of a door. Such floor or landing shall be at the same elevation on each side of the door. Landings shall be level except for exterior landings, which are permitted to have a slope not to exceed 0.25 unit vertical in 12 units horizontal (2-percent slope).

Exceptions:

1. Group R-3 more than three stories high and individual units of Group R-2 where the following apply:
 - 1.1. A door is permitted to open at the top step of an ~~interior~~ flight of stairs, provided the door does not swing over the top step.
 - 1.2. Screen doors and storm doors are permitted to swing over stairs or landings.
2. Exterior doors as provided for in Section 1003.2.7, Exception 1, and Section 1005.3.1, which are not on an accessible route.
3. Variations in elevation due to differences in finish materials, but not more than 0.5 inch (12.7 mm).
4. ~~Exterior decks, patios, or balconies that are part of Type B dwelling units and have impervious surfaces, and that are not more than 4 inches (102 mm) below the finished floor level of the adjacent interior space of the dwelling unit.~~

1003.3.1.7 Door arrangement. Space between two doors in series shall be 48 inches (1219 mm) minimum plus the width of a door swinging into the space. Doors in series shall swing either in the same direction or away from the space between doors.

Exceptions:

1. The minimum distance between horizontal sliding power-operated doors in a series shall be 48 inches (1219 mm).
2. Storm and screen doors serving individual dwelling units in Groups R-2 and R-3 as applicable in Section 101.2 need not be spaced 48 inches (1219 mm) from the other door.

3. ~~Doors within individual dwelling units in groups R-2 and R-3 as applicable in Section 101.2 other than within Type A dwelling units.~~

1003.3.1.8 Locks and latches. Whenever a building or space within a building is occupied, Egress doors shall be readily openable from the egress side without the use of a key or special knowledge or effort.

Exceptions:

1. Places of detention or restraint.
2. In buildings in occupancy Group A ~~having an occupant load of 300 or less, Groups B, F, M, and S, and in churches,~~ the main exterior door or doors is permitted to be equipped with ~~key-operated~~ locking devices from the egress side provided:
 - 2.1. The locking device is readily distinguishable as locked,
 - 2.2. A readily visible durable sign is posted on the egress side on or adjacent to the door stating: THIS DOOR TO REMAIN UNLOCKED WHEN BUILDING IS OCCUPIED. The sign shall be in letters 1 inch (25.4 mm) high on a contrasting background,
 - 2.3. The use of the ~~key-operated~~ locking device is revokable by the building official for ~~due cause~~ failure to conform to any applicable requirement of this code or other laws.
3. Where egress doors are used in pairs, approved automatic flush bolts shall be permitted to be used, provided that the door leaf having the automatic flush bolts has no doorknob or surface-mounted hardware. The unlatching of any leaf shall not require more than one operation.
4. Doors from individual dwelling or sleeping units ~~and guestrooms~~ of Group R occupancies having an occupant load of 10 or less are permitted to be equipped with a night latch, dead bolt or security chain, provided such devices are openable from the inside without the use of a key or tool.

1003.3.1.8.1 Bolt locks. Manually operated flush bolts or surface bolts are not permitted.

Exceptions:

1. On doors not required for egress in individual dwelling units.
2. ~~Where a pair of doors serves a storage or equipment room, manually operated edge or surface-mounted bolts are permitted on the inactive leaf.~~ When one active leaf of a pair of doors provides the required exit width, manually operated edge- or surface-mounted bolts may be used on the inactive leaf and a door closer need not be provided on the inactive leaf.

1003.3.1.8.2 Delayed egress locks. Approved, listed, delayed egress locks shall be permitted to be installed on doors serving any occupancy except Group A, ~~E~~ and H occupancies in buildings which are equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or an approved automatic smoke or heat detection system installed in accordance with Section 907, provided that the doors unlock in accordance with Items 1 through 6 below. A building occupant shall not be required to pass through more than one door equipped with a delayed egress lock before entering an exit.

1. The doors unlock upon actuation of the automatic sprinkler system or automatic fire detection system.
2. The doors unlock upon loss of power controlling the lock or lock mechanism.
3. The door locks shall have the capability of being unlocked by a signal from the fire command center.
4. The initiation of an irreversible process which will release the latch in not more than 15 seconds when a force of not more than 15 pounds (67 N) is applied for 1 second to the release device. Initiation of the irreversible process shall activate an audible signal in the vicinity of the door. Once the door lock has been released by the application of force to the releasing device, relocking shall be by manual means only.

Exception: Where approved, a delay of not more than 30 seconds is permitted.

5. A sign shall be provided on the door located above and within 12 inches (305 mm) of the release device reading: PUSH UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECONDS.
6. Emergency lighting shall be provided at the door.

1003.3.1.9 Panic and fire exit hardware. Where panic and fire exit hardware is installed, it shall comply with the following:

1. The actuating portion of the releasing device shall extend at least one-half of the door leaf width.
2. A maximum unlatching force of 15 pounds (67 N) applied in the direction of travel.

Each door in a means of egress from an occupancy of Group A or E having an occupant load of 100 or more and any occupancy of Group H-1, H-2, H-3 or H-5 shall not be provided with a latch or lock unless it is panic hardware or fire exit hardware.

If balanced doors are used and panic hardware is required, the panic hardware shall be of the push-pad type and the pad shall not extend more than one-half the width of the door measured from the latch side.

1003.3.2.3 Security gates. Security gates may be installed provided they remain open when the premise is occupied by anyone other than security personnel.

1003.3.3.5.1 Stairway walking surface. The walking surface of treads and landings of a stairway shall not be sloped steeper than one unit vertical in 48 units horizontal (2-percent slope) in any direction. Stairway treads and landings shall have a solid surface. Finish floor surfaces shall be securely attached.

Exception: In Group F, H and S occupancies, other than areas of parking structures accessible to the public, openings in treads and landings platforms shall not be

prohibited provided a sphere with a diameter of 1.125 inches (29 mm) cannot pass through the opening.

1003.3.3.11 Handrails. Stairways shall have handrails on each side. Handrails shall be adequate in strength and attachment in accordance with Section 1607.7.

Exceptions:

1. Aisle stairs complying with Section 1008 provided with a center handrail need not have additional handrails.
2. Stairways within dwelling units, spiral stairways and aisle stairs serving seating only on one side are permitted to have a handrail on one side only.
3. Decks, patios, and walkways that have a single change in elevation where the landing depth on each side of the change of elevation is greater than what is required for a landing do not require handrails.
4. ~~In Group R-3 occupancies, a change in elevation consisting of a single riser at an entrance or egress door does not require handrails.~~ Stairways having less than four risers and serving one individual dwelling unit in Group R-2, R-3, or Group U occupancies need not have handrails.
5. ~~Changes in room elevations of only one riser within dwelling units in Group R-2 and R-3 occupancies do not require handrails.~~

1003.3.3.11.3 Handrail graspability. Handrails with a circular cross section shall have an outside diameter of at least 1.25 inches (32 mm) and not greater than 2 inches (51 mm) or shall provide equivalent graspability. If the handrail is not circular, it shall have a perimeter dimension of at least 4 inches (102 mm) and not greater than 6.25 inches (159 mm) with a maximum cross-section dimension of 2.25 inches (57 mm). Edges shall have a minimum radius of ~~0.125 inch (3.2 mm)~~ 0.01 inch (0.25 mm).

1003.3.4.3 Vertical Rise. The rise of any ramp run shall be 30 inches (762 mm) maximum.

1004.2.1 Exit or exit access doorways required. Two exits or exit access doorways from any space shall be provided where one of the following conditions exists:

1. The occupant load of the space exceeds the values in Table 1004.2.1.
2. The common path of egress travel exceeds the limitations of Section 1004.2.5.
3. Where required by Section 1007.

Exception: ~~Exit access doors required by Group I-2 occupancies shall comply with Section 1004.2.3.2 for Group I-2 occupancies.~~

1004.2.1.1 Three or more exits. Access to three or more exits shall be provided from a floor ~~area~~ or space where required by Section 1005.2.1.

1004.2.2.1 Two exit or exit access doorways. Where two exits or exit access doorways are required, from any portion of the exit access, the exit doors or exit access doorways shall be placed a distance apart equal to not less than one-half of the length of the maximum overall diagonal dimension of the building or area to be served measured in a straight line between exit doors or exit access doorways. Interlocking or scissor stairs shall be counted as one exit stairway.

Exceptions:

1. Where exits ~~enclosures are provided as a portion of the required exit and~~ are interconnected by a 1-hour fire-resistance-rated corridor conforming to the requirements of Section 1004.3.2, the required exit separation ~~shall~~ may be measured along a the shortest direct line of travel within the corridor. Exit enclosure walls shall not be less than 30 feet (9144 mm) apart at any point in a direct line of measurement.
2. Where a building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2, the separation distance of the exit doors or exit access doorways shall not be less than one-third of the length of the maximum overall diagonal dimension of the area served.

1004.2.3 Egress through intervening spaces. Egress from a room or space shall not pass through adjoining or intervening rooms or areas, except where such adjoining rooms or areas are accessory to the area served; are not a high-hazard occupancy; and provide a discernible path of egress travel to an exit. Egress shall not pass through kitchens, store rooms, closets or spaces used for similar purposes. An exit access shall not pass through a room that can be locked to prevent egress. Means of egress from dwelling units or sleeping areas shall not lead through other sleeping areas, toilet rooms or bathrooms.

Exceptions:

1. Means of egress are not prohibited through a kitchen area serving adjoining rooms constituting part of the same dwelling unit or ~~guestroom~~ sleeping unit.
2. Means of egress are not prohibited through adjoining or intervening rooms or spaces in a high-hazard occupancy ~~where such~~ when the adjoining or intervening rooms or spaces are the same occupancy group.

1004.2.3.1 Multiple tenants. Where more than one tenant occupies any one floor of a building or structure, each tenant space, dwelling unit, and ~~guestroom~~ sleeping unit shall be provided with access to the required exits without passing through adjacent tenant spaces, dwelling units and ~~guestrooms~~ sleeping units.

1004.3.2.1 Construction. Corridors shall be fire-resistance rated in accordance with Table 1004.3.2.1. The corridor walls required to be fire-resistance-rated shall comply with Section 708 for fire partitions.

Exceptions:

1. A fire-resistance rating is not required for corridors in an occupancy in Group E where each room that is used for instruction has at least one door directly to the exterior and rooms for assembly purposes have at least one-half of the required means of egress doors opening directly to the exterior. Exterior doors specified in this exception are required to be at ground level.

2. A fire-resistance rating is not required for corridors contained within a dwelling unit or a ~~guestroom~~ sleeping unit in an occupancy in Group R.
3. A fire-resistance rating is not required for corridors in open parking garages.
4. A fire-resistance rating is not required for corridors in an occupancy in Group B which is a space requiring only a single means of egress complying with Section 1004.2.1.
5. A fire-resistance rating is not required for corridors in one-story buildings housing Groups B, F, M and S occupancies.
6. A fire-resistance rating is not required for corridors 30 feet (9144 mm) or more in width.
7. In other than Type I or II construction, exterior exit balcony roof assemblies may be of heavy timber construction without concealed spaces.
8. In Groups B, F, M and S occupancies where exits are available from an open floor area.
9. In Groups B, F, M and S occupancies within a single tenant suite or space, corridors need not be separated.
10. In Groups B, F, M and S occupancies where one hour fire-resistive corridors are required, walls may terminate at a noncombustible ceiling.

**TABLE 1004.3.2.1
CORRIDOR FIRE-RESISTANCE RATING**

OCCUPANCY	OCCUPANT LOAD SERVED BY CORRIDOR	REQUIRED FIRE-RESISTANCE RATING (hours)	
		Without sprinkler system	With sprinkler system ^c
H-1, H-2, H-3	All	1	1
H-4, H-5	Greater than 30	1	1
A, B, E, F, M, S, U	Greater than 30	1	0
R	Greater than 10	1	1
I ^a , I-4	All	Not Permitted	0
I-1, I-3	All	Not Permitted	1 ^b

- a. For requirements for occupancies in Group I-2, see Section 407.3.
- b. For a reduction in the fire-resistance rating for occupancies in Group I-3, see Section 408.7.
- c. Buildings or fire areas equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

1004.3.2.3 Dead ends. Where more than one exit or exit access doorway is required, the exit access shall be arranged such that there are no dead ends in corridors more than 20 feet (6096 mm) in length.

Exceptions:

1. In occupancies in Group I-3 of Occupancy Conditions 2, 3 or 4 (See Section 308.4), the dead end in a corridor shall not exceed 50 feet (15 240 mm).
2. In occupancies in Groups B, and F, M, and S where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, the length of dead-end corridors shall not exceed 50 feet (15 240 mm).
3. A dead-end corridor shall not be limited in length where the length of the dead-end corridor is less than 2.5 times the least width of the dead-end corridor.

1004.3.2.4 Air movement in ~~corridors~~ elements. Exit access ~~C~~-corridors shall not serve as supply, return, exhaust, relief or ventilation air ducts or plenums.

Exceptions:

1. Use of a corridor as a source of makeup air for exhaust systems in rooms that open directly onto such corridors, including toilet rooms, bathrooms, dressing rooms, smoking lounges and janitor closets, shall be permitted provided that each such corridor is directly supplied with outdoor air at a rate greater than the rate of makeup air taken from the corridor.
2. Where located within a dwelling unit , the use of corridors for conveying return air shall not be prohibited. Use of the space between the corridor ceiling and the floor or roof structure above as a return air plenum is permitted for one or more of the following conditions:
 - ~~2.1.— The corridor is not required to be of fire resistance rated construction.~~
 - ~~2.2.— The corridor is separated from the plenum by fire resistance rated construction.~~
 - ~~2.3.— The air handling system serving the corridor is shut down upon activation of the air handling unit smoke detectors required by the *International Mechanical Code*.~~
 - ~~2.4.— The air handling system serving the corridor is shut down upon detection of sprinkler water flow where the building is equipped throughout with an automatic sprinkler system.~~
 - ~~2.5.— The space between the corridor ceiling and the floor or roof structure above the corridor is used as a component of an approved engineered smoke control system.~~
- ~~3.— Where located within a dwelling unit, the use of corridors as return air plenums shall not be prohibited.~~
43. Where located within tenant spaces of 1,000 square feet (93 m²) or less in area, utilization of corridors for conveying as return air plenums is permitted.

1004.3.2.4.1 Corridor ceiling. Use of the space between the corridor ceiling and the floor or roof structure above as a return air plenum is permitted under one or more of the following conditions:

1. The corridor is not required to be of fire resistance rated construction;
2. The corridor is separated from the plenum by fire resistance rated construction;
3. The air handling system serving the corridor is shut down upon activation of the air handling unit smoke detectors required by the *Mechanical Code*.
4. The air handling system serving the corridor is shut down upon detection of sprinkler waterflow where the building is equipped throughout with an automatic sprinkler system; or
5. The space between the corridor ceiling and the floor or roof structure above the corridor is used as a component of an approved engineered smoke control system.

1004.3.3 Egress balconies. Balconies used for egress purposes shall conform to the same requirements as corridors for width, headroom, dead ends and projections. ~~Exterior balconies shall be designed to minimize accumulation of snow or ice that impedes the means of egress.~~

~~**Exception:** Exterior balconies and concourses in outdoor stadiums shall be exempt from the design requirement to protect against the accumulation of snow or ice.~~

1004.3.3.1 Wall separation. Exterior egress balconies shall be separated from the interior of the building by walls and opening protectives as required for corridors.

~~**Exception:** Separation is not required where the exterior egress balcony is served by at least two stairs and a dead-end travel condition does not require travel past an unprotected opening to reach a stair.~~

1005.2.4 Exit door arrangement. Exit door arrangement shall meet the requirements of Sections 1004.2.2 through 1004.2.2.2.

1005.3.2 Vertical exit e-Enclosures. Interior exit stairways and exit ramps shall be enclosed with fire barriers. ~~Vertical exit e-Enclosures~~ four stories or more shall be 2-hour fire-resistance rated. ~~Vertical exit e-Enclosures~~ less than four stories shall be 1-hour fire-resistance rated. The number of stories shall be computed as all floor levels, including basements but excluding

mezzanines. An exit enclosure shall not be used for any purpose other than means of egress. ~~Vertical exit e-~~Enclosures shall be constructed as fire barriers in accordance with Section 706. ~~The enclosure requirements for interior exit ramps shall be the same as for interior exit stairways.~~

Exceptions:

1. ~~In other than Groups H and I occupancies, a stairway serving an occupant load of less than 10 not more than one story above the level of exit discharge is not required to be enclosed~~ an exit enclosure need not be provided for a stairway, ramp, or escalator serving only one adjacent floor. Any two such atmospherically interconnected floors shall not communicate with other floors.
2. Exits in buildings of Group A-5 where all portions of the means of egress are essentially open to the outside need not be enclosed.
3. Stairways serving and contained within a single residential dwelling unit in occupancies in Group R-2 or R-3 and ~~guestrooms or individual suites~~ sleeping units in occupancies in Group R-1 are not required to be enclosed.
4. Stairways that are not a required means of egress element are not required to be enclosed where such stairways comply with Section 707.2.
5. Stairways in open parking structures which serve only the parking structure are not required to be enclosed.
6. Stairways in occupancies in Group I-3 as provided for in Section 408.3.6 are not required to be enclosed.
7. Means of egress stairways as required by Section 410.5.4 are not required to be enclosed.
8. ~~In other than occupancy Groups H and I, a maximum of 50 percent of egress stairways serving one adjacent floor are not required to be enclosed, provided at least two means of egress are provided from both floors served by the unenclosed stairways. Any two such interconnected floors shall not be open to other floors.~~

1005.3.2.2 Enclosures under stairways. The walls and soffits within enclosed usable spaces under enclosed and unenclosed stairways shall be protected by 1-hour fire-resistance-

rated construction, or the fire-resistance rating of the stairway enclosure, whichever is greater. Access to the enclosed usable space shall not be directly from within the stair enclosure.

Exception: Spaces under stairways serving and contained within a single residential dwelling unit in Group R-2 or R-3 as applicable in Section 101.2.

There shall be no enclosed usable space under exterior exit stairways unless the space is completely enclosed in 1-hour fire-resistance-rated construction ~~for stairways serving less than four stories, and 2-hour fire-resistance-rated construction for stairways serving four or more stories.~~ The open space under exterior stairways shall not be used for any purpose.

1005.3.2.4 Stairway floor number signs. ~~A sign shall be provided at each floor landing in interior vertical exit enclosures connecting more than three stories designating the floor level, the terminus of the top and bottom of the stair enclosure, and the identification of the stair. The signage shall also state the story of, and the direction to the exit discharge and the availability of roof access from the stairway for the fire department. The sign shall be located 5 feet (1524 mm) above the floor landing in a position which is readily visible when the doors are in the open and closed positions.~~ **Stairway identification.** Stairway identification signs shall be located at each floor level in all enclosed stairways in buildings four or more stories in height. Such signs shall identify the stairway, indicate whether or not there is roof access, the floor level, and the upper and lower terminus of the stairway. The sign shall be located approximately 5 feet (1524 mm) above the landing floor in a position that is readily visible when the door is in either the open or closed position. Signs shall comply with requirements of the *Fire Code*, Appendix H. For stairway reentry requirements see Section 403.

In addition to the signs required above, approved stairway identification signs shall be located at each floor level on the occupancy side of each enclosed stairway. Identification

signs shall be posted on or adjacent to the door with lettering at least 2 inches in height on a background of contrasting color so that the lettering is clearly visible.

Where stair doors can be locked to prohibit reentry to a floor, an approved sign shall be posted that reads "NO REENTRY" with lettering not less than 1 inch in height on a background of contrasting color so that the lettering is clearly visible.

1005.3.2.5 Smokeproof enclosures. In buildings required to comply with Section 403 or 405, each of the exits of a building that serves stories where the floor surface is located more than 75 feet (22 860 mm) above ~~the lowest level of fire department vehicle access grade~~ or more than 30 feet (9144 mm) below the level of exit discharge serving such floor levels shall be a smokeproof enclosure or pressurized stairway in accordance with Section 909.20.

1005.3.6.1 Reserved. Use in a means of egress. ~~Exterior exit stairways shall not be used as an element of a required means of egress for occupancies in Group I-2. For occupancies in other than Group I-2, exterior exit stairways shall be permitted as an element of a required means of egress for buildings not exceeding six stories or 75 feet (22 860 mm) in height.~~

~~**1007.4 Cellulose nitrate film handling.** Where cellulose nitrate film is handled in film laboratories, projection rooms and film processing rooms, access to not less than two exits or exit access doors shall be provided. Doors to such rooms shall be protected by a fire assembly having a fire protection rating of not less than 1 hour and shall be maintained self-closing.~~

~~**1007.5**~~ **1007.4 Stage means of egress.** Where two means of egress are required, based on the stage size or occupant load, one means of egress shall be provided on each side of the stage.

~~**1007.5.1**~~ **1007.4.1 Gallery, gridiron and catwalk means of egress.** The means of egress from lighting and access catwalks, galleries and gridirons shall meet the requirements for occupancies in Group F-2.

Exceptions:

1. A minimum width of 22 inches (559 mm) is permitted for lighting and access catwalks.
2. Spiral stairs are permitted in the means of egress.
3. Stairways required by this subsection need not be enclosed.
4. Stairways with a minimum width of 22 inches (559 mm), ladders, or spiral stairs are permitted in the means of egress.
5. A second means of egress is not required from these areas where a means of escape to a floor or to a roof is provided. Ladders, alternating tread devices, or spiral stairs are permitted in the means of escape.
6. Ladders are permitted in the means of egress.

1008.1 Assembly main exit. Group A occupancies that have an occupant load of greater than 300 shall be provided with a main exit. The main exit shall be of sufficient width to accommodate not less than one-half of the occupant load, but such width shall not be less than the total required width of all means of egress leading to the exit. Where the building assembly area is classified as a Group A occupancy, the main exit shall front on at least one street or an unoccupied space of not less than 10 feet (3048 mm) in width that adjoins a street or public way.

Exception: In assembly occupancies where there is no well-defined main exit or where multiple main exits are provided, exits shall be permitted to be distributed around the perimeter of the building assembly area provided that the total width of egress is not less than 100 percent of the required width.

1008.2 Assembly other exits. In addition to having access to a main exit, each level of an occupancy in Group A having an occupant load of greater than 300 shall be provided with additional exits that shall provide an egress capacity for at least one-half of the total occupant load served by that level and comply with Section 1004.2.2.

Exception: In assembly occupancies where there is no well-defined main exit or where multiple main exits are provided, exits shall be permitted to be distributed around the perimeter of the

~~building assembly area~~ provided that the total width of egress is not less than 100 percent of the required width.

1008.7.1 Minimum aisles width. The minimum clear width of aisles shall be as follows:

1. Forty-eight inches (1219 mm) for aisle stairs having seating on each side.
Exception: Thirty-six inches (914 mm) where aisle does not serve more than 50 seats.
2. Thirty-six inches (914 mm) for aisle stairs having seating on only one side.
3. Twenty-three inches (584 mm) between an aisle stair handrail or guard and seating where the aisle is subdivided by handrail.
4. Forty-two inches (1067 mm) for level or ramped aisles having seating on both sides.

Exceptions:

1. Thirty-six inches (914 mm) where aisle does not serve more than 50 seats.
2. Thirty inches (762 mm) where aisle does not serve more than 14 seats.
5. Thirty-six inches (914 mm) for level or ramped aisles having seating on only one side.
Exception: Thirty inches (762 mm) where aisle does not serve more than 14 seats.
6. Twenty-three inches (584 mm) between an aisle stair handrail and seating where an aisle does not serve more than five rows on one side.

1008.8.2 Single access. For rows of seating served by an aisle or doorway at only one end of the row, the minimum clear width of 12 inches (305 mm) between rows shall be increased by 0.6 inch (15.2 mm) for every additional seat beyond seven seats, but the minimum clear width is not required to exceed 22 inches (559 mm). ~~The path of egress travel, however, shall not exceed 30 feet (9144 mm) from any seat to a point where a person has a choice of two paths of egress travel to two exits. Where one of the two paths of travel is across the aisle through a row of seats to another aisle, there shall not be more than 24 seats between the two aisles; and the minimum clear width between rows for the row between the two aisles shall be 12 inches (305 mm) plus 0.6 inch (15.2 mm) for each additional seat above seven in the row between aisles.~~

Exception: For smoke-protected assembly seating, the row length limits for a 12-inch-wide (305 mm) aisle accessway, beyond which the aisle accessway minimum clear width shall be increased, are in Table 1008.8.1.

1008.8.3 Common path of travel. The common path of travel shall not exceed 30 feet (9144 mm) from any seat to a point where a person has a choice of two paths of egress travel to two exits.

Exceptions:

1. For area serving not more than 50 occupants, the common path of travel shall not exceed 75 feet (22 860 mm).
2. For smoke-protected assembly seating, the common path of travel shall not exceed 50 feet (15 240 mm).

1008.8.3.1 Path through adjacent row. Where one of the two paths of travel is across the aisle through a row of seats to another aisle, there shall be no more than 24 seats between the two aisles, and the minimum clear width between rows for the row between the two aisles shall be 12 inches (305 mm) plus 0.6 inch (15.2 mm) for each additional seat in excess of seven in the row between aisles.

Exception: For smoke-protected assembly seating there shall not be more than 40 seats between the two aisles and the minimum clear width shall be 12 inches (305 mm) plus 0.3 inch (7.6 mm) for each additional seat.

1008.10 Reserved Seat stability. In places of assembly, the seats shall be securely fastened to the floor.

Exceptions:

- ~~1. In places of assembly or portions thereof without ramped or tiered floors for seating and with 200 or fewer seats, the seats shall not be required to be fastened to the floor.~~
- ~~2. In places of assembly or portions thereof with seating at tables and without ramped or tiered floors for seating, the seats shall not be required to be fastened to the floor.~~

- ~~3. In places of assembly or portions thereof without ramped or tiered floors for seating and with greater than 200 seats, the seats shall be fastened together in groups of not less than three or the seats shall be securely fastened to the floor.~~
- ~~4. In places of assembly where flexibility of the seating arrangement is an integral part of the design and function of the space and seating is on tiered levels, a maximum of 200 seats shall not be required to be fastened to the floor. Plans showing seating, tiers, and aisles shall be submitted for approval.~~
- ~~5. Groups of seats within a place of assembly separated from other seating by railings, guards, partial height walls or similar barriers with level floors and having no more than 14 seats per group shall not be required to be fastened to the floor.~~
- ~~6. Seats intended for musicians or other performers and separated by railings, guards, partial height walls, or similar barriers shall not be required to be fastened to the floor.~~

1009.1 General. In addition to the means of egress required by this chapter, provisions shall be made for emergency escape and rescue in Group R as applicable in Section 101.2 and Group I-1 occupancies. Basements and sleeping rooms below the fourth story shall have at least one exterior emergency escape and rescue opening in accordance with this section. Such opening shall open directly into a public street, public alley, yard or court.

Exceptions:

- ~~1. In other than Group R-3 occupancies as applicable in Section 101.2, b~~ Buildings equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.
- ~~2. In other than Group R-3 occupancies as applicable in Section 101.2, s~~ Sleeping rooms provided with a door to a fire-resistance-rated corridor having access to two remote exits in opposite directions.
3. The emergency escape and rescue opening is permitted to open onto a balcony within an atrium in accordance with the requirements of Section 404 provided the balcony provides access to an exit and the dwelling unit or sleeping room has a means of egress that is not open to the atrium.

4. Basements with a ceiling height of less than 80 inches (2032 mm) shall not be required to have emergency escape and rescue windows.

1009.2 Minimum size. Emergency escape and rescue openings shall have a minimum net clear opening of 5.7 square feet (0.53 m²).

Exception: The minimum net clear opening for emergency escape and rescue at grade floor openings shall be 5 square feet (0.46 m²).

CHAPTER 11

ACCESSIBILITY

SECTION 1101

GENERAL

1101.1 State law. Accessibility issues for certain publicly and privately owned buildings and facilities are governed by state law and regulations, including Article 9102 of the Texas Revised Civil Statutes and various regulations, standards and specifications issued thereunder.

1102.1 Responsibility of owners. It is the responsibility of the owner to ensure compliance with state and federal requirements. As provided by Section 5 of Article 9102, the applicant for a building permit for an affected building or facility shall provide evidence of registration with the Texas Department of Licensing and Regulation as a part of the building permit application.

1101.3 Jurisdiction is not an agent of the state. This jurisdiction has not contracted with the state and is not authorized to review plans, grant waivers or modifications, perform inspections, or take any other action with respect to compliance with state or federal accessibility requirements. No action taken by this jurisdiction or the building official shall be deemed as excusing compliance with state or federal requirements.

~~**1101.1 Scope.** The provisions of this chapter shall control the design and construction of facilities for accessibility to physically disabled persons.~~

~~**1101.2 Design.** Buildings and facilities shall be designed and constructed to be accessible in accordance with this code and ICC/ANSI A117.1.~~

SECTION 1102

DEFINITIONS

~~**1102.1 General.** The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.~~

~~**ACCESSIBLE.** A site, building, facility or portion thereof that complies with this chapter.~~

~~**ACCESSIBLE ROUTE.** A continuous, unobstructed path that complies with this chapter.~~

~~**CIRCULATION PATH.** An exterior or interior way of passage from one place to another for pedestrians.~~

~~**DETECTABLE WARNING.** A standardized surface feature built in or applied to walking surfaces or other elements to warn visually impaired persons of hazards on a circulation path.~~

~~**DWELLING UNIT, TYPE A.** A dwelling unit designed and constructed for accessibility in accordance with ICC/ANSI A117.1.~~

~~**DWELLING UNIT, TYPE B.** A dwelling unit designed and constructed for accessibility in accordance with ICC/ANSI A117.1, intended to be consistent with the technical requirements of fair housing required by federal law.~~

~~**DWELLING UNIT, GROUND FLOOR.** A dwelling unit with a primary entrance and habitable space at grade.~~

~~**DWELLING UNIT, MULTISTORY.** A dwelling unit with habitable or bathroom space located on more than one story.~~

~~**FACILITY.** The entire building or any portion of a building, structure or area, including the site on which such building, structure or area is located, wherein specific services are provided or activities are performed.~~

~~**PUBLIC ENTRANCE.** An entrance that is not a service entrance.~~

~~**PUBLIC USE AREAS.** Interior or exterior rooms or spaces that are made available to the general public.~~

~~**SELF-SERVICE STORAGE FACILITY.** Real property designed and used for the purpose of renting or leasing individual storage spaces to customers for the purpose of storing and removing personal property on a self-service basis.~~

~~**SERVICE ENTRANCE.** An entrance intended primarily for delivery of goods or services.~~

~~**SITE.** A parcel of land bounded by a property line or a designated portion of a public right-of-way.~~

~~**SLEEPING ACCOMMODATIONS.** Rooms in which people sleep, such as dormitory and hotel or motel guest rooms or suites.~~

~~**TECHNICALLY INFEASIBLE.** An alteration of a building or a facility that has little likelihood of being accomplished because the existing structural conditions require the removal or alteration of a load bearing member that is an essential part of the structural frame, or because other existing physical or site constraints prohibit modification or addition of elements, spaces or features that are in full and strict compliance with the minimum requirements for new construction and which are necessary to provide accessibility.~~

~~**WHEELCHAIR SPACE.** Space for a single wheelchair and its occupant.~~

~~**WHEELCHAIR SPACE CLUSTER.** Locations of two or more adjacent wheelchair spaces along with companion seating in assembly areas.~~

~~**SECTION 1103**~~

~~**SCOPING REQUIREMENTS**~~

~~**1103.1 Where required.** Buildings and structures, temporary or permanent, including their associated sites and facilities, shall be accessible to persons with physical disabilities.~~

~~**1103.2 General exceptions.** Sites, buildings, facilities and elements shall be exempt from this chapter to the extent specified in this section.~~

~~**1103.2.1 Specific requirements.** Accessibility is not required in buildings and facilities, or portions thereof, to the extent permitted by Sections 1104 through 1109.~~

~~**1103.2.2 Existing buildings.** Existing buildings shall comply with Section 3408.~~

~~**1103.2.3 Work areas.** Individual employee work stations are not required to be accessible but shall be located on an accessible route.~~

~~**1103.2.4 Detached dwellings.** Detached one and two family dwellings and accessory structures, and their associated sites and facilities as applicable in Section 101.2, are not required to be accessible.~~

~~**1103.2.5 Utility buildings.** Occupancies in Group U are exempt from the requirements of this chapter other than the following:~~

- ~~1. In agricultural buildings, access is required to paved work areas and areas open to the general public.~~
- ~~2. Private garages or carports that contain required accessible parking.~~

~~**1103.2.6 Construction sites.** Structures, sites and equipment directly associated with the actual processes of construction including, but not limited to, scaffolding, bridging, materials hoists, materials storage, or construction trailers are not required to be accessible.~~

~~**1103.2.7 Raised areas.** Raised areas used primarily for purposes of security, life safety, or fire safety including, but not limited to, observation galleries, prison guard towers, fire towers, or life guard stands are not required to be accessible or to be served by an accessible route.~~

~~**1103.2.8 Limited access spaces.** Nonoccupiable spaces accessed only by ladders, catwalks, crawl spaces, freight elevators, very narrow passageways, or tunnels are not required to be accessible.~~

~~**1103.2.9 Equipment spaces.** Spaces frequented only by personnel for maintenance, repair, or monitoring of equipment are not required to be accessible. Such spaces include, but are not limited to, elevator pits, elevator penthouses, mechanical, electrical, or communications equipment rooms, piping or equipment catwalks, water or sewage treatment pump rooms and stations, electric substations and transformer vaults, and highway and tunnel utility facilities.~~

~~**1103.2.10 Single occupant structures.** Single occupant structures accessed only by passageways below grade or elevated above grade including, but not limited to, tollbooths that are accessed only by underground tunnels, are not required to be accessible.~~

~~**1103.2.11 Residential Group R-1.** Buildings of Group R-1 containing not more than five rooms for rent or hire that are also occupied as the residence of the proprietor.~~

~~**1103.2.12 Fuel dispensing systems.** Fuel dispensing devices are not required to be accessible.~~

SECTION 1104

ACCESSIBLE ROUTE

~~**1104.1 Site arrival points.** Accessible routes within the site shall be provided from public transportation stops, accessible parking and accessible passenger loading zones, and public streets or sidewalks to the accessible building entrance served.~~

~~**1104.2 Within a site.** At least one accessible route shall connect accessible buildings, accessible facilities, accessible elements, and accessible spaces that are on the same site.~~

~~**Exception:** An accessible route is not required between accessible facilities that have, as the only means of access between them a vehicular way not providing for pedestrian access.~~

~~**1104.3 Connected spaces.** When a building, or portion of a building, is required to be accessible, an accessible route shall be provided to each portion of the building, to accessible building entrances, connecting accessible pedestrian walkways and the public way. Where only one accessible route is provided, the accessible route shall not pass through kitchens, storage rooms, restrooms, closets or similar spaces.~~

~~**Exception:** A single accessible route is permitted to pass through a kitchen or storage room in an accessible dwelling unit.~~

~~**1104.4 Multilevel buildings and facilities.** At least one accessible route shall connect each accessible level, including mezzanines, in multistory buildings and facilities.~~

~~**Exceptions:**~~

- ~~1. An accessible route is not required to floors above and below accessible levels that have an aggregate area of not more than 3,000 square feet (278.7 m²) unless the level contains offices of health care providers (Group B or Group I), passenger transportation facilities and airports (Group A-3 or Group B) or multiple tenant facilities of Group M.~~
- ~~2. In Groups A, I, R and S occupancies and care facilities in accordance with Section 1107.4, levels that do not contain accessible elements or other spaces required by Section 1107 are not required to be served by an accessible route from an accessible level.~~

~~1104.5 Location.~~ Accessible routes shall coincide with or be located in the same area as a general circulation path. Where the circulation path is interior, the accessible route shall also be interior.

~~Exception:~~ Accessible routes from parking garages contained within and serving Type B dwelling units are not required to be interior.

SECTION 1105 ACCESSIBLE ENTRANCES

~~1105.1 Required.~~ At least 50 percent but not less than one entrance to each building and structure, and each separate tenant space within the building or structure, shall comply with the accessible route provisions of this chapter.

Exceptions:

- ~~1.~~ Entrances to spaces not required to be accessible as provided for in Section 1107.
- ~~2.~~ Loading and service entrances that are not the only entrance to a building or to a tenant space.

~~1105.2 Multiple accessible entrances.~~ Where a building or facility has entrances that normally serve accessible parking facilities, transportation facilities, passenger loading zones, taxi stands, public streets and sidewalks, tunnels or elevated walkways, or accessible interior vertical access, then at least one of the entrances serving each such function shall comply with the accessible route provisions of this chapter.

SECTION 1106 PARKING AND PASSENGER LOADING FACILITIES

~~1106.1 Required.~~ Where parking is provided, accessible parking spaces shall be provided in compliance with Table 1106.1 except as required by Sections 1106.2 and 1106.3.

1106.2 Groups R-2 and R-3. Two percent of parking spaces provided for occupancies in Groups R-2 and R-3, which are required to have accessible dwelling units, shall be accessible. Where parking is provided within or beneath a building, accessible parking spaces shall also be provided within or beneath the building.

1106.3 Rehabilitation facilities and outpatient physical therapy facilities. Twenty percent of patient and visitor parking spaces provided at rehabilitation facilities and outpatient physical therapy facilities shall be accessible.

1106.4 Van spaces. For every eight or fraction of eight accessible parking spaces, at least one shall be a van-accessible parking space.

TOTAL PARKING SPACES PROVIDED	REQUIRED MINIMUM NUMBER OF ACCESSIBLE SPACES
1 TO 25	1
26 TO 50	2
51 TO 75	3
76 TO 100	4
101 TO 150	5
151 TO 200	6
201 TO 300	7
301 TO 400	8
401 TO 500	9
501 TO 1000	2% of total
More than 1000	20 plus one for each 100 over 1000

~~**1106.5 Location.** Accessible parking spaces shall be located on the shortest accessible route of travel from adjacent parking to an accessible building entrance. In parking facilities that do not serve a particular building, accessible parking spaces shall be located on the shortest route to an accessible pedestrian entrance to the parking facility. Where buildings have multiple accessible entrances with adjacent parking, accessible parking spaces shall be dispersed and located near the accessible entrances.~~

~~**Exception:** In multilevel parking structures, van accessible parking spaces are permitted on one level.~~

~~**1106.6 Passenger loading zones.** Passenger loading zones shall be designed and constructed in accordance with ICC/ANSI A117.1.~~

~~**1106.6.1 Medical facilities.** A passenger loading zone shall be provided at an accessible entrance to licensed medical and long-term care facilities where people receive physical or medical treatment or care and where the period of stay exceeds 24 hours.~~

~~**1106.6.2 Valet parking.** A passenger loading zone shall be provided at valet parking services.~~

SECTION 1107 SPECIAL OCCUPANCIES

~~**1107.1 General.** In addition to the other requirements of this chapter, the requirements of Sections 1107.2 through 1107.6.1 shall apply to specific occupancies.~~

~~**1107.2 Assembly area seating.** Assembly areas with fixed seating shall comply with Sections 1107.2.1 through 1107.2.4.1. Dining areas shall comply with Sections 1107.2.5 through 1107.2.5.2.~~

~~**1107.2.1 Services.** Services and facilities provided in areas not required to be accessible shall be provided on an accessible level and shall be accessible.~~

~~1107.2.2 Wheelchair spaces.~~ In theaters, bleachers, grandstands and other fixed seating assembly areas, accessible wheelchair spaces shall be provided in accordance with Table 1107.2.2. At least one seat for a companion shall be provided beside each wheelchair space.

**TABLE 1107.2.2
ACCESSIBLE WHEELCHAIR SPACES**

CAPACITY OF SEATING IN ACCESSIBLE AREAS	MINIMUM REQUIRED NUMBER OF WHEELCHAIR SPACES
4 to 25	1
26 to 50	2
51 to 100	4
101 to 300	5
301 to 500	6
Over 500	6, plus 1 additional space for each total seating capacity increase of 200

~~1107.2.2.1 Wheelchair space clusters.~~ Accessible wheelchair spaces shall be grouped in wheelchair space clusters in accordance with Table 1107.2.2.1.

Exception: In fixed seating assembly areas where sight lines require more than one step for a rise in elevation between rows, the minimum required number of wheelchair space clusters in that area shall be one half of that required by Table 1107.2.2.1.

~~1107.2.3 Dispersion of wheelchair space clusters.~~ Dispersion of wheelchair space clusters shall be based on the availability of accessible routes to various seating areas including seating at various levels in multilevel facilities.

~~1107.2.3.1 Multilevel assembly seating areas.~~ In multilevel assembly seating areas, wheelchair space clusters shall be provided on the main floor level and on one of each two additional floor or mezzanine levels.

Exceptions:

1. ~~multilevel assembly spaces utilized for worship services, where the second floor or mezzanine level contains 25 percent or less of the total seating capacity, wheelchair space clusters shall be permitted to all be located on the main level.~~
2. ~~In multilevel assembly seating where the second floor or mezzanine level provides 25 percent or less of the total seating capacity and 300 or fewer seats, wheelchair space clusters shall be permitted to all be located on the main level.~~

**TABLE 1107.2.2.1
WHEELCHAIR SPACE CLUSTERS**

CAPACITY OF SEATING IN ASSEMBLY AREAS	MINIMUM REQUIRED NUMBER OF WHEELCHAIR SPACE CLUSTERS
Up to 300	1
301 to 600	2
601 to 900	3
901 to 1500	4
1501 to 2100	5
2101 to 3000	6
Over 3000	6, plus 1 additional cluster for each 1000 seats or portion thereof.

107.2.3.2 Separation between clusters. ~~Wheelchair space clusters shall be separated by a minimum of five intervening rows or by a minimum of ten intervening seats. Wheelchair spaces within any one wheelchair space cluster shall not be separated by an intervening row, nor by more than two intervening seats, nor by more than a 7-inch (178 mm) vertical level change.~~

Exception: ~~A vertical level change exceeding 7 inches (178 mm) is permitted in a wheelchair space cluster where necessary to maintain sightlines.~~

1107.2.4 Assistive listening systems. ~~Stadiums, theaters, auditoriums, lecture halls and similar fixed seating assembly areas where audible communications are integral to the use of the space~~

shall have an assistive listening system if the area is equipped with an audio amplification system or the area has a capacity of 50 or more persons.

~~1107.2.4.1 Receivers.~~ Receivers shall be provided for assistive listening systems in accordance with Table 1107.2.4.1. Twenty five percent of receivers, but not less than two, shall be hearing aid compatible.

**TABLE 1107.2.4.1
RECEIVERS FOR ASSISTIVE LISTENING SYSTEMS**

CAPACITY OF SEATING IN ASSEMBLY AREAS	MINIMUM REQUIRED NUMBER OF RECEIVERS
Less than 50	2
50 to 500	2, plus 4 for each total seating capacity increase of 100 above 51
501 to 1000	20, plus 3 for each total seating capacity increase of 100 above 501
1001 to 2000	35, plus 2 for each total seating capacity increase of 100 above 1001
Over 2000	55, plus 1 each total seating capacity increase of 100 above 2000

~~107.2.5 Dining areas.~~ In dining areas, the total floor area allotted for seating and tables shall be accessible.

~~Exception:~~ In buildings without elevators, an accessible route to a mezzanine seating area is not required, provided that the mezzanine contains less than 25 percent of the total area and the same services are provided in the accessible area.

~~1107.2.5.1 Fixed or built-in seating or tables.~~ Where fixed or built-in seating or tables are provided in dining areas, at least 5 percent, but not less than one such seat or table, shall be accessible and be distributed throughout the facility.

1107.2.5.2 Dining counters. In establishments serving food or drink for consumption where the only seating is at counters exceeding 34 inches (864 mm) in height, a 60-inch (1524 mm) minimum length portion of the counter shall be accessible.

1107.3 Group I. Occupancies in Group I shall provide for accessible features in accordance with Sections 1107.3.1 through 1107.3.3.

1107.3.1 Group I-1. In occupancies in Group I-1, at least 4 percent, but not less than one, of the residential sleeping rooms and their bathing and toilet facilities shall be accessible.

1107.3.2 Group I-2. In nursing homes of Group I-2, at least 50 percent, but not less than one, of the patient sleeping rooms and their bathing and toilet facilities shall be accessible.

In general purpose hospitals, psychiatric facilities and detoxification facilities of Group I-2, at least 10 percent, but not less than one, of the patient sleeping rooms and their bathing and toilet facilities shall be accessible.

In hospitals and rehabilitation facilities of Group I-2 that specialize in treating conditions that affect mobility, or units within either that specialize in treating conditions that affect mobility, 100 percent of the patient rooms and their bathing and toilet facilities shall be accessible.

1107.3.3 Group I-3. In occupancies in Group I-3, at least 5 percent, but not less than one, of the resident units and their bathing and toilet facilities shall be accessible.

1107.4 Care facilities. Occupancies containing care facilities (Groups A-3, E, I-4, and R-3) shall be accessible as provided in this chapter.

Exception: Where a care facility is part of a dwelling unit, only the portion of the structure utilized for the care facility is required to be accessible.

~~**1107.5 Group R.** Occupancies in Group R shall be provided with accessible features in accordance with Sections 1107.5.1 through 1107.5.7.~~

~~**1107.5.1 Accessible sleeping accommodations.** In occupancies in Groups R-1 and R-2 with sleeping accommodations, accessible sleeping accommodations shall be provided in accordance with Table 1107.5.1. All facilities on a site shall be considered to determine the total number of sleeping accommodations. Roll-in showers provided in accessible sleeping accommodations shall include a permanently mounted folding shower seat.~~

~~**1107.5.2 Accessible spaces.** Rooms and spaces available for the use of the residents of accessible sleeping accommodations shall be accessible. Accessible spaces shall include toilet and bathing rooms, kitchen, living and dining areas, and any exterior spaces, including patios, terraces and balconies.~~

~~**1107.5.3 Dispersion.** Accessible sleeping accommodations shall be dispersed among the various classes of sleeping accommodations.~~

~~**1107.5.4 Accessible dwelling units.** In occupancies in Groups R-2 and R-3 as applicable in Section 101.2 where there are four or more dwelling units in a single structure, every dwelling unit shall be a Type B dwelling unit. In occupancies in Group R-2 containing more than 20 dwelling units, at least 2 percent, but not less than one, of the dwelling units shall be a Type A dwelling unit. Type A and Type B dwelling units shall comply with ICC/ANSI A117.1. Dwelling units required to be Type B dwelling units are permitted to be designed and constructed as Type A dwelling units.~~

~~**Exceptions:**~~

- ~~1. Where no elevator service is provided in a building, Type A and B dwelling units need not be provided on floors other than the ground floor. The number of Type A dwelling units shall be determined as required above.~~

- ~~2. Where no elevator service is provided in a building, and the ground floor does not contain dwelling units, only those dwelling units located on the lowest floor containing dwelling units need comply with the requirements of this section.~~
- ~~3. A multistory dwelling unit that is not provided with elevator service is not required to comply with requirements for Type B dwelling units. Where a multistory dwelling unit is provided with elevator service to only one floor, the floor provided with elevator service shall comply with the requirements for a Type B dwelling unit, and a toilet facility shall be provided on that floor.~~
- ~~4. The number of Type B dwelling units provided in multiple non-elevator buildings on a single site is allowed to be reduced to a percentage of the ground floor dwelling units that is equal to the percentage of the entire site having grades, prior to development, which are 10 percent or less; but in no case shall the number of Type B units be less than 20 percent of the ground floor dwelling units on the entire site.~~
- ~~5. The required number of Type A and Type B dwelling units shall not apply to a site where the lowest floor or the lowest structural building members is required to be at or above the base flood elevation resulting in:
 - ~~5.1. A difference in elevation between the minimum required floor elevation at the primary entrances and vehicular and pedestrian arrival points within 50 feet (15 240 mm) exceeding 30 inches (762 mm); or~~
 - ~~5.2. A slope exceeding 10 percent between the minimum required floor elevation at the primary entrances and vehicular and pedestrian arrival points within 50 feet (15 240 mm).~~~~

~~Where no such arrival points are within 50 feet (15 240 mm) of the primary entrances, the closest arrival point shall be used.~~

**TABLE 1107.5.1
ACCESSIBLE SLEEPING ACCOMMODATIONS**

TOTAL NUMBER OF SLEEPING ACCOMMODATIONS PROVIDED	MINIMUM REQUIRED NUMBER OF ACCESSIBLE SLEEPING ACCOMMODATIONS ASSOCIATED WITH ROLL-IN SHOWERS	TOTAL NUMBER OF REQUIRED ACCESSIBLE SLEEPING ACCOMMODATIONS
1 to 25	0	1
26 to 50	0	2
51 to 75	1	4
76 to 100	1	5
101 to 150	2	7
151 to 200	2	8
201 to 300	3	10
301 to 400	4	12
401 to 500	4	13
501 to 1000	1% of total	3% of total
Over 1000	10 plus 1 for each 100 Over 1,000	30 plus 2 for each 100 over 1,000

~~**1107.5.5 Accessible route.** In occupancies in Groups R-2 and R-3 as applicable in Section 101.2, at least one accessible route shall connect accessible building or facility entrances with the primary entrance of each accessible dwelling unit within the building or facility and with those exterior and interior spaces and facilities that serve the accessible dwelling unit.~~

Exceptions:

- ~~1. If the slope of the finished ground level between accessible facilities and buildings exceeds one unit vertical in 12 units horizontal (8 percent slope), or where physical barriers prevent the installation of an accessible route, a vehicular route with parking at each accessible facility or building is permitted in place of the accessible route.~~

2. ~~Exterior decks, patios, or balconies that are part of Type B dwelling units and have impervious surfaces, and that are not more than 4 inches (102 mm) below the finished floor level of the adjacent interior space of the dwelling unit.~~

~~**1107.5.6 Accessible spaces.** In occupancies in Groups R-2 and R-3, rooms and spaces available to the general public or available for use by residents, and serving accessible dwelling units shall be accessible.~~

~~**Exception:** Recreational facilities in accordance with Section 1108.14.~~

~~**1107.5.7 Group R-4.** In Group R-4, at least one of the sleeping rooms and associated toilet and bathing facilities shall be accessible.~~

~~**1107.6 Self-service storage facilities.** Self-service storage facilities shall provide accessible individual self-storage spaces in accordance with Table 1107.6.~~

**TABLE 1107.6
ACCESSIBLE SELF-SERVICE STORAGE FACILITIES**

TOTAL SPACES IN FACILITY	MINIMUM NUMBER OF REQUIRED ACCESSIBLE SPACES
1 to 200	5%, but not less than 1
Over 200	10, plus 2% of total number of units over 200

~~**1107.6.1 Dispersion.** Accessible individual self-service storage spaces shall be dispersed throughout the various classes of spaces provided. Where more classes of spaces are provided than the number of required accessible spaces, the number of accessible spaces shall not be required to exceed that required by Table 1107.6. Accessible spaces are permitted to be dispersed in a single building of a multibuilding facility.~~

**SECTION 1108
OTHER FEATURES AND FACILITIES**

1108.1 General. Accessible building features and facilities shall be provided in accordance with Sections 1108.2 through 1108.14.2.

Exception: Type A and Type B dwelling units shall comply with ICC/ANSI A117.1.

1108.2 Toilet and bathing facilities. Toilet rooms and bathing facilities shall be accessible. Where a floor level is not required to be connected by an accessible route, the only toilet rooms or bathing facilities provided within the facility shall not be located on the inaccessible floor. At least one of each type of fixture, element, control or dispenser in each accessible toilet room and bathing facility shall be accessible.

Exceptions:

1. In toilet rooms or bathing facilities accessed only through a private office, not for common or public use, and intended for use by a single occupant, any of the following alternatives are allowed:
 - 1.1. Doors are permitted to swing into the clear floor space provided the door swing can be reversed to meet the requirements in ICC/ANSI A117.1,
 - 1.2. The height requirements for the water closet in ICC/ANSI A117.1 are not applicable,
 - 1.3. Grab bars are not required to be installed in a toilet room, provided that the reinforcement has been installed in the walls and located so as to permit the installation of such grab bars,
 - 1.4. The requirement for height, knee and toe clearance shall not apply to a lavatory.
2. This section is not applicable to dwelling units, sleeping accommodations and patient toilet and bathing facilities that are not required to be accessible by Section 1107.
3. Where multiple single user toilet rooms or bathing facilities are clustered at a single location and contain fixtures in excess of the minimum required number of plumbing fixtures, at least 5 percent, but not less than one room for each use at each cluster, shall be accessible.

4. ~~Toilet room fixtures that are in excess of those required by the plumbing code and that are designated for use by children in day care and primary school occupancies.~~

~~**1108.2.1 Unisex toilet and bathing rooms.** In assembly and mercantile occupancies, an accessible unisex toilet room shall be provided where an aggregate of six or more male and female water closets are required. In buildings of mixed occupancy, only those water closets required for the assembly or mercantile occupancy shall be used to determine the unisex toilet room requirement. In recreational facilities where separate sex bathing rooms are provided, an accessible unisex bathing room shall be provided. Fixtures located within unisex toilet and bathing rooms shall be included in determining the number of fixtures provided in an occupancy.~~

~~**Exception:** Where each separate sex bathing room has only one shower or bathtub fixture, a unisex bathing room is not required.~~

~~**1108.2.1.1 Standard.** Unisex toilet and bathing rooms shall comply with this section and ICC/ANSI A117.1.~~

~~**1108.2.1.2 Unisex toilet rooms.** Unisex toilet rooms shall include only one water closet and only one lavatory. A unisex bathing room in accordance with Section 1108.2.1.3 shall be considered a unisex toilet room.~~

~~**Exception:** A separate sex toilet room containing not more than two water closets without urinals, or containing only one water closet and one urinal shall be considered a unisex toilet room.~~

~~**1108.2.1.3 Unisex bathing rooms.** Unisex bathing rooms shall include only one shower or bathtub fixture. Unisex bathing rooms shall also include one water closet and one lavatory. Where storage facilities are provided for separate sex bathing rooms, accessible storage facilities shall be provided for unisex bathing rooms.~~

~~**1108.2.1.4 Location.** Unisex toilet and bathing rooms shall be located on an accessible route. Unisex toilet rooms shall be located not more than one story above or below separate-sex toilet rooms. The accessible route from any separate-sex toilet room to a unisex toilet room shall not exceed 500 feet (152 m).~~

~~**1108.2.1.5 Prohibited location.** In passenger transportation facilities and airports, the accessible route from separate-sex toilet rooms to a unisex toilet room shall not pass through security checkpoints.~~

~~**1108.2.1.6 Clear floor space.** Where doors swing into a unisex toilet or bathing room, a clear floor space not less than 30 inches by 48 inches (762 mm by 1219 mm) shall be provided, within the room, beyond the area of the door swing.~~

~~**1108.2.1.7 Privacy.** Doors to unisex toilet and bathing rooms shall be securable from within the room.~~

~~**1108.2.2 Water closet compartment.** Where water closet compartments are provided in a toilet room or bathing facility, at least one wheelchair-accessible compartment shall be provided. Where the combined total water closet compartments and urinals provided in a toilet room or bathing facility is six or more, at least one ambulatory accessible water closet compartment shall be provided in addition to the wheelchair-accessible compartment. Wheelchair-accessible and ambulatory accessible compartments shall comply with ICC/ANSI A117.1.~~

~~**1108.3 Sinks.** Where sinks are provided, at least 5 percent, but not less than one, provided in accessible spaces shall comply with ICC/ANSI A117.1.~~

~~**Exceptions:**~~

- ~~1. Mop or service sinks are not required to be accessible.~~
- ~~2. Sinks designated for use by children in day care and primary school occupancies.~~

~~**1108.4 Kitchens, kitchenettes and wet bars.** Where kitchen, kitchenettes and wet bars are provided in accessible spaces or rooms, they shall be accessible in accordance with ICC/ANSI A117.1.~~

~~**1108.5 Drinking fountains.** On floors where drinking fountains are provided, at least 50 percent, but not less than one fountain, shall be accessible.~~

~~**1108.6 Elevators.** Passenger elevators on an accessible route shall be accessible and comply with Section 3001.3.~~

~~**1108.7 Lifts.** Platform (wheelchair) lifts shall not be a part of a required accessible route in new construction.~~

~~**Exceptions:** Platform (wheelchair) lifts are permitted for:~~

- ~~1. An accessible route to a performing area in occupancies in Group A.~~
- ~~2. An accessible route to wheelchair spaces required by Section 1107.2.2.~~
- ~~3. An accessible route to spaces that are not open to the general public with an occupant load of not more than five.~~
- ~~4. An accessible route within a dwelling unit.~~
- ~~5. An accessible route to wheelchair seating spaces located in outdoor dining terraces in A-5 occupancies where the means of egress from the dining terraces to a public way is open to the outdoors.~~

~~**1108.8 Storage.** Where fixed or built-in storage elements such as cabinets, shelves, medicine cabinets, closets, and drawers are provided in required accessible spaces, at least one of each type shall contain storage space complying with ICC/ANSI A117.1.~~

~~**1108.8.1 Lockers.** Where lockers are provided in accessible spaces, at least five percent, but not less than one, of each type shall be accessible.~~

~~**1108.8.2 Shelving and display units.** Self-service shelves and display units in mercantile occupancies and shelving in stack areas of libraries shall be located on an accessible route. Such shelving and display units shall not be required to comply with reach-range provisions.~~

~~**1108.8.3 Coat hooks and folding shelves.** Where coat hooks or folding shelves are provided in inaccessible toilet rooms, toilet compartments, or in dressing, fitting or locker rooms, at least one of each type shall be provided in accessible toilet rooms, toilet compartments, and dressing, fitting and locker rooms.~~

~~**1108.9 Detectable warnings.** Passenger transit platform edges bordering a drop-off and not protected by platform screens or guards shall have a detectable warning.~~

~~**Exception:** Detectable warnings are not required at bus stops.~~

~~**1108.10 Assembly area seating.** Assembly areas with fixed seating in every occupancy shall comply with Section 1107.2 for accessible seating and assistive listening devices.~~

~~**1108.11 Seating at tables, counters and work surfaces.** Where seating at fixed or built-in tables, counters or work surfaces is provided in accessible spaces, at least 5 percent of the seating, but not less than one, shall be accessible.~~

~~**1108.11.1 Dispersion.** Accessible fixed or built-in seating at tables, counters or work surfaces shall be distributed throughout the space or facility containing such elements.~~

~~**1108.12 Customer service facilities.** Customer service facilities shall provide for accessible features in accordance with Sections 1108.12.1 through 1108.12.5.~~

~~**1108.12.1 Dressing, fitting and locker rooms.** Where dressing rooms, fitting rooms, or locker rooms are provided, at least 5 percent, but not less than one, of each type of use in each cluster provided shall be accessible.~~

~~**1108.12.2 Check-out aisles.** Where check-out aisles are provided, accessible check-out aisles shall be provided in accordance with Table 1108.12.2. Where check-out aisles serve different functions, at least one accessible check-out aisle shall be provided for each function. Where check-out aisles are dispersed throughout the building or facility, accessible check-out aisles shall also be dispersed. Traffic control devices, security devices and turnstiles located in accessible check-out aisles or lanes shall be accessible.~~

~~**Exception:** Where the area of the selling space is less than 5,000 square feet (465 m²), only one check-out aisle is required to be accessible.~~

**TABLE 1108.12.2
ACCESSIBLE CHECK-OUT AISLES**

TOTAL CHECK-OUT AISLES OF EACH FUNCTION	MINIMUM NUMBER OF ACCESSIBLE CHECK-OUT AISLES EACH FUNCTION
1 to 4	1
5 to 8	2
9 to 15	3
Over 15	3, plus 20% of additional aisles

~~**1108.12.3 Point of sales and service counters.** Where counters are provided for sales or distribution of goods or services, at least one of each type provided shall be accessible. Where such counters are dispersed throughout the building or facility, the accessible counters shall also be dispersed.~~

~~**1108.12.4 Food service lines.** Food service lines shall be accessible. Where self-service shelves are provided, at least 50 percent, but not less than one, of each type provided shall be accessible.~~

~~**1108.12.5 Queue and waiting lines.** Queue and waiting lines servicing accessible counters or check-out aisles shall be accessible.~~

~~**1108.13 Controls, operating mechanisms and hardware.** Controls, operating mechanisms and hardware intended for operation by the occupant, including switches that control lighting and ventilation, and electrical convenience outlets, in accessible spaces, along accessible routes or as parts of accessible elements shall be accessible.~~

~~**1108.13.1 Operable windows.** Where operable windows are provided in rooms that are required to be accessible in accordance with Sections 1107.3.1, 1107.3.2 and 1107.5.1, at least one window in each room shall be accessible and each required operable window shall be accessible.~~

~~**Exception:** Accessible windows are not required in bathrooms or kitchens.~~

~~**1108.14 Recreational facilities.** Recreational facilities shall be provided with accessible features in accordance with Sections 1108.14.1 and 1108.14.2.~~

~~**1108.14.1 Groups R-2 and R-3.** Where recreational facilities are provided serving accessible dwelling units in occupancies in Groups R-2 and R-3 as applicable in Section 101.2, 25 percent, but not less than one of each type in each occupancy group of such facilities, shall be accessible. Every recreational facility of each type on a site shall be considered to determine the total number of each type that are required to be accessible.~~

~~**1108.14.2 Other occupancies.** Where recreational facilities are provided in other occupancies, each facility shall be accessible.~~

SECTION 1109

SIGNAGE

~~**1109.1 Signs.** Required accessible elements shall be identified by the International Symbol of Accessibility at the following locations:~~

- ~~1. Accessible parking spaces required by Section 1106.1 except where the total number of parking spaces provided is five or less.~~

- ~~2. Accessible passenger loading zones.~~
- ~~3. Accessible areas of refuge required by Section 1103.2.13.5.~~
- ~~4. Accessible rooms where multiple single-user toilet or bathing rooms are clustered at a single location.~~
- ~~5. Accessible entrances where not all entrances are accessible.~~
- ~~6. Accessible check-out aisles where not all aisles are accessible. The sign, where provided, shall be above the check-out aisle in the same location as the checkout aisle number or type of check-out identification.~~
- ~~7. Unisex toilet and bathing rooms.~~
- ~~8. Accessible dressing, fitting, and locker rooms where not all such rooms are accessible.~~

~~**1109.2 Directional signage.** Directional signage indicating the route to the nearest like accessible element shall be provided at the following locations. These directional signs shall include the International Symbol of Accessibility:~~

- ~~1. Inaccessible building entrances.~~
- ~~2. Inaccessible public toilets and bathing facilities.~~
- ~~3. Elevators not serving an accessible route.~~
- ~~4. At each separate-sex toilet and bathing room indicating the location of the nearest unisex toilet or bathing room where provided in accordance with Section 1108.2.1.~~

~~**1109.3 Other signs.** Signage indicating special accessibility provisions shall be provided as follows:~~

- ~~1. In assembly areas required to comply with Section 1107.2.4, a sign notifying the general public of the availability of assistive listening systems shall be provided at ticket offices or similar locations.~~
- ~~2. Each door to an exit stairway shall have a tactile sign, including raised letters and Braille, stating: EXIT.~~
- ~~3. At exits and elevators serving a required accessible space, but not providing an approved accessible means of egress, signs shall be installed indicating the location of accessible means of egress.~~

CHAPTER 12

INTERIOR ENVIRONMENT

1203.1 Equipment and systems. Interior spaces ~~intended for human occupancy of Groups R and I~~ shall be provided with space-heating systems capable of maintaining a minimum indoor temperature of 68°F (20°C) at a point 3 feet (914 mm) above the floor on the design heating day.

~~**Exception:** Interior spaces where the primary purpose is not associated with human comfort.~~

1202.3.2 Exceptions. The following are exceptions to Sections 1202.3 and 1202.3.1:

1. Where warranted by climatic conditions, ventilation openings to the outdoors are not required if ventilation openings to the interior are provided.
2. The total area of ventilation openings is permitted to be reduced to 1/1,500 of the under-floor area where the ground surface is treated with an approved vapor retarder material and the required openings are placed so as to provide cross-ventilation of the space. The installation of operable louvers shall not be prohibited.
3. Ventilation openings are not required where continuously operated mechanical ventilation is provided (1.02 L/s for each 10 m²) of crawl space floor area and the ground surface is covered with an approved vapor retarder.
4. Ventilation openings are not required when the ground surface is covered with an approved vapor retarder, the perimeter walls are insulated and the space is conditioned in accordance with the *International Energy Conservation Code*.
5. ~~For buildings in flood hazard areas as established in Section 1612.3, the opening requirements of ASCE 24 are authorized to be satisfied by ventilation openings that are designed and installed in accordance with ASCE 24.~~

~~**1202.4.2 Reserved. Contaminants exhausted.** Contaminant sources in naturally ventilated spaces shall be removed in accordance with the *International Mechanical Code* and the *International Fire Code*.~~

~~**1202.4.2.1 Bathrooms.** Rooms containing bathtubs, showers, spas and similar bathing fixtures shall be mechanically ventilated in accordance with the *International Mechanical Code*.~~

SECTION 1206
RESERVED
SOUND TRANSMISSION

~~**1206.1 Scope.** This section shall apply to common interior walls, partitions and floor/ceiling assemblies between adjacent dwelling units or between dwelling units and adjacent public areas such as halls, corridors, stairs or service areas.~~

~~**1206.2 Air-borne sound.** Walls, partitions and floor/ceiling assemblies separating dwelling units from each other or from public or service areas shall have a sound transmission class (STC) of not less than 50 (45 if field tested) for air-borne noise when tested in accordance with ASTM E 90. This requirement shall not apply to dwelling unit entrance doors; however, such doors shall be tight fitting to the frame and sill.~~

~~**1206.3 Structure-borne sound.** Floor/ceiling assemblies between dwelling units or between a dwelling unit and a public or service area within the structure shall have an impact insulation class (IIC) rating of not less than 50 (45 if field tested) when tested in accordance with ASTM E 492.~~

~~**1207.2 Minimum ceiling heights.** Occupiable spaces, Habitable spaces and corridors shall have a ceiling height of not less than 7 feet 6 inches (2286 mm). Bathrooms, toilet rooms, kitchens, storage rooms and laundry rooms shall be permitted to have a ceiling height of not less than 7 feet (2134 mm).~~

Exceptions:

1. In one- and two-family dwellings, beams or girders spaced not less than 4 feet (1219 mm) on center and projecting not more than 6 inches (152 mm) below the required ceiling height.
2. Basement rooms in one- and two-family dwellings having a ceiling height of not less than 6 feet 8 inches (2033 mm) with not less than 6 feet 4 inches (1932 mm) of clear height under beams, girders, ducts and similar obstructions.
3. If any room in a building has a sloping ceiling, the prescribed ceiling height for the room is required in one-half the area thereof. Any portion of the room measuring less than 5 feet (1524 mm) from the finished floor to the finished ceiling shall not be included in any computation of the minimum area thereof.
4. Mezzanines constructed in accordance with Section 505.1.

1209.2 Walls. Walls within 2 feet (610 mm) of urinals and water closets shall have a smooth, hard, nonabsorbent surface, to a height of 4 feet (1219 mm) above the floor, and except for structural elements, the materials used in such walls shall be of a type that is not adversely affected by moisture.

Exceptions:

1. Dwelling units and ~~guestrooms~~ sleeping units.
2. Toilet rooms that are not accessible to the public and which have not more than one water closet.

Accessories such as grab bars, towel bars, paper dispensers and soap dishes, provided on or within walls, shall be installed and sealed to protect structural elements from moisture.

CHAPTER 14

EXTERIOR WALLS

~~**1403.6 Flood resistance.** For buildings in flood hazard areas as established in Section 1612.3, exterior walls extending below the design flood elevation shall be resistant to water damage. Wood shall be pressure preservative treated in accordance with AWPA C1, C2, C3, C4, C9, C15, C18, C22, C24, C28, P1 and P2, or decay resistant heartwood of redwood, black locust or cedar.~~

~~**1406.2.1.1 Fire separation 5 feet or less.** Where installed on exterior walls having a fire separation distance of 5 feet (1524 mm) or less, combustible exterior wall coverings shall not exhibit sustained flaming as defined in NFPA 268.~~

~~**1406.2.1.2 Fire separation greater than 5 feet.** For fire separation distances greater than 5 feet (1524 mm), an assembly shall be permitted that has been exposed to a reduced level of incident radiant heat flux in accordance with the NFPA 268 test method without exhibiting sustained flaming. The minimum fire separation distance required for the assembly shall be determined from Table 1406.2.1.2 based on the maximum tolerable level of incident radiant heat flux that does not cause sustained flaming of the assembly.~~

**TABLE 1406.2.1.2
MINIMUM FIRE SEPARATION FOR COMBUSTIBLE VENEERS**

FIRE SEPARATION DISTANCE (foot)	TOLERABLE LEVEL INCIDENT RADIANT HEAT ENERGY (kW/m²)	FIRE SEPARATION DISTANCE (foot)	TOLERABLE LEVEL INCIDENT RADIANT HEAT ENERGY (kW/m²)
5	12.5	16	5.9
6	11.8	17	5.5
7	11.0	18	5.2
8	10.3	19	4.9
9	9.6	20	4.6
10	8.9	21	4.4
11	8.3	22	4.1
12	7.7	23	3.9
13	7.2	24	3.7
14	6.7	25	3.5
15	6.3		

For SI: 1 foot = 304.8 mm, 1 Btu/H²•°F = .0057 kW/m²•K

1407.9.4 Full-scale tests. The ACM exterior wall assembly shall be tested in accordance with, and comply with the acceptance criteria of NFPA 285. Results of full-scale fire tests, which reflect an end-use configuration and demonstrate that the ACM system in its final form does not propagate flame over the surface or through the core when exposed on the exterior face to a fire source, shall be submitted to the code official for approval. Such testing shall be performed on the ACM system with the ACM in the maximum thickness intended for use, up to the 1/4 inch thickness limit.

CHAPTER 15

ROOF ASSEMBLIES AND ROOFTOP STRUCTURES

SECTION 1502 DEFINITIONS

CORROSION RESISTANT. Any nonferrous metal or any metal having an unbroken surfacing of nonferrous metal, or steel with not less than 10 percent chromium or with not less than 0.20 percent copper.

TABLE 1505.1^{a,b}
MINIMUM ROOF COVERING CLASSIFICATION
FOR TYPES OF CONSTRUCTION

IA	IB	IIA	IIB	IIIA	IIIB	IV	VA	VB
B	B	B	C ^e	B	C ^e	B	B	C ^e

For SI: 1 foot = 304.8 mm, 1 square foot = 0.0929 m².

- a. ~~Unless otherwise required in accordance with the *Urban Wildland Interface Code* or due to the location of the building within a fire district in accordance with Appendix D.~~
- b. ~~Nonclassified roof coverings shall be permitted on buildings of Group R-3 as applicable in Section 101.2 and U occupancies, where there is a minimum fire separation distance of 6 feet measured from the leading edge of the roof.~~
- c. ~~Buildings that are not more than two stories in height and having not more than 6,000 square feet of projected roof area and where there is a minimum 10-foot fire separation distance from the leading edge of the roof to a lot line on all sides of the building, except for street fronts or public ways, shall be permitted to have roofs of No. 1 cedar or redwood shakes and No. 1 shingles constructed in accordance with Section 1505.6.~~

1509.2.1 Type of construction. Penthouses shall be constructed with walls, floors, and roof as required for the building.

Exceptions:

1. On buildings of Types I and Type II construction, the exterior walls and roofs of penthouses with a fire separation distance of that are more than 5 feet (1524 mm) or more but and less than 20 feet (6096 mm) from a common property line shall be of at least 1-hour fire-resistance-rated noncombustible construction. Walls and roofs ~~that~~

~~are over~~ with a fire separation distance of 20 feet (6096 mm) ~~or more from a common property line~~ shall be of noncombustible construction. Interior framing and walls shall be of noncombustible construction.

2. On buildings of Types III, and IV, ~~and V~~ construction, the exterior walls of penthouses with a fire separation distance of ~~that are more than~~ 5 feet (1524 mm) or more but and less than 20 feet (6096 mm) ~~from a common property line~~ shall be at least 1-hour fire-resistance-rated construction. Walls ~~that are with~~ a fire separation distance of over 20 feet (6096 mm) or more from a common property line shall be of Type IV construction or noncombustible construction. Roofs shall be constructed of materials and fire-resistance rated as required in Table 601. Interior framing and walls shall be Type IV construction or noncombustible construction.
3. Unprotected noncombustible enclosures housing only mechanical equipment and located ~~at least~~ with a fire separation distance of 20 feet (6096 mm) or more from adjacent property lines shall be permitted.
4. On one-story buildings, combustible unroofed mechanical equipment screens, fences or similar enclosures are permitted where located with a fire separation distance of at least 20 feet (6096 mm) or more from adjacent property lines and where not exceeding 4 feet (1219 mm) in height above the roof surface.
5. Dormers shall be of the same type of construction as the roof on which they are placed, or of the exterior walls of the building.

1510.7 Preroofing inspection. The roofing contractor is responsible for describing in writing the condition of the roof and its substrate and structure at the time of applying for the permit.

1510.7.1 Final inspection. A final inspection and approval shall be obtained from the building official when the reroofing is complete.

CHAPTER 16

STRUCTURAL DESIGN

~~**1603.1.6 Flood load.** For buildings located in flood hazard areas as established in Section 1612.3, the following information, referenced to the datum on the community's flood insurance rate map (FIRM), shall be shown, regardless of whether flood loads govern the design of the building:~~

- ~~1. In flood hazard areas not subject to high-velocity wave action, the elevation of proposed lowest floor, including basement.~~
- ~~2. In flood hazard areas not subject to high-velocity wave action, the elevation to which any nonresidential building will be dry floodproofed.~~
- ~~3. In flood hazard areas subject to high-velocity wave action, the proposed elevation of the lowest horizontal structural member of the lowest floor, including basement.~~

1609.1.4 Protection of openings. In wind-borne debris regions, glazing that receives positive external pressure in the lower 60 feet (18 288 mm) in buildings shall be assumed to be openings unless such glazing is impact resistant or protected with an impact-resistant covering meeting the requirements of an approved impact-resisting standard or ASTM E 1996 and of ASTM E 1886 referenced therein as follows:

1. Glazed openings located within 30 feet (9144 mm) of grade shall meet the requirements of the Large Missile Test of ASTM E 1996.
2. Glazed openings located more than 30 feet (9144 mm) above grade shall meet the provisions of the Small Missile Test of ASTM E 1996.

Exceptions:

1. Wood structural panels with a minimum thickness of $\frac{7}{16}$ inch (11.1 mm) and maximum panel span of 8 feet (2438 mm) are permitted for opening protection in one- and two-story buildings. Panels shall be precut to cover the glazed openings with attachment hardware provided. Attachments shall be designed to resist the

components and cladding loads determined in accordance with the provisions of Section 1609.6.5. Attachment in accordance with Table 1609.1.4 is permitted for buildings with a mean roof height of 33 feet (10 058 mm) or less where wind speeds (3-second gust) do not exceed 130 miles per hour.

2. Buildings in Category IV as defined in Table 1604.5, including production greenhouses as defined in Section 1608.3.3.

1609.3 Basic wind speed. The basic wind speed, in miles per hour, for the determination of the wind loads shall be 110 (3 second gust), determined by Figure 1609 or by ASCE 7 Figure 6-1 when using the provisions of ASCE 7. Basic wind speed for the special wind regions indicated, near mountainous terrain, and near gorges, shall be in accordance with local jurisdiction requirements. Basic wind speeds determined by the local jurisdiction shall be in accordance with Section 6.5.4 of ASCE 7.

SECTION 1612

RESERVED FLOOD LOADS

1612.1 General. ~~Within flood hazard areas as established in Section 1612.3, all new construction of buildings, structures and portions of buildings and structures, including substantial improvements and restoration of substantial damage to buildings and structures, shall be designed and constructed to resist the effects of flood hazards and flood loads.~~

1612.2 Definitions. ~~The following words and terms shall, for the purposes of this section, have the meanings shown herein.~~

BASEMENT. ~~The portion of a building having its floor sub-grade (below ground level) on all sides.~~

~~**BASE FLOOD.** The flood having a 1 percent chance of being equaled or exceeded in any given year.~~

~~**BASE FLOOD ELEVATION.** The elevation of the base flood, including wave height, relative to the National Geodetic Vertical Datum (NGVD), North American Vertical Datum (NAVD) or other datum specified on the flood insurance rate map (FIRM).~~

~~**DESIGN FLOOD.** The flood associated with the greater of the following two areas:~~

- ~~1. Area with a floodplain subject to a 1 percent or greater chance of flooding in any year; or~~
- ~~2. Area designated as a flood hazard area on a community's flood hazard map, or otherwise legally designated.~~

~~**DESIGN FLOOD ELEVATION.** The elevation of the design flood, including wave height, relative to the datum specified on the community's legally designated flood hazard map.~~

~~**DRY FLOODPROOFING.** A combination of design modifications that result in a building or structure, including the attendant utility and sanitary facilities, being watertight with walls substantially impermeable to the passage of water and with structural components having the capacity to resist loads as identified in ASCE 7.~~

~~**EXISTING CONSTRUCTION.** Any buildings and structures for which the start of construction commenced before the effective date of the community's first floodplain management code, ordinance or standard. Existing construction may also be referred to as existing structures.~~

~~**EXISTING STRUCTURES.** See Existing construction.~~

~~**FLOOD or FLOODING.** A general and temporary condition of partial or complete inundation of normally dry land from:~~

- ~~1. The overflow of inland or tidal waters.~~

~~2. The unusual and rapid accumulation or runoff of surface waters from any source.~~

~~**FLOOD DAMAGE RESISTANT MATERIALS.** Any construction material capable of withstanding direct and prolonged contact with floodwaters without sustaining any damage that requires more than cosmetic repair.~~

~~**FLOOD HAZARD AREA.** The greater of the following two areas:~~

- ~~1. The area within a floodplain subject to a 1 percent or greater chance of flooding in any year.~~
- ~~2. The area designated as a flood hazard area on a community's flood hazard map, or otherwise legally designated.~~

~~**FLOOD HAZARD AREA SUBJECT TO HIGH VELOCITY WAVE ACTION.** Area within the flood hazard area that is subject to high velocity wave action, and shown on a Flood Insurance Rate Map or other flood hazard map as Zone V, VO, or V1-30.~~

~~**FLOOD INSURANCE RATE MAP (FIRM).** An official map of a community on which the Federal Emergency Management Agency has delineated both the special flood hazard areas and the risk premium zones applicable to the community.~~

~~**FLOOD INSURANCE STUDY.** The official report provided by the Federal Emergency Management Agency containing the Flood Insurance Rate Map, the Flood Boundary and Floodway Map (FBFM), the water surface elevation of the base flood and supporting technical data.~~

~~**FLOODWAY.** The channel of the river, creek, or other water course and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height.~~

~~**LOWEST FLOOR.** The floor of the lowest enclosed area, including basement, but excluding any unfinished or flood resistant enclosure, usable solely for vehicle parking, building access, or limited~~

storage provided that such enclosure is not built so as to render the structure in violation of this section.

SPECIAL FLOOD HAZARD AREA. The land area subject to flood hazards and shown on a Flood Insurance Rate Map or other flood hazard map as Zone A, AE, A1-30, A99, ARE, AO, AH, V, VO, VE, or V1-30.

START OF CONSTRUCTION. The date of permit issuance for new construction and substantial improvements to existing structures, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement, or other improvement is within 180 days after the date of issuance. The actual start of construction means the first placement of permanent construction of a building (including a manufactured home) on a site, such as the pouring of a slab or footings, installation of pilings or construction of columns. Permanent construction does not include land preparation (such as clearing, excavation, grading, or filling), or the installation of streets or walkways, or excavation for a basement, footings, piers or foundations, or the erection of temporary forms, or the installation of accessory buildings such as garages or sheds not occupied as dwelling units or not part of the main building. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

SUBSTANTIAL DAMAGE. Damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

SUBSTANTIAL IMPROVEMENT. Any repair, reconstruction, rehabilitation, addition, or improvement of a building or structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the improvement or repair is started. If the structure has sustained substantial damage, any repairs are considered substantial improvement regardless of the actual repair work performed. The term does not, however, include either:

- ~~1. Any project for improvement of a building required to correct existing health, sanitary or safety code violations identified by the building official and that are the minimum necessary to assure safe living conditions.~~
- ~~2. Any alteration of a historic structure provided that the alteration will not preclude the structure's continued designation as a historic structure~~

~~**1612.3 Establishment of flood hazard areas.** To establish flood hazard areas, the governing body shall adopt a flood hazard map and supporting data. The flood hazard map shall include, at a minimum, areas of special flood hazard as identified by the Federal Emergency Management Agency in an engineering report entitled "The Flood Insurance Study for [INSERT NAME OF JURISDICTION]," dated [INSERT DATE OF ISSUANCE], as amended or revised with the accompanying Flood Insurance Rate Map (FIRM) and Flood Boundary and Floodway Map (FBFM) and related supporting data along with any revisions thereto. The adopted flood hazard map and supporting data are hereby adopted by reference and declared to be part of this section.~~

~~**1612.4 Design and construction.** The design and construction buildings and structures located in flood hazard areas, including flood hazard areas subject to high velocity wave action, all be designed and constructed in accordance with ASCE 24.~~

~~**1612.5 Flood hazard certificates.** The following certifications shall be submitted to the building official:~~

- ~~1. For construction in flood hazard areas not subject to high velocity wave action:
 - ~~1.1. As part of the lowest floor elevation inspection required in Section 106.3.3, certification of the elevation of the lowest floor, including basement.~~
 - ~~1.2. For fully enclosed areas below the design flood elevation where provisions to allow for the automatic entry and exit of floodwaters do not meet the minimum requirements in Section 2.6.1.1, ASCE 24, certification by a registered design professional that the design will provide for equalization of hydrostatic flood forces in accordance with Section 2.6.1.2, ASCE 24.~~~~

- ~~1.3.—For dry floodproofed nonresidential buildings, certification by a registered design professional that the dry floodproofing is designed in accordance with ASCE 24.~~
- ~~2.—For construction in flood hazard areas subject to high velocity wave action:~~
- ~~2.1.—As part of the lowest floor elevation inspection required in Section 106.3.3, a certification of the elevation of the lowest horizontal structural member.~~
- ~~2.2.—A certificate prepared by a registered design professional that the building is designed in accordance with ASCE 24, including that the pile or column foundation and building or structure to be attached thereto is designed to be anchored to resist flotation, collapse and lateral movement due to the effects of wind and flood loads acting simultaneously on all building components, and other load requirements of Chapter 16.~~
- ~~2.3.—For breakaway walls designed to resist a nominal load of less than 10 pounds per square foot (0.48 kN/m²) or more than 20 pounds per square foot (0.96 kN/m²), a certificate prepared by a registered design professional that the breakaway wall is designed in accordance with ASCE 24.~~

1616.3 Determination of seismic design category. All structures shall be assigned to a seismic design category based on their seismic use group and the design spectral response acceleration coefficients, S_{DS} and S_{DI} , determined in accordance with Section 1615.1.3 or 1615.2.5. Each building and structure shall be assigned to the most severe seismic design category in accordance with Table 1616.3(1) or 1616.3(2), irrespective of the fundamental period of vibration of the structure, T . All structures in this jurisdiction shall be assigned to Seismic Design Category A.

1616.4 Design requirements for Seismic Design Category A. Structures assigned to Seismic Design Category A need only comply with the requirements of Sections 1616.4.1 through 1616.4.4. This jurisdiction is classified as Seismic Design Category A.

CHAPTER 17

STRUCTURAL TESTS AND SPECIAL INSPECTIONS

1704.1 General. Where application is made for construction as described in this section, the owner or the registered design professional in responsible charge acting as the owner's agent shall employ one or more special inspectors to provide inspections during construction on the types of work listed under Section 1704. The special inspector shall be an approved agency or the design professional of record (architect or engineer or his/her authorized representative) who is qualified to inspect the particular type of construction requiring special inspection. ~~a qualified person who shall demonstrate competence, to the satisfaction of the building official, for inspection of the particular type of construction or operation requiring special inspection. These inspections are in addition to the inspections specified in Section 109.~~

Exceptions:

1. Special inspections are not required for work of a minor nature or as warranted by conditions in the jurisdiction as approved by the building official.
2. Special inspections are not required for building components unless the design involves the practice of professional engineering or architecture as defined by applicable state statutes and regulations governing the professional registration and certification of engineers or architects.
3. Unless otherwise required by the building official, special inspections are not required for occupancies in Group R-3 as applicable in Section 101.2 and occupancies in Group U that are accessory to a residential occupancy including, but not limited to, those listed in Section 312.1.

1704.1.2 Report requirement. ~~Special inspectors shall keep records of inspections. The special inspector shall furnish inspection reports to the building official, and to the registered design professional in responsible charge. Reports shall indicate that work inspected was done in conformance to approved construction documents. Discrepancies shall be brought to the immediate~~

~~attention of the contractor for correction. If the discrepancies are not corrected, the discrepancies shall be brought to the attention of the building official and to the registered design professional in responsible charge prior to the completion of that phase of the work. A final report of inspections documenting required special inspections and correction of any discrepancies noted in the inspections shall be submitted periodically at a frequency agreed upon by the permit applicant and the building official prior to the start of work.~~ **Duties and responsibilities of the special inspector.**

The special inspector shall observe the work to ascertain to the best of his/her knowledge and belief that it is in conformance with the approved design drawings and specifications.

The special inspector shall furnish inspection reports to the building official, the engineer or architect of record, and other persons designated by the building official. All discrepancies shall be brought to the immediate attention of the contractor for correction, then to the design professional and to the building official.

The special inspector shall submit a final signed report properly certified by an engineer or architect with professional's seal embossed, stating whether the work requiring special inspection was, to the best of the inspector's knowledge, in conformance with the design professional's permitted construction plans and specifications and the applicable workmanship provisions of this code.

1706.1.1 When required. A quality assurance plan for wind requirements shall be provided for all structures constructed in the following areas:

1. In wind exposure categories A and B, where the 3- second-gust basic wind speed is 120 mph or greater.
2. In wind exposure categories C and D, where the 3- second-gust basic wind speed is greater than 110 mph or greater.

Exception: A quality assurance plan is not required for structures designed and constructed in accordance with the *International Residential Code* or the conventional construction provisions of Section 2308 of this code, provided that all of the applicable items listed in Section 1706.1.2 are inspected during construction by a qualified person approved by the building official.

CHAPTER 18

SOILS AND FOUNDATIONS

1802.1 General. ~~Foundation and soils investigations shall be conducted in conformance with Sections 1802.2 through 1802.6. Where required by the building official, the classification and investigation of the soil shall be made by a registered design professional. The classification of the soil at each building shall be determined when required by the building official. The building official may require that this determination be made by an engineer or architect licensed by the state to practice as such.~~

1802.2 Where required. ~~The owner or applicant shall submit a foundation and soils investigation to the building official where required in Sections 1802.2.1 through 1802.2.7.~~ **Investigation.** The classification shall be based on observation and any necessary tests of the materials disclosed by borings or excavations made in appropriate locations. Additional studies may be necessary to evaluate soil strength, the effect of moisture variation on soil-bearing capacity, compressibility, liquefaction and expansiveness.

Exceptions:

1. The building official may waive this evaluation upon receipt of written opinion of a qualified geotechnical engineer or geologist that liquefaction is not probable.
2. A detached, single-story dwelling of Group R, Division 3 Occupancy with or without attached garages.
3. Group U Occupancies.
4. Fences.

Exception: ~~The building official need not require a foundation or soils investigation where satisfactory data from adjacent areas is available that demonstrates an investigation is not necessary for any of the conditions in Sections 1802.2.1 through 1802.2.6.~~

1802.2.1 Questionable soil. Where the safe-sustaining power of the soil is in doubt, or where a load-bearing value superior to that specified in this code is claimed, the building official shall require that the necessary investigation be made. Such investigation shall comply with the provisions of Sections 1802.4 through 1802.6.

1802.2.2 Expansive soils. In areas likely to have expansive soil, the building official shall require soil tests to determine where such soils do exist.

1802.2.3 Groundwater table. A subsurface soil investigation shall be performed to determine whether the existing groundwater table is above or within 5 feet (1524 mm) below the elevation of the lowest floor level where such floor is located below the finished ground level adjacent to the foundation.

Exception: A subsurface soil investigation shall not be required where waterproofing is provided in accordance with Section 1806.

1802.2.4 Pile and pier foundations. Pile and pier foundations shall be designed and installed on the basis of a foundation investigation and report as specified in Sections 1802.4 through 1802.6 and Section 1807.2.1.

1802.2.5 Rock strata. Where subsurface explorations at the project site indicate variations or doubtful characteristics in the structure of the rock upon which foundations are to be constructed, a sufficient number of borings shall be made to a depth of not less than 10 feet (3048 mm) below the level of the foundations to provide assurance of the soundness of the foundation bed and its load-bearing capacity.

1802.2.6 Seismic Design Category C. Where a structure is determined to be in Seismic Design Category C in accordance with Section 1616, an investigation shall be conducted, and shall include an evaluation of the following potential hazards resulting from earthquake motions: slope instability, liquefaction, and surface rupture due to faulting or lateral spreading.

~~1802.2.7 Seismic Design Category D, E or F.~~ Where the structure is determined to be in Seismic Design Category D, E or F, in accordance with Section 1616, the soils investigation requirements for Seismic Design Category C, given in Section 1802.2.6, shall be met, in addition to the following. The investigation shall include:

- ~~1. A determination of lateral pressures on basement and retaining walls due to earthquake motions.~~
- ~~2. An assessment of potential consequences of any liquefaction and soil strength loss, including estimation of differential settlement, lateral movement or reduction in foundation soil bearing capacity, and shall discuss mitigation measures. Such measures shall be given consideration in the design of the structure and can include, but are not limited to, ground stabilization, selection of appropriate foundation type and depths, selection of appropriate structural systems to accommodate anticipated displacements, or any combination of these measures. The potential for liquefaction and soil strength loss shall be evaluated for site peak ground acceleration magnitudes and source characteristics consistent with the design earthquake ground motions. Peak ground acceleration shall be determined from a site specific study taking into account soil amplification effects, as specified in Section 1615.2.~~

~~**Exception:** A site specific study need not be performed provided that peak ground acceleration equal to $SDS/2.5$ is used, where SDS is determined in accordance with Section 1615.2.1.~~

CHAPTER 21
MASONRY

2104.1.8 Weep holes. Weep holes provided in the outside wythe of masonry walls shall be at a maximum spacing of 33 inches (838 mm) on center. Weep holes shall not be less than 3/16 inch (4.8 mm) in diameter. Weep holes shall be located immediately above the flashing.

CHAPTER 23

WOOD

2308.2.1 Basic wind speed greater than 100 mph (3-second gust). Where the basic wind speed exceeds 100 mph (3-second gust) the provisions of the AF&PA Wood Frame Construction Manual (WFCM), or the provisions of the SBCCI Standard for Hurricane Resistant Residential Construction SSTD-10, or Appendix K of this code are permitted to be used.

CHAPTER 27

ELECTRICAL

~~2702.2.5 Reserved. Accessible means of egress elevators. Standby power shall be provided for elevators that are part of an accessible means of egress in accordance with Section 1003.2.13.3.~~

~~2702.2.14 **High rise buildings.** Emergency and standby power shall be provided in high rise buildings in accordance with Chapter 27 and for the items listed below: Sections 403.10.2 and 403.11.1.~~

- ~~1. Fire command center.~~
- ~~2. Fire pumps.~~
- ~~3. Emergency voice/alarm communication systems.~~
- ~~4. Lighting for mechanical equipment rooms.~~
- ~~5. Elevators.~~

CHAPTER 28

MECHANICAL SYSTEMS

2802.1 Factory built chimneys and fireplaces. Factory built chimneys and factory built fireplaces shall be listed and shall be installed in accordance with the terms of their listings and the manufacturers' instructions as specified in the Mechanical Code.

CHAPTER 29

PLUMBING SYSTEMS

2901.1 Scope. The provisions of this chapter and the *International Plumbing Code* shall govern the erection, installation, alteration, repairs, relocation, replacement, addition to, use or maintenance of plumbing equipment and systems. Plumbing systems and equipment shall be constructed, installed and maintained in accordance with the *International Plumbing Code*. ~~Private sewage disposal systems shall conform to the *International Private Sewage Disposal Code*.~~

TABLE 2902.1
MINIMUM NUMBER OF PLUMBING FACILITIES^a

OCCUPANCY		WATER CLOSETS (see Section 419.2 of the Plumbing Code for urinals)		LAVATORIES	BATHTUBS/ SHOWERS	DRINKING FOUNTAINS	OTHERS
		Male	Female				
	Nightclubs	1 per 40	1 per 40	1 per 75	—	1 per 500	1 service sink
A S S E M B L Y	Restaurants	1 per 75	1 per 75	1 per 200	—	1 per 500	1 service sink
	Theaters, halls, museums, etc.	1 per 125	1 per 65	1 per 200	—	1 per 500	1 service sink
	Coliseums, arenas (less than 3,000 seats)	1 per 120	1 per 60	Male 1 per 200 Female 1 per 150	—	1 per 1,000	1 service sink
	Churches ^b	1 per 150	1 per 75	1 per 200	—	1 per 1,000	1 service sink
	Stadiums (less than 3,000 seats), pools, etc.	1 per 100	1 per 50	1 per 150	—	1 per 1,000	1 service sink
	Stadiums (3,000 seats or greater)	1 per 150	1 per 75	Male 1 per 200 Female 1 per 150	—	1 per 1,000	1 service sink
	Mercantile (see Sections 2902.2, 2902.5, 2902.6)	1 per 500		1 per 750	—	1 per 1,000	1 service sink
	Business (see section 2902.2, 2902.4, 2902.4.1)	1 per 50		1 per 80	—	1 per 100	1 service sink
	Educational	1 per 50		1 per 50	—	1 per 100	1 service sink
	Factory and industrial	1 per 100		1 per 100	See Section 411 of the Int. Plumbing	1 per 400	1 service sink

				Code		
	Passenger terminals and transportation facilities	1 per 500	1 per 750	—	1 per 1000	
I N S T I T U T I O N A L	Residential Care	1 per 10	1 per 10	1 per 8	1 per 100	
	Hospitals, ambulatory nursing home patients ^a	1 per room ^d	1 per room ^d	1 per 15	1 per 100	1 service sink per floor
	Day nurseries, sanitariums, non ambulatory nursing home patients, etc. ^a	1 per 15	1 per 15	1 per 15 ^e	1 per 100	1 service sink
	Employees, other than residential care ^a	1 per 25	1 per 35	—	1 per 100	—
	Visitors, other than residential care	1 per 75	1 per 100	—	1 per 500	—
	Prisons ^a	1 per cell	1 per cell	1 per 15	1 per 100	1 service sink
	Asylums, reformatories, etc. ^a	1 per 15	1 per 15	1 per 15	1 per 100	1 service sink
R E S I D E N T I A L	Hotels, motels	1 per guestroom	1 per guestroom	1 per guestroom	—	1 service sink
	Lodges	1 per 10	1 per 10	1 per 8	1 per 100	1 service sink
	Multiple family	1 per dwelling unit	1 per dwelling unit	1 per dwelling unit	—	1 kitchen sink per dwelling unit; 1 automatic clothes washer connection per 20 dwelling units
	Dormitories	1 per 10	1 per 10	1 per 8	1 per 100	1 service sink
	One and two family dwellings	1 per dwelling unit	1 per dwelling unit	1 per dwelling unit	—	1 kitchen sink per dwelling unit; 1 automatic clothes washer connection per dwelling unit ^f
	Storage	1 per 100	1 per 100	(see section 411 of the Int. Plumbing Code)	1 per 1000	1 service sink

- a. The fixtures shown are based on one fixture being the minimum required for the number of persons indicated or any fraction of the number of persons indicated. The number of occupants shall be determined by this code.
- b. Fixtures located in adjacent buildings under the ownership or control of the church shall be made available during periods the church is occupied.
- c. Toilet facilities for employees shall be separate from facilities for inmates or patients.
- d. A single occupant toilet room with one water closet and one lavatory serving not more than two adjacent patient rooms shall be permitted where such room is provided with direct access from each patient room and with provisions for privacy.
- e. For day nurseries, a maximum of one bathtub shall be required.
- f. For attached one and two family dwellings, one automatic clothes washer connection shall be required per 20 dwelling units.

**TABLE 2902.1
MINIMUM NUMBER OF REQUIRED PLUMBING FACILITIES**

No.	Classification	Use Group	Description	Water Closets ^e		Lavatories		Drinking Fountains ^f	Bath or Shower
				Male	Female	Male	Female		
1	Assembly	A-1	Theaters usually with fixed seats and other buildings for the performing arts and motion pictures	1 per 125	1 per 60	1 per 200		1 per 500	
		A-2	Nightclubs, bars, taverns, dance halls and buildings for similar purposes	1 per 40	1 per 40	1 per 75		1 per 500	
			Restaurants, banquet halls, and food courts	1 per 75	1 per 75	1 per 200		1 per 500	
		A-3	Auditoriums without permanent seating, art galleries, exhibition halls, museums, lecture halls, libraries, arcades and gymnasiums	1 per 125	1 per 60	1 per 200		1 per 500	
			Passenger terminals and transportation facilities	1 per 500	1 per 500	1 per 750		1 per 1000	
		A-3	Places of worship and other religious services; churches without assembly halls	1 per 150	1 per 75	1 per 200		1 per 1000	
		A-4	Coliseums, arenas, skating rinks, pools and tennis courts for indoor sporting events and activities	1 per 75 for the first 1500 and 1 per 120 for the remainder exceeding 1500	1 per 35 for the first 1500 and 1 per 60 for the remainder exceeding 1500	1 per 200	1 per 150	1 per 1000	
		A-5	Stadiums, amusement parks, bleachers and grandstands for outdoor sporting events and activities (less than 3000 seats)	1 per 75 for the first 1500 and 1 per 120 for the remainder exceeding 1500	1 per 35 for the first 1500 and 1 per 60 for the remainder exceeding 1500	1 per 200	1 per 150	1 per 1000	
2	Business	B	Buildings for the transaction of business, professional services, other services involving merchandise,	1 per 50		1 per 80		1 per 100	

			office buildings, banks, light industrial and similar uses				
3	Educational	E	Educational facilities	1 per 50	1 per 50	1 per 100	
4	Factory and industrial	F-1 and F-2	Structures in which occupants are engaged in work fabricating, assembly or processing of products or materials	1 per 100	1 per 100	1 per 400	
5	Institutional	I-1	Residential care	1 per 10	1 per 10	1 per 100	1 per 8
		I-2	Hospitals, ambulatory nursing home patients ^a	1 per sleeping room ^b	1 per sleeping room ^b	1 per 100	1 per 15
			Employees other than residential care ^a	1 per 25	1 per 35	1 per 100	
			Visitors other than residential care	1 per 75	1 per 100	1 per 500	
		I-3	Prisons	1 per cell	1 per cell	1 per 100	1 per 15
		I-3	Reformatories, detention centers, and correctional centers ^a	1 per 15	1 per 15	1 per 100	1 per 15
		I-4	Adult daycare and childcare	1 per 15	1 per 15	1 per 100	1 ^c
6	Mercantile	M	Retail stores, service stations, shops, salesrooms, markets and shopping centers	1 per 500	1 per 750	1 per 1000	
7	Residential	R-1	Hotels, motels, boarding houses (transient)	1 per sleeping unit	1 per sleeping unit		1 per sleeping unit
		R-2 ^d	Dormitories, fraternities, sororities and boarding houses (non transient)	1 per 10	1 per 10	1 per 100	1 per 8
		R-2 ^d	Apartment houses	1 per dwelling unit	1 per dwelling unit		1 per dwelling unit
		R-3	One-and-two family dwellings	1 per dwelling unit	1 per dwelling unit		1 per dwelling unit
		R-4	Residential Care/Assisted living facilities	1 per 10	1 per 10	1 per 100	1 per 8
8	Storage	S-1 S-2	Structures for the storage of goods warehouses,	1 per 100	1 per 100		1 per 100

			storehouses and freight depots; low and moderate hazard.				
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- a. Toilet facilities for employees shall be separate from facilities for inmates or patients.
- b. A single-occupant toilet room with one water closet and one lavatory serving not more than two adjacent patient sleeping rooms shall be permitted where the room is provided with direct access from each patient sleeping room and with provisions for privacy.
- c. For day cares, a maximum of one bathtub shall be required.
- d. For Group R-2 occupancies, one automatic clothes washer connection shall be required per 20 dwelling units.
- e. Where urinals are provided, one water closet less than the number specified may be provided for each urinal installed, except the number of water closets shall not be reduced to less than 50% of the number specified.
- f. Buildings where water is served from bottled water coolers or buildings having an occupant load of less than 30 shall not be required to provide drinking fountains.

~~**2902.6.2 Pay facilities.** Required facilities shall be free of charge and designated by legible signs for each sex. Where pay facilities are installed, such facilities shall be in excess of the required minimum facilities.~~

CHAPTER 30

ELEVATORS AND CONVEYING SYSTEMS

3001.1 Scope. ~~This chapter governs the design, construction, installation, alteration and repair of elevators and conveying systems and their components.~~ The provisions of this chapter shall apply to the design, construction, installation, operation, alteration and repair of elevators, dumbwaiters, escalators, manlifts, moving walks, inclined stairway chairlifts, wheelchair lifts and personnel hoists.

The building official shall have the authority to adopt and enforce rules and regulations to administer the provisions of this chapter. The rules and regulations may include, but shall not be limited to, establishing qualifications and other requirements for approval and registration of an approved agency, providing frequency of inspections, and providing for formats of reports, inspection checklists, and other required documents.

The building official shall issue such notices or orders as may be necessary to remove illegal or unsafe conditions, to secure necessary safeguards during construction, to enforce compliance with this chapter, to receive required applications, to issue permits and serial numbers, and to furnish the prescribed certificates.

3001.2 Referenced standards. ~~Except as otherwise provided for in this code, the design, construction, installation, alteration, repair and maintenance of elevators and conveying systems and their components shall conform to ASME A17.1, ASME A90.1, ASME B20.1, ALI B153.1, and ASCE 24 for construction in flood hazard areas established in Section 1612.3.~~ **State/ASME/ANSI Standards.** Except as otherwise provided in this chapter, all elevators, dumbwaiters, escalators, moving walks, inclined stairway chairlifts, wheelchair lifts and alterations to such conveyances and the installation thereof shall conform to the requirements of the standards adopted in Chapter 754 of the Texas Health and Safety Code and the standards adopted thereunder by the Texas Commissioner of Licensing and Regulation. The term “Elevator Safety Code” as used in this code shall mean the foregoing state-adopted standards. Manlifts and alterations and installations thereof shall conform to the Safety Standards for Manlifts, American National Standards Institute, Publication No. ANSI

A90.1-1985, and the term “Manlift Safety Code” as used in this code shall mean the said publication. Personnel hoists and alterations and installations thereof shall conform to the Safety Requirements for Personnel Hoists, American National Standards Institute, Publication No. ANSI A1034-1981, and the term “Personnel Hoist Safety Code” as used in this code shall mean the said publication.

3001.2.1 Adoption of state standards. Notwithstanding any provision of this code that may be construed to the contrary, it is the express intent of this jurisdiction that this code be construed as establishing standards of inspection and certification of elevators, escalators, and related equipment and standards for elevator inspection personnel that are no less stringent in any respect than those adopted in or pursuant to Chapter 754 of the Texas Health and Safety Code, which state standards and any amendments hereafter made thereto are adopted and incorporated into this code by reference. To the extent of any inconsistency between the state standards and the other provisions of this code, the more stringent provision(s) shall apply.

3001.3 Accessibility. ~~Passenger elevators required to be accessible by Chapter 11 shall conform to ICC/ANSI A117.1.~~ **Definitions.** For purposes of this chapter, certain terms are defined in the Elevator Safety Code and as follows:

ANSI CODE is the current ASME/ANSI A17.1 Safety Code for Elevators and Escalators, an American National Standard published by the American Society of Mechanical Engineers. See Section 3001.2.

APPROVED AGENCY is an established and recognized agency regularly engaged in conducting tests or furnishing inspection services, when such agency has been approved.

AUTHORIZED COMPANY is an established and registered company regularly engaged in the installation or repair of elevators, escalators, dumbwaiters or moving walks.

AUTHORIZED INSPECTOR is an inspector who is qualified as OEI-1 and is registered with the building official.

MANLIFT is a device consisting of a power-driven endless belt provided with steps or platforms and handholds attached to it for transportation of personnel from floor to floor.

PERSONNEL HOIST is a special-purpose elevator or hoist erected outside a building or a structure for transporting workers or materials in connection with the construction, alteration, maintenance or demolition of a building, structure or other works.

WHEELCHAIR LIFT is a vertical wheelchair lift or an inclined wheelchair lift as governed by the Elevator Safety Code, whether of a public building or residential type.

3001.4 Change in use. A change in use of an elevator from freight to passenger, passenger to freight, or from one freight class to another freight class shall not be made without the approval of the building official. Said approval shall be granted only after it is demonstrated that the installation conforms to the requirements of the Elevator Code. ~~comply with Part XII of ASME A17.1.~~

3002.3 Emergency signs. An approved pictorial sign of a standardized design shall be posted adjacent to each elevator call station on all floors instructing occupants to use the exit stairways and not to use the elevators in case of fire. The sign shall read: IN FIRE EMERGENCY, DO NOT USE ELEVATOR. USE EXIT STAIRS. The lettering shall be at least 1/2" block letters on a background of contrasting color so that the lettering is clearly visible. ~~The emergency sign shall not be required for elevators that are part of an accessible means of egress complying with Section 1003.2.13.3.~~

3002.8 Elevator Pits. All elevator pits shall be provided with a sump pump. The sump pump shall be hard piped and equipped with a hose bibb located at least 36 inches (914.4 mm) above the elevator door sill inside the hoistway or elevator machinery room.

3004.1 Vents required. Hoistways of elevators and dumbwaiters penetrating more than three stories shall be provided with a means for venting smoke and hot gases to the outer air in case of fire.

Hoistway venting. When provided, the venting of each individual hoistway shall be independent from any other hoistway venting, and the interconnection of separate hoistways for the purpose of venting prohibited.

Exceptions:

- ~~1. In occupancies of other than Groups R-1, R-2, I-1, I-2 and similar occupancies with overnight sleeping quarters, venting of hoistways is not required where the building is equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.~~
- ~~2. Sidewalk elevator hoistways are not required to be vented.~~

3004.2 Location of vents. ~~Vents shall be located 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. Noncombustible ducts shall be permitted to pass through the elevator machine room provided that portions of the ducts located outside the hoistway or machine room are enclosed by construction having not less than the fire protection rating required for the hoistway. Holes in the machine room floors for the passage of ropes, cables or other moving elevator equipment shall be limited so as not to provide greater than 2 inches (51 mm) of clearance on all sides.~~

3004.3 Area of vents. ~~Except as provided for in Section 3004.3.1, the area of the vents shall not be less than 3 1/2 percent of the area of the hoistway nor less than 3 square feet (0.28 m²) for each elevator car, and not less than 3 1/2 percent nor less than 0.5 square foot (0.047 m²) for each dumbwaiter car in the hoistway, whichever is greater. Of the total required vent area, not less than one third shall be of the permanently open type unless all vents activate upon detection of smoke from any of the elevator lobby smoke detectors.~~

3004.3.1 Reduced vent area. Where mechanical ventilation conforming to the *International Mechanical Code* is provided, a reduction in the required vent area is allowed provided that all of the following conditions are met:

1. ~~The occupancy is not in Group R-1, R-2, I-1 or I-2 or of a similar occupancy with overnight sleeping quarters.~~
2. ~~The vents required by Section 3004.2 do not have outside exposure.~~
3. ~~The hoistway does not extend to the top of the building.~~
4. ~~The hoistway and machine room exhaust fan is automatically reactivated by thermostatic means.~~
5. ~~Equivalent venting of the hoistway is accomplished.~~

3004.4 Closed vents. Closed portions of the required vent area shall consist of windows or duct openings glazed with annealed glass not more than 0.125 inch (3.2 mm) thick.

3004.5 Plumbing and mechanical systems. Plumbing and mechanical systems shall not be located in an elevator shaft.

Exception: Floor drains, sumps and sump pumps shall be permitted at the base of the shaft provided they are indirectly connected to the plumbing system.

3005.2.2 Escalators. Where provided in below-grade transportation stations, escalators shall have a clear width of 32 inches (815 mm) minimum.

Exception: The clear width is not required in existing facilities undergoing alterations.

3005.5 Escalator skirt deflector devices

3005.5.1 Purpose. The purpose of this Section is to improve the overall safety of escalators located within the jurisdiction by establishing provisions for the installation of escalator skirt deflector devices on new and existing escalators.

3005.5.2 Definitions.

ESCALATOR SKIRT DEFLECTOR DEVICE shall mean a device that reduces the risk of objects coming into contact with the skirt.

INSTALLATION DATE, for the purposes of this section only, shall be date the permit was obtained for installation.

3005.5.3 Compliance Program. All escalators installed on or after October 21, 2001, shall be equipped with escalator skirt deflector devices or equivalent protection in accordance with the ASME A17.1 Safety Code for Elevators and Escalators. The owners of existing buildings in which one or more escalators were installed prior to October 21, 2001, shall have skirt deflector devices or equivalent protective equipment installed on all escalators by no later than January 1, 2011.

3005.5.4 Approval. The building official shall have the authority to adopt and enforce rules and regulations to administer approval of the design, construction, configuration and installation of skirt deflector devices for use in this jurisdiction. The building official shall promulgate such rules and regulations.

3005.5.5 Technical Requirements. Escalator skirt deflector devices shall be installed in accordance with the deflector device manufacturer's recommended installation instructions, and the ASME A17.1 Safety Code for Elevators and Escalators.

SECTION 3007

ELEVATORS FOR HIGH RISE BUILDINGS

3007.1 Elevators. Elevators and elevator lobbies for high rise buildings shall comply with the provisions in this section and the other provisions of this chapter.

1. A bank of elevators is a group of elevators or a single elevator controlled by a common operating system; that is, all those elevators that respond to a single call button constitute a bank of elevators. There is no limit on the number of cars that may be in a bank or group, but there may not be more than four cars within a common hoistway. Hoistways shall be separated by a two-hour fire resistive separation.

2. Each elevator lobby shall be provided with at least two approved listed smoke detectors located on the lobby ceiling, one positioned at each opening into the lobby other than elevator door entrances. When two detectors, each on a separate initiating circuit, or one alarm sequence verification detector on the same initiating circuit, are activated, elevator doors at that lobby shall close and remain closed and cars serving that lobby shall return to a floor providing direct egress from the building (or to a transfer floor if the cars do not serve an egress floor), and the elevator doors shall open to permit egress of passengers. In the event of a failure of normal electrical service, the standby power system shall have sufficient capacity to return all elevators to the floor of egress on an automatic or manual selective program of one elevator in each bank of elevators simultaneously. If the return system is manually actuated, an alarm system shall be provided to summon assistance.

NOTE: Banks of elevators not deactivated by the products of combustion detectors shall remain in normal operation. In the event of a fire on the lowest terminus floor, the elevator call shall stop on a floor above the floor of fire involvement.

3. Elevator hoistways shall not be vented through an elevator machine room.

4. An elevator lobby is defined as that portion of a corridor or space within 10 feet of an elevator entrance door. Buildings having banks of elevators serving more than two floors that terminate on an upper floor (sky lobbies) and do not return to a floor level providing direct egress from the building shall have elevator lobbies with a corridor directly connected to an exit stairway. The sky lobbies and connecting corridors shall be separated from the remainder of the building by a two-hour fire resistive occupancy separation.

5. When elevators are returned to the floor of egress due to the activation of the fire-detection system, the elevator doors shall open for egress and the elevator shall be shut down. Door open buttons in each car shall remain active. Under this circumstance, facilities shall be provided to permit the operation of any one elevator in an elevator bank by the fire department through the use of a "fireman's bypass key." The selected elevator shall be manually operated

SECTION 3008

PERMITS-CERTIFICATES OF INSPECTION

3008.1 Construction Permits.

3008.1.1 General. A separate permit shall be required before erecting or constructing any new elevator, dumbwaiter, escalator, manlift, moving walk, inclined stairway chairlift, personnel hoist or wheelchair lift, or relocating such existing equipment. The installer of the equipment shall submit an application for such permit accompanied by plans and specifications in duplicate, in such form as the building official may prescribe. When such plans and specifications indicate compliance with this chapter and other provisions of this code, and the fees specified in Section 117 have been paid, the building official shall issue a construction permit. The plans and specifications shall be stamped "Approved" when the building official issues a construction permit where plans are required. Such approved plans and specifications shall not be changed, modified or altered without authorization from the building official, and all work shall be done in accordance with the approved plans.

3008.1.2 Notification of completion. It shall be the duty of each person installing, relocating or altering such conveyances to notify the building official in writing, at least seven days before completion of the work, and to subject the new, moved or altered portions of the equipment to the acceptance test required by the Elevator Safety Code, Manlift Safety Code or Personnel Hoist Safety Code, as applicable, to show that such equipment meets the requirements specified before placing the equipment into service.

3008.1.3 Acceptance inspections. All acceptance inspections shall be performed by the building official or an approved agency.

3008.2 Operating permits.

3008.2.1 General. An operating permit shall be issued by the building official for an elevator, dumbwaiter, escalator, manlift, moving walk, inclined stairway chairlift or wheelchair lift within

10 days following the receipt of an inspection report indicating compliance with this chapter and applicable safety codes and the payment of the fee provided in Section 117.

No owner or lessee of an elevator, dumbwaiter, escalator, manlift, moving walk, inclined stairway chairlift, personnel hoist, or wheelchair lift shall suffer or permit the same to be operated by any person except under a current and valid operating permit or limited permit that has been issued for the equipment by the building official.

Exception: No operating permit or limited permit shall be required for the operation of the conveyance equipment if located in a Group R, Division 3 occupancy or in an individual dwelling unit of a Group R, Division 2 Occupancy.

The operating permit shall be issued for a period of one year and shall be valid only for the operation of the equipment at the rated load and speed for such equipment, which shall be stated on the permit. Operating permits shall not be issued for personnel hoists, and they shall be subject to operation only under a limited permit.

If an inspection report required by this chapter indicates failure of compliance with applicable requirements of this chapter, or, in the case of new or altered installations, with detailed plans and specifications approved by the building official, the building official shall give written notice to the owner or lessee or the person or persons filing such plans and specifications of the deficiencies that must be cured for compliance therewith. After the equipment has been brought into conformity, the building official shall issue an operating permit.

3008.2.2 Annual operating permit. Permits will show the location, type and number of units permitted.

3008.2.3 Posting of permits. Permits shall be posted in conspicuous locations that are readily accessible to the building official.

3008.2.4 Limited operating permit. The building official may issue a limited permit authorizing the temporary use of any elevator, dumbwaiter, escalator, manlift, moving walk,

inclined stairway chairlift, personnel hoist or wheelchair lift for passenger or freight service during its installation or alteration.

In the case of elevators, such limited permit will not be issued until the elevator has been tested with rated load; car safety and terminal stopping equipment have been tested to determine the safety of the equipment; and permanent or temporary guards or enclosures have been placed on the car, around the hoistway and at the landing entrances on each floor. Landing entrance guards shall be provided with locks that can be released from the hoistway side only. Automatic and continuous pressure elevators shall not be placed in temporary operation from the landing push buttons unless door-locking devices and/or interlocks required by the Elevator Safety Code are installed and operative. All tests required by this paragraph and reports thereof must indicate compliance with all applicable provisions of the Elevator Safety Code before a temporary permit will be issued.

For personnel hoists, a limited permit will not be issued until the hoist has been inspected in accordance with the Personnel Hoist Safety Code and has been determined to be in compliance therewith.

3008.2.5 Life of limited permits. Limited permits shall be issued in the same manner as operating permits, provided that they shall be valid for a period not to exceed 90 days. However, any equipment being operated pursuant to a limited permit shall be inspected at intervals not exceeding 30 days by the building official or an approved agency.

3008.2.6 Posting of limited permits. Each limited permit shall be conspicuously posted at a place that is near to or visible from each entrance to permitted equipment, and the limited permit shall also include a statement that the equipment has not been finally approved.

3008.2.7 Responsibility. The person installing, relocating or altering any equipment operating under a limited permit shall be responsible for its operation and maintenance and for all required tests and inspections until the operating permit therefor has been issued by the building official.

The owner shall be responsible for the safe operation and proper maintenance of such equipment after the operating permit has been issued, and during the period of effectiveness of any limited permit. The owner shall also be responsible for all initial and periodic tests required by this chapter.

3008.2.8 Special permission for employee use. Special permission may be granted by the building official for use of freight elevators by employees of the establishment in which they are situated if the building official finds that the requirements of Rule 207.4 of the Elevator Safety Code have been complied with. The application therefor shall be made when the operating permit is requested, and the special permission, if granted, shall be noted on the operation permit. Except in accordance with the provisions of a special operating permit granted under this paragraph, it shall be unlawful for any elevator owner or other person in control of a freight elevator to suffer or permit the freight elevator to be used to carry any passengers other than as may be required to operate the elevator and to load and unload freight that is being carried upon the elevator.

3008.3 Approval of personnel hoists.

3008.3.1 General. A manufacturer, distributor or agent who desires approval of a hoist manufactured or distributed by him/her or by his/her principal shall submit a properly completed application meeting the requirements of this section, all data as hereafter prescribed, and payment of the fee for a manufacturer's design permit as required in Section 117. A manufacturer, distributor or agent shall submit a separate application, the fee and complete data for each model varying in tower construction, capacity, speed or method of operation.

If the building official finds that the hoist meets all the requirements of this code, the Personnel Hoist Safety Code, and all other applicable statutes and ordinances, a permit shall be issued identifying the make, model, capacity, and type of tower. If the building official finds that the hoist does not meet the requirements of this code, the Personnel Hoist Safety Code or any other applicable statute or ordinance, the building official shall so notify the applicant in writing.

Manufacturer's data that must accompany the application for approval of new hoists includes:

1. Tower stress analysis, including two copies of structural specifications, drawings and calculations, proving that the tower and base contain the factors of safety specified in the Requirements for Personnel Hoists, American National Standards Institute, Publication No. ANSI A10.4-1981.
2. A letter giving the tower serial number, if any, or model description shall accompany the specifications. Such letter shall state the maximum height, wind velocity, car speed and car capacity for which the structure is designed when subjected to strain by operation of the car safety device and the maximum load and striking speed for which the buffers and base structures are designed.
3. A complete description as to the operation of the hoisting equipment and function of safety devices, including a schematic wiring diagram of safety and brake circuits and controller.
4. Periodic maintenance and inspection checklists, which must specify the frequency of each inspection. Among other things, those lists must include maximum safe tolerance of brake clearance, safety jaw clearance and guide displacement. Any special tools or equipment required in making an inspection shall be shown and described on each list.
5. All data described in the above items 1, 2, 3, and 4 must be approved by a professional engineer registered in the State of Texas.

3008.3.2 Inspections. Inspections will be made at a time convenient to the building official or approved agency and the construction job superintendent at least monthly and at such additional frequencies, if any, as are stated in the application for the personnel hoist as approved by the building official. The building official or approved agency shall immediately and verbally notify the construction job superintendent of any defects that would make the personnel hoist unsafe for continued operation, and the construction job superintendent shall take the personnel hoist out of service immediately and correct any defect that would make the hoist unsafe prior to continued operation. All other defects shall be corrected as soon as is reasonably possible. Within 24 hours after the inspection, the building official or an approved agency shall confirm the findings in a written report to the construction superintendent. If the building official or approved agency

has directed that the personnel hoist be taken out of service pending its repair, then it shall not be returned to service until the building official or approved agency has reinspected the equipment and determined that it may safely be returned to service.

3008.3.3 Penalties for violation.

3008.3.3.1 User. It shall be unlawful for any person knowingly to use or to suffer or permit the operation of a personnel hoist with any defect that could make it unsafe for continued operation.

3008.3.3.2 Workers. It shall be the duty of the superintendent of each construction site to ensure that in the car of all hoists on the construction site, other than approved personnel hoists operating under a limited permit, there is conspicuously posted a card, furnished by the building official, stating, "DO NOT RIDE THIS HOIST. VIOLATORS SUBJECT TO A \$200.00 FINE-CITY OF HOUSTON." Except as provided in Section 3008.3.6 below, it shall be unlawful for any person to ride in a car that is so posted.

3008.3.4 Manlifts. Nothing in this code or in the Personnel Hoist Safety Code shall be construed to prohibit the use of a manlift during construction.

3008.3.5 Hoist cage platform size. The restrictions in the Personnel Hoist Safety Code regarding the cage platform size do not apply if the cage is equipped with an overload safety device.

3008.3.6 Material hoist. Nothing in this chapter shall prohibit the general contractor from assigning a competent attendant to ride a material hoist during the required period of its use.

This attendant, when assigned, shall:

1. Prevent passengers from riding the hoist (other than the attendant).
2. Prevent overloading the hoist; and
3. Observe and report unsafe conditions to the construction superintendent.

3008.4 Tests, inspections.

3008.4.1 General. The owner shall be responsible for the safe operation and maintenance of each elevator, dumbwaiter, escalator or moving walk installation and shall cause annual inspections, tests and maintenance to be made on such conveyances as required in this section.

3008.4.2 Periodic inspections and tests. Every elevator, dumbwaiter, escalator, manlift, moving walk, inclined stairway chairlift and wheelchair lift shall be periodically inspected for compliance with the requirements of this chapter and the Elevator Safety Code or Manlift Safety Code, as applicable, at intervals not exceeding 12 calendar months, provided any such inspection may be made during the month following the last calendar month during which the inspection was due. Such periodic tests shall not be required for any such equipment located in a Group R, Division 3 Occupancy or an individual dwelling unit of a Group R, Division 2 Occupancy.

3008.4.3 Load tests and inspections. Full load and safety tests shall be performed by an elevator company in the presence of the building official or an approved agency. Full load and safety tests and inspections shall be performed at intervals of five years for each traction-type elevator.

3008.4.4 Inspection costs. All costs of such inspections and tests shall be paid by the owner.

3008.4.5 Inspection reports. After each inspection, a full and correct report of such inspection shall be filed with the building official within 10 days after the completion of the inspection. This report shall be in a format satisfactory to the building official and shall, at a minimum, indicate the name of the authorized inspector and the name of the authorized company or approved agency, the date of the inspection, the registration number of both the authorized inspector and the authorized inspecting company, the permanent identification number of the equipment inspected, date of inspection, name of the owner or the owner's representative and the tag number assigned by the jurisdiction to the equipment inspected. Tags and report forms shall be obtained from the building official by the authorized inspecting company. The report shall

certify that the equipment inspected meets the requirements of this chapter and the Elevator Safety Code or Manlift Safety Code, as applicable, insofar as a thorough and diligent inspection of the equipment as installed allows, The report shall list all items that do not perform in accordance with this chapter or the said safety codes. Every report shall be signed by the persons performing the inspection and witnessing the tests, as applicable.

3008.4.6 Inspections. Inspections shall be performed and/or witnessed by certified and authorized inspection personnel of an authorized company or approved agency in accordance with criteria set forth by the jurisdiction.

3008.4.7 Registration. Each authorized inspector shall meet the qualification requirements of the ASME QEI-1 (1993), Part 1113.1. All authorized inspectors and inspection supervisors shall be certified by an organization accredited by ASME in accordance with requirements of ASME QEI-1 and be annually registered with the jurisdiction. The business registration shall be authorization for such business organization to perform inspections and submit inspection reports. Only inspection reports submitted by authorized companies or approved agencies shall be acceptable when applying for a Certificate of Inspection.

Without limiting the building official's requirements, each approved agency shall be required to demonstrate that it has professional errors and omissions insurance coverage with policy limits of \$500,000.00 or more, per occurrence; worker's compensation insurance coverage; and comprehensive general liability insurance coverage with policy limits of \$1,000,000.00 or more, per occurrence. The jurisdiction shall be designated as an additional insured on the liability coverage, and the coverage shall include a cross-liability endorsement and a provision for 10 days' notice to the jurisdiction prior to any cancellation. The building official shall also require an indemnity and hold harmless agreement in a form approved by the City Attorney.

All coverage shall be written by an insurance firm with a rating of A or better in the most recent A.M. Best directory.

3008.4.8 Registration revocation. The building official, for due cause, may revoke registration of any inspecting organization or inspector. Appeals of revocations may be made to the jurisdiction through the appropriate appeals process.

3008.4.9 Delinquent inspections. Failure of the building official to advise the owner does not reduce the owner's responsibility for annual inspections or load tests as specified in Section 3008.4.2. In the event that any required report of an inspection is not filed with the building official by the 30th day after the final date when such equipment should have been inspected or tested, the owner of the equipment shall be presumed to be in violation of the requirements of this code.

If, after a 120-day period, the owner or the owner's representative has not complied with the requirements of this chapter by providing the information required, the jurisdiction shall have the authority to assign inspection of the equipment in question to an authorized inspection organization for completion of the necessary inspections and tests. The costs of such inspections shall be borne by the owner or the owner's representative, and the decision of the building official shall be binding on the owner.

3008.5 Fees for tests and inspections. Fees shall be required as scheduled in Section 117.

3008.6 Unsafe conditions. When an inspection reveals an unsafe condition, the inspector shall immediately file with the owner and the building official a full and true report of such inspection and such unsafe condition. If the building official finds that the unsafe condition endangers human life, the building official shall cause to be placed on such elevator, dumbwaiter, escalator, manlift, moving walk, inclined stairway chairlift, wheelchair lift or personnel hoist, in a conspicuous place, a notice stating that such conveyance is unsafe. The owner shall see to it that such notice of unsafe condition is legibly maintained where placed by the building official. The building official shall also issue an order in writing to the owner requiring the repairs or alterations to be made to such conveyance that are necessary to render it safe and may order the operation thereof discontinued until

the repairs or alterations are made or the unsafe conditions are removed. A posted notice of unsafe conditions shall be removed only upon authority of the building official.

CHAPTER 31

SPECIAL CONSTRUCTION

3103.1.1 Permit required. Temporary structures that cover an area in excess of 120 square feet (11.16 m²), ~~including connecting areas or spaces with a common means of egress or entrance which are used or intended to be used for the gathering together of ten or more persons,~~ shall not be erected, operated or maintained for any purpose without obtaining a permit from the building official. Temporary buildings shall be completely removed upon the expiration of the time limit stated in the permit.

Exception: A separate permit is not required for a construction trailer or shed used during the construction of a structure when a permit has been obtained for the construction work.

3103.2 Construction documents. A permit application and construction documents shall be submitted for each installation of a temporary structure. The construction documents shall include a site plan indicating the location of the temporary structure and information delineating the means of egress and the occupant load. Such buildings or structures need not comply with the type of construction or fire-resistive time periods required by this code.

3104.3 Construction. The pedestrian walkway shall be of noncombustible construction.

Exception: ~~Combustible construction shall be permitted where connected buildings are of combustible construction.~~

1. Pedestrian walkways connecting buildings of Type III, IV or V construction may be constructed of one-hour fire resistive construction or of heavy-timber construction.
2. Pedestrian walkways located on grade having both sides open by at least 50 percent and connecting buildings of Type III, IV or V construction may be constructed with any materials allowed by this code.

3104.4 Contents. ~~Only materials and decorations approved by the building official shall be located in the pedestrian walkway.~~ **Multiple pedestrian walkways.** The distance between any two pedestrian walkways on the same horizontal plane shall not be less than 40 feet.

3104.5 Fire barriers between pedestrian walkways and buildings. ~~Walkways shall be separated from the interior of the building by fire barrier walls with a fire resistance rating of not less than 2 hours. This protection shall extend vertically from a point 10 feet (3048 mm) above the walkway roof surface or the connected building roof line, whichever is lower, down to a point 10 feet (3048 mm) below the walkway and horizontally 10 feet (3048 mm) from each side of the pedestrian walkway. Openings within the 10 foot (3048 mm) horizontal extension of the protected walls beyond the walkway shall be equipped with devices providing a 3/4 hour fire protection rating in accordance with Section 714.~~

Exception: ~~The walls separating the pedestrian walkway from a connected building are not required to have a fire resistance rating by this section where any of the following conditions exist:~~

- ~~1. The distance between the connected buildings is more than 10 feet (3048 mm), the pedestrian walkway and connected buildings are equipped throughout with an automatic sprinkler system in accordance with NFPA 13, and the wall is constructed of a tempered, wired or laminated glass wall and doors subject to the following:
 - ~~1.1. The glass shall be protected by an automatic sprinkler system in accordance with NFPA 13 and the sprinkler system shall completely wet the entire surface of interior sides of the glass wall when actuated.~~
 - ~~1.2. The glass shall be in a gasketed frame and installed in such a manner that the framing system will deflect without breaking (loading) the glass before the sprinkler operates.~~
 - ~~1.3. Obstructions shall not be installed between the sprinkler heads and the glass.~~~~
- ~~2. The distance between the connected buildings is more than 10 feet (3048 mm), and both side walls of the pedestrian walkway are at least 50 percent open with the open area uniformly distributed to prevent the accumulation of smoke and toxic gases.~~

- ~~3. Buildings are on the same lot, in accordance with Section 503.1.3.~~
- ~~4. Where exterior walls of connected buildings are required by Section 704 to have a fire-resistance rating greater than 2 hours, the walkway shall be equipped throughout with an automatic sprinkler system installed in accordance with NFPA 13. The previous exceptions shall apply to pedestrian walkways having a maximum height above grade of three stories or 40 feet (12 192 mm), or five stories or 55 feet (16 764 mm) where sprinklered. The minimum height above grade shall be 8 feet (2438 mm).~~

Openings between pedestrian walkways and buildings. Openings from buildings to pedestrian walkways shall conform to the requirements of Chapters 5 and 6 . In addition, pedestrian walkways connecting buildings shall either be provided with opening protection at connections to buildings in accordance with Section 714.2.3 or be constructed with both sides of the pedestrian walkway at least 50 percent open and have the open area distributed so as to prevent the accumulation of smoke and toxic gas.

Exception: When not required due to location between buildings, a pedestrian walkway opening need not be protected when the connection occurs at either a sprinklered building or an open parking garage.

3104.6 Public way. ~~Pedestrian walkways over a public way shall also comply with Chapter 32 be~~ subject to the approval of the jurisdiction.

3104.10 Tunneled walkway. ~~Separation between the tunneled walkway and the building to which it is connected shall not be less than 2-hour fire-resistant construction and openings therein shall be protected in accordance with Table 714.2. Tunneled walkways shall be sprinklered in accordance with NFPA 13.~~

3104.11 Ventilation. ~~Smoke and heat venting~~ Ventilation shall be provided for enclosed walkways and tunneled walkways. ~~Such venting shall be in accordance with NFPA 204 or other accepted engineering practice~~ the Mechanical Code.

3107.1 General. Signs shall be designed, constructed and maintained in accordance with Chapter 46 of this code.

SECTION 3108
RESERVED
RADIO AND TELEVISION TOWERS

~~**3108.1 General.** Subject to the provisions of Chapter 16 and the requirements of Chapter 15 governing the fire resistance ratings of buildings for the support of roof structures, radio and television towers shall be designed and constructed as herein provided.~~

~~**3108.2 Location and access.** Towers shall be located and equipped with step bolts and ladders so as to provide ready access for inspection purposes. Guy wires or other accessories shall not cross or encroach upon any street or other public space, or over above ground electric utility lines, or encroach upon any privately owned property without written consent of the owner of the encroached-upon property, space or above ground electric utility lines.~~

~~**3108.3 Construction.** Towers shall be constructed of approved corrosion-resistant noncombustible material. The minimum type of construction of isolated radio towers not more than 100 feet (30 480 mm) in height shall be Type HB.~~

~~**3108.4 Loads.** Towers shall be designed to resist wind loads in accordance with EIA/TIA 222-E. Consideration shall be given to conditions involving wind load on ice covered sections in localities subject to sustained freezing temperatures.~~

~~**3108.4.1 Dead load.** Towers shall be designed for the dead load plus the ice load in regions where ice formation occurs.~~

~~**3108.4.2 Wind load.** Adequate foundations and anchorage shall be provided to resist two times the calculated wind load.~~

~~**3108.5 Grounding.** Towers shall be permanently and effectively grounded.~~

3109.1 General. Swimming pools shall comply with the applicable requirements of the City Code and Chapter 757 of the Texas Health & Safety Code. ~~this section and other applicable sections of this code.~~

3109.2 Definition. The following word and term shall, for the purposes of this section and as used elsewhere in this code, have the meaning shown herein.

~~**SWIMMING POOLS.** Any structure intended for swimming, recreational bathing or wading that contains water over 24 inches (610 mm) deep. This includes in-ground, aboveground and on-ground pools; hot tubs; spas and fixed in-place wading pools.~~

~~**3109.3 Public swimming pools.** Public swimming pools shall be completely enclosed by a fence at least 4 feet (1290 mm) in height or a screen enclosure. Openings in the fence shall not permit the passage of a 4-inch (102 mm) diameter sphere. The fence or screen enclosure shall be equipped with self-closing and self-latching gates.~~

~~**3109.4 Residential swimming pools.** Residential swimming pools shall comply with Sections 3109.4.1 through 3109.4.3.~~

~~**Exception:** A swimming pool with a power safety cover or a spa with a safety cover complying with ASTM F 1346.~~

~~**3109.4.1 Barrier height and clearances.** The top of the barrier shall be at least 48 inches (1219 mm) above grade measured on the side of the barrier which faces away from the swimming pool. The maximum vertical clearance between grade and the bottom of the barrier shall be 2 inches (51 mm) measured on the side of the barrier which faces away from the swimming pool. Where~~

~~the top of the pool structure is above grade the barrier is authorized to be at ground level or mounted on top of the pool structure, the maximum vertical clearance between the top of the pool structure and the bottom of the barrier shall be 4 inches (102 mm).~~

~~**3109.4.1.1 Openings.** Openings in the barrier shall not allow passage of a 4 inch (102 mm) diameter sphere.~~

~~**3109.4.1.2 Solid barrier surfaces.** Solid barriers which do to have openings shall not contain indentations or protrusions except for normal construction tolerances and tooled masonry joints.~~

~~**3109.4.1.3 Closely spaced horizontal members.** Where the barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal members is less than 45 inches (1143 mm), the horizontal members shall be located on the swimming pool side of the fence. Spacing between vertical members shall not exceed 1.75 inches (44 mm) in width. Where there are decorative cutouts within vertical members, spacing within the cutouts shall not exceed 1.75 inches (44 mm) in width.~~

~~**3109.4.1.4 Widely spaced horizontal members.** Where the barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal members is 45 inches (1143 mm) or more, spacing between vertical members shall not exceed 4 inches (102 mm). Where there are decorative cutouts within vertical members, spacing within the cutouts shall not exceed 1.75 inches (44 mm) in width.~~

~~**3109.4.1.5 Chain link dimensions.** Maximum mesh size for chain link fences shall be a 2.25 inch square (57 mm square) unless the fence is provided with slats fastened at the top or the bottom which reduce the openings to no more than 1.75 inches (44 mm).~~

3109.4.1.6 Diagonal members. ~~Where the barrier is composed of diagonal members, the maximum opening formed by the diagonal members shall be no more than 1.75 inches (44 mm).~~

3109.4.1.7 Gates. ~~Access gates shall comply with the requirements of Sections 3109.4.1.1 through 3109.4.1.6 and shall be equipped to accommodate a locking device. Pedestrian access gates shall open outwards away from the pool and shall be self-closing and have a self-latching device. Gates other than pedestrian access gates shall have a self-latching device. Where the release mechanism of the self-latching device is located less than 54 inches (1372 mm) from the bottom of the gate, the release mechanism shall be located on the pool side of the gate at least 3 inches (76 mm) below the top of the gate, and the gate and barrier shall have no opening greater than 0.5 inch (12.7 mm) within 18 inches (457 mm) of the release mechanism.~~

3109.4.1.8 Dwelling unit wall as a barrier. ~~Where a wall of a dwelling serves as part of the barrier, one of the following shall apply:~~

- ~~1. Doors with direct access to the pool through that wall shall be equipped with an alarm which produces an audible warning when the door and its screen are opened. The alarm shall sound continuously for a minimum of 30 seconds immediately after the door is opened and be capable of being heard throughout the house during normal household activities. The alarm shall automatically reset under all conditions. The alarm shall be equipped with a manual means to temporarily deactivate the alarm for a single opening. Such deactivation shall last no more than 15 seconds. The deactivation switch shall be located at least 54 inches above the threshold of the door.~~
- ~~2. The pool shall be equipped with a power safety cover which complies with ASTM F 1346.~~
- ~~3. Other means of protection, such as self-closing doors with self-latching devices, which are approved by the administrative authority shall be accepted so long as the~~

~~degree of protection afforded is not less than the protection afforded by Section 3109.4.1.8, Item 1 or 2.~~

~~**3109.4.1.9 Pool structure as barrier.** Where an aboveground pool structure is used as a barrier or where the barrier is mounted on top of the pool structure, and the means of access is a ladder or steps, then the ladder or steps either shall be capable of being secured locked or removed to prevent access, or the ladder or steps shall be surrounded by a barrier which meets the requirements of Sections 3109.4.1.1 through 3109.4.1.8. When the ladder or steps are secured, locked, or removed, any opening created shall not allow the passage of a 4 inch (102 mm) diameter sphere.~~

~~**3109.4.2 Indoor swimming pools.** Walls surrounding indoor swimming pools shall not be required to comply with Section 3109.4.1.8.~~

~~**3109.4.3 Prohibited locations.** Barriers shall be located so as to prohibit permanent structures, equipment or similar objects from being used to climb the barriers.~~

SECTION 3110

DRIVEWAYS, SIDEWALKS, PARKING LOTS AND ALLEYS

3110.1 Purpose. This section establishes minimum regulations governing the design and construction of driveways, sidewalks, parking lots and alleys.

Construction or repair of any sidewalk, driveway, curb or gutter shall comply with this chapter and Chapter 40, Article III, of the City Code.

3110.2 Definitions. The following words and phases, when used in this section have the meanings respectively ascribed to them herein:

ALLEY shall mean a public or private right-of-way that is not used primarily for through traffic and that provides vehicular access to rear entrances to buildings or properties that front on an adjacent street.

DRIVEWAY is an entrance to and exit from private premises that is designated for motor vehicle use and is not open for vehicle traffic except by permission of the owner of such private premises. (For purposes of this section, the definition of private street shall be the same as the definition of driveway).

HIGHWAY, STREET OR ROAD is a general term denoting a public way for the purpose of vehicle travel, including the entire area within the right-of-way.

LOADING BERTH is a space for the loading, unloading or parking of trucks and motor vehicles other than motor vehicles principally designed for passengers that complies with Section 3110.9 of this code and with the requirements of Chapter 26 of the City Code.

LOCAL STREET OR ROAD is a street or road primarily intended for access to a residence, business or other abutting property.

MAJOR THOROUGHFARE is (1) a public street that is designated as a principal thoroughfare, a thoroughfare or a major collector on the most recent "Major Thoroughfare and Freeway Plan" approved by the City Council; or (2) any street that is designated as an express street pursuant to Section 45-39 of the City Code, and that is shown in the "Express Street Plan" of the Traffic Engineer.

PEDESTRIAN is any person afoot.

RIGHT-OF-WAY is the entire area between the boundaries required for roadway devoted to highway, street or road purpose.

ROADWAY (GENERAL) is the portion of a highway, including shoulder, for vehicular use.

SIDEWALK is that portion of a street between the curb lines or the lateral lines of a roadway and the adjacent property lines that is intended for the use of pedestrians.

3110.3 Jurisdiction approval of plans and specifications. No person shall construct or cause to be constructed any driveway, sidewalk, private street, parking lot or alley connecting private property with a public street without prior approval of the jurisdiction's Department of Public Works and Engineering. In addition, the jurisdiction's Department of Planning and Development shall review and approve all required parking lots proposed to be constructed.

3110.4 Driveway approval. Upon receipt of an application for a driveway permit, the building official shall refer the same to the Capital Projects Division of the jurisdiction's Department of Public Works and Engineering, which shall make a determination, pursuant to the guidelines set out in Section 40-86 of the City Code, as to whether the driveway applied for is necessary to provide reasonable access to the private property consistent with the safety and convenience of the public.

After making such determination, the Deputy Director of the Capital Projects Division shall certify the same to the building official who, after determining that the plans comply with all applicable codes and ordinances, shall issue a permit.

3110.5 State review of plans. The Texas Department of Transportation shall review plans for proposed construction of driveways, sidewalks, parking lots and alleys into or abutting state highways and freeway frontage roads. Evidence of the review and approval must be submitted with plans prior to obtaining the jurisdiction's approval.

Exception: State highways with curb-type construction will not require the state's review.

NOTE: The state's concurrence to proposed construction is insufficient alone since it is conditioned upon the jurisdiction's granting final approval.

3110.6 Standards for design and construction. There are hereby approved and adopted the drawings listed below which have been prepared by the jurisdiction's Department of Public Works and Engineering setting forth in detail the standards for design and/or construction of driveways, sidewalks, parking lots and alleys. The following drawings are shown at the end of this chapter:

1. Driveway Geometric Design Standard (T&T Dwg. No. 2156).
2. Space Requirement for Off-street Parking (T&T Dwg. No. 2157).
3. Construction Standards for Driveways and Sidewalks on Curb-type Streets (P.W. Dwg. No. 17201-1).
4. Construction Standards for Driveways with Culverts or Valley Gutters on Open Ditch-type Streets (P.W. Dwg. No. 17201-2).
5. Island Construction for Continuous Culvert Pipe (P.W. Dwg. No. 17231).
6. Monolithic Curb and Gutter (P.W. Dwg. No. 02771-01).
7. Typical "D" Inlet (P.W. Dwg. No. 02632-07).
8. Typical "D-1" Inlet (P.W. Dwg. No. 02632-08).
9. Type "B" Inlet Relocation (P.W. Dwg. No. 02632-03).
10. Type "B-B" Inlet Relocation (P.W. Dwg. No. 02632-05).

3110.7 Plot plan. A complete site plan shall be prepared to a reasonable scale and submitted to the jurisdiction's Department of Public Works and Engineering and the jurisdiction's Department of Planning and Development showing the following information:

1. All right-of-way lines and property lines that bound the property planned for improvement.
2. Width and design of all existing driveways, sidewalks, and median openings as they exist on the ground.
3. Existing conditions between the right-of-way line and the traveled roadway, including curbs, ditches, storm sewer inlets, manholes, utility poles, fire hydrants, trees, etc. If median islands exist, the next median opening on each side of the property.
4. If open ditches exist, the diameter size of the nearest existing culvert pipe upstream and downstream.

5. When property planned for improvement fronts a "T" intersecting street, the complete intersection shall be shown.
6. When property is being improved with add-on construction, remodeling, accessories, repairs, erection of building parking lots or any other improvements, all existing on-site conditions with dimensions.
7. All proposed driveways and sidewalks, shown in detail. Refer to Section 3110.6, Standards for Design and Construction.
8. Proposed parking lot layout showing the number of stalls, aisle width, general vehicular circulation pattern, and a chart illustrating the proposed means of compliance with the required parking standards and loading berths as specified by Chapter 26 of the City Code.
9. Existing parking lot layout showing the number of parking stalls, aisle width and general vehicular circulation pattern.
10. Copy of all appropriate drawings identified in Section 3110.6 required to complete the construction of the property submitted for construction permit.

3110.8 Sidewalks. Sidewalks shall be constructed along all major thoroughfares, both existing and new, abutting the property being developed. Sidewalks shall be constructed along all other public streets, both existing or new, abutting the property being developed where:

1. The property's frontage spans an entire block;
2. Sidewalks exist on any adjacent property;
3. The property has more than 125 feet of total street frontage; or
4. The property is located in an "urban area" designated pursuant to Chapter 42 of the City Code.

State highways and freeway frontage roads within the jurisdiction also fall within the scope of this requirement, subject to state review required in Section 3110.5.

Exception: The building official shall have the authority to modify the requirements of this section when determined that it is technically or otherwise infeasible to comply or when the property is situated in a planned community in which alternative pedestrian trails or passage ways are provided in lieu of sidewalks.

NOTE: Construction or repairs of sidewalks, driveways, curbs, curb ramps, and gutters shall comply with this chapter and Chapter, 40, Article III, of the City Code.

3110.9 Loading berth. In no case shall a "back-in" loading berth be constructed on major thoroughfares where the vehicle will use the major thoroughfare for maneuvering purposes.

Where off-street "back-out" loading berths are constructed, the loading area shall be sufficiently designed and constructed to store the commercial motor vehicle, truck-tractor, tractor, trailer or semitrailer or combination of such vehicles within private property, and no part of the vehicle shall protrude over the property line or obstruct any public street or sidewalk area in whole or in part.

The depth of the loading berth from the right-of-way line extending into the private property shall be determined based on the types of commercial vehicles using the facility.

3110.10 Street curb and gutter replacement. Where construction of driveways and sidewalks will require the removal and replacement of curb and gutter over a continuous run in excess of 25 percent of any one block, a plan shall be submitted to the jurisdiction's Department of Public Works and Engineering. In addition to the requirements in Section 3110.7, the following shall be shown on the plans:

1. A continuous profile plotted to a scale of 1 inch equals 2 feet horizontally, containing all the existing and proposed profiles necessary for reviewing.

The proposed gutter grade shall meet the following minimum design criteria:

- 1.1. Minimum gutter grade, except at corner curb returns, shall be 0.25 percent (3-inch fall per 100 feet).
- 1.2. Minimum gutter grade around corner curb returns shall be 1.00 percent (example: 0.22-foot fall around 14-foot radius).
- 1.3. A vertical curve with elevations given every 10 feet will be required where the algebraic difference of the proposed gutter grades exceeds 1.00 percent other than at corner curb radius grades.
2. Construction details for replacing curb and gutter and/or base shall be provided when it is necessary to remove same for realignment of curb and gutter horizontally or vertically .

Method of the tie of proposed curb and gutter and/or base to existing pavement, with or without reinforcing steel, shall be given in detail. In order to provide adequate cross-slope drainage on asphalt streets, Type F asphalt must be feathered toward the crown of the street. A minimum 1/4 inch per foot slope will be required when raising proposed gutter above existing gutter line. Refer to P.W. Drawing No. 02771. Contact the Capital Projects Division of the jurisdiction's Department of Public Works and Engineering, for clarification of these requirements when necessary.

3110.11 Alley paving. The requirements for paving a public alley are identical to those for paving a public street. Plan-profile type of drawings prepared by a licensed professional engineer in the State of Texas and approved by all appropriate jurisdiction departments are required. Figure 10.9 of the Design Manual of the Public Works and Engineering, City of Houston, October 1999, will govern the design and construction of alleys. A separate paving permit issued by the jurisdiction's Department of Public Works and Engineering and a separate paving bond will be required prior to any construction.

3110.12 Driveway drainage. In the event an existing curb-type storm sewer inlet falls within the proposed driveway area, a new curb-type storm sewer inlet will be required to be constructed on the nearest remaining straight curb line. The existing inlet will be converted to a flat grate-type inlet and connected to the new inlet by a concrete pipe lead of a diameter not less than the existing lead. Failure to show the existing inlets on the plot plan in no way excuses compliance with the above requirement, even though the permit may have been issued. Refer to Public Works Drawings Nos. 02632-03 and 02632-05 (relocation of Type B and B-B inlets).

3110.13 Culvert pipes.

3110.13.1 Pipe sizes. No culvert pipe of a diameter less than the inside diameter of the nearest upstream culvert pipe shall be installed. In no case will a culvert pipe of less than 18-inch inside diameter be allowed. Culverts shall be installed in such a manner as to not impede or obstruct ditch drainage. When connecting a drain line into a culvert pipe a Type D or Type D-1 inlet shall

be constructed. Saddle-type inlets are prohibited in jurisdiction rights-of-way (refer to Public Works Drawings Nos. 17201-2, 02632-07 and 02632-08).

3110.13.2 New long run culvert pipe. In the event a request is made for runs of culvert pipe in excess of the normal maximum 40-foot-wide driveway culvert, the following procedure will be followed:

A plan-profile type drawing prepared by an engineer licensed in the State of Texas will be submitted to the Capital Projects Division of the jurisdiction's Department of Public Works and Engineering for determination of the number and locations of Type D or D-1 inlets.

The drawing shall include the size, material and gradients required for the culvert installation. The drawing shall also include all driveways and concrete curbed islands (Public Works Drawing No. 17231). A distance of at least 10 feet must be allowed between the abutting property and the nearest driveway. The space may be open ditch or curbed island. A permit issued by the Capital Projects Division of the Department of Public Works and Engineering will be required after the drawing is accepted in the file room of the Department of Public Works and Engineering. The approved permit will be forwarded to the Construction Division of the Department of Public Works and Engineering for inspection.

3110.13.3 Existing long run culvert pipe. Whenever a permit is sought on property having existing culvert pipe in excess of 40 feet without Type D or D-1 inlets as required by this section, such permit shall not be issued without the construction of Type D or Type D-1 inlets.

The owner of the property may remove the existing culvert pipe in excess of 40 feet and return the ditch to its original condition in lieu of the installation of concrete curbed islands and Type D or Type D-1 inlets.

3110.14 Parking lot design.

3110.14.1 General. When an area is being developed for parking, a plan shall be prepared and submitted to the building official showing the boundary, entrances and exits, geometric layout of parking stalls and aisles, operating plan, drainage, and surfacing or paving. The area being

developed for parking shall be surfaced with materials that will not permit wind or waterborne erosion from the area.

3110.14.2 Exiting from lot. When the parking lot is designed to create a one-way aisle operation, an exit shall be provided to enable the vehicle exiting to enter the street in a head-out position.

3110.14.3 Wheel stops. A 6-inch curb/wheel stop shall be installed not less than 2.5 feet from the right-of-way line when property is improved for vehicle use within 3 feet of the right-of-way line. Barrier fencing or minimum 4-inch-diameter posts spaced not more than 3 feet apart and not less than 2 feet in height may be installed on the right-of-way line as a substitute for wheel stops. If the improved area is concrete, a permanent 6-inch curb shall be installed in lieu of wheel stops.

3110.14.4 Drainage. Paved areas (including alleys), yards, courts and courtyards shall be drained into a storm sewer system where such systems are available; otherwise, they shall be drained to a place of disposal approved by the Capital Projects Division of the jurisdiction's Department of Public Works and Engineering. Storm water drainage shall not discharge or flow over any public sidewalk or adjoining property.

3110.15 Bonded contractor. No permit shall be issued to construct, reconstruct, repair or regrade any driveway, sidewalk, culvert pipe, curb or gutter within the jurisdiction unless the applicant shows evidence that he/she has secured a bond in accordance with Section 40-95 of the City Code.

Exception: A homeowner will be issued a permit to install culvert pipe or construct a driveway where no curb cut is required, in accordance with jurisdiction specifications, without the bond required above.

3110.16 Responsibility of property owners. For responsibility of property owners abutting public streets relative to construction or repair of sidewalks, driveways and culverts, see Section 40-84 of

the City Code. For jurisdiction requirements relative to altering the grades of driveways, sidewalks, culvert pipes, curbs and gutters see Section 40-90 of the City Code.

3110.17 Off-street parking. No building or structure shall be constructed, altered or moved onto any lot or building site unless off-street parking spaces are provided pursuant to the restrictions or covenants contained in or related to the subdivision plat or development plat for the property and the parking requirements established in Chapter 26 of the City Code.

3110.18 Driveways prohibited. Driveways are prohibited within any of the following areas:

1. The areas set forth by the Texas Department of Transportation as "access denied."
2. The areas designated "access denied" on recorded subdivision plats or another plat required to be approved by the City of Houston Planning Commission.
3. At the end of any dead-end street not terminating in a cul-de-sac or permanent turnaround and intended to be extended in the future.
4. The limits of any intersection, with the exception that special consideration will be given to major thoroughfares with existing esplanades and streets primarily used for residential use.
5. Abutting a local street where there is less than 20 feet of unobstructed depth from the right-of-way line to any obstruction. An overhead door will not be deemed as an obstruction provided that the width of the door is equal to or greater than the width of the driveway and there is also a minimum of 20 feet unobstructed depth on the private property where vehicles can be parked.
6. An area abutting major thoroughfares where the general design of parking does not provide the necessary depth (44 feet) to allow a vehicle when exiting to enter the thoroughfare in a head-out position.
7. Any area where the jurisdiction's Department of Public Works and Engineering finds that it would not provide reasonable access to the private property consistent with the safety and convenience of the traveling public.
8. Within areas of unpaved street or alley rights-of-way, except as authorized by Section 40-340 of the City Code.

Where the construction of any building or structure upon a property causes a driveway to no longer comply with items 6 or 7, above, the driveway shall be removed and the area restored to its original state.

DRAWING 31-1

-292-

Chapter 31-IBC

NOTES FOR DRAWING 31-1

DRAWING 31-2

-295-

Chapter 31-IBC

DRAWING 31-3

-297-

Chapter 31-IBC

DRAWING 31-4

-299-

Chapter 31-IBC

DRAWING 31-5

-301-

Chapter 31-IBC

DRAWING 31-6

-303-

Chapter 31-IBC

DRAWING 31-7

-305-

Chapter 31-IBC

DRAWING 31-8

-307-

Chapter 31-IBC

DRAWING 31-9

-309-

Chapter 31-IBC

DRAWING 31-10

-311-

Chapter 31-IBC

CHAPTER 32

ENCROACHMENTS INTO THE PUBLIC RIGHT-OF-WAY

3202.1.1 Structural support. A part of a building erected below grade that is necessary for structural support of the building or structure shall not project beyond the lot lines, except that the footings of street walls or their supports which are located at least 8 feet (2438 mm) below grade shall not project more than ~~12-24~~ inches (~~305-610~~ mm) beyond the street lot line.

3202.2 Encroachments above grade and below 8 feet in height. Encroachments into the public right-of-way above grade and below 8 feet (2438 mm) in height shall be prohibited except as provided for in Sections 3202.2.1 through 3202.2.3. ~~Doors and windows shall not open or project into the public right-of-way. Projections shall not encroach within the required width of a sidewalk.~~

3202.2.4 Doors. Power-operated doors and their guide rails shall not project over public property. Other doors, either fully opened or when opening, shall not project more than 3 feet (915 mm) beyond the property line, except that in alleys no projection beyond the property line is permitted.

Exception: Doors that do not encroach within the required width of a sidewalk and that will not interfere with the sidewalk flow of pedestrian traffic as determined by the building official.

3202.3.1 Awnings, canopies, and marquees ~~and signs.~~ Awnings, canopies, and marquees ~~and signs~~ shall be constructed so as to support applicable loads as specified in Chapter 16. Awnings, canopies, and marquees ~~and signs with less than 15 feet (4572 mm) clearance above the sidewalk~~ shall not extend into or occupy more than two-thirds the width of the sidewalk measured from the building. Stanchions or columns that support awnings, canopies, marquees and signs shall be located not less than 2 feet (610 mm) in from the curb line.

3202.3.3 Encroachments 15 feet or more above grade. ~~Encroachments 15 feet (4572 mm) or more above grade shall not be limited.~~ **Entrance-type canopy.** Entrance-type canopies may have combustible coverings supported on noncombustible frames. The lowest part of such frames shall be not less than 8 feet (2438 mm) above the grade immediately below, and the lowest part of any fringe attached to the covering shall be not less than 7 feet (2133 mm) above the grade immediately below. The horizontal clearance between the entrance-type canopy and curb line shall be not less than 2 feet (610 mm). In any case, where posts may be necessary for support at the street end of such canopies, such posts shall be installed 2 feet (610 mm) from the curb line. There shall not be any other such post on public property between these outer posts and the property line. Such canopies shall not be wider than 12 feet (3658 mm).

3202.3.4 Pedestrian walkways. The installation of a pedestrian walkway over a public right-of-way shall be subject to the approval of local authority having jurisdiction. ~~The vertical clearance from the public right of way to the lowest part of a pedestrian walkway shall be 15 feet (4572 mm) minimum.~~

3202.4 Temporary encroachments. ~~Where allowed by the local authority having jurisdiction, vestibules and storm enclosures shall not be erected for a period of time exceeding 7 months in any one year and shall not encroach more than 3 feet (914 mm) nor more than one-fourth of the width of the sidewalk beyond the street lot line. Temporary entrance awnings shall be erected with a minimum clearance of 7 feet (2134 mm) to the lowest portion of the hood or awning where supported on removable steel or other approved noncombustible support.~~

CHAPTER 33

SAFEGUARDS DURING CONSTRUCTION

3302.2 Manner of removal. ~~Waste materials shall be removed in a manner which prevents injury or damage to persons, adjoining properties and public rights of way.~~ **Construction or demolishing privileges.** Earth taken from excavations and materials or rubbish taken from buildings from day to day shall not be left upon the sidewalks or streets but shall be removed as rapidly as accumulated. When such materials are dry and likely to produce a dust when handled, they shall be kept moist so as to prevent the wind blowing the same about.

3304.1 Excavation and fill. ~~Excavation and fill for buildings and structures shall be constructed or protected so as not to endanger life or property. Stumps and roots shall be removed from the soil to a depth of at least 12 inches (305 mm) below the surface of the ground in the area to be occupied by the building. Wood forms which have been used in placing concrete, if within the ground or between foundation sills and the ground, shall be removed before a building is occupied or used for any purpose. Before completion, loose or casual wood shall be removed from direct contact with the ground under the building.~~ **Permanent excavation.** Permanent excavations shall be protected by permanent means where necessary to prevent the movement of the earth of adjoining properties. Such protection shall be provided by the person causing the excavations to be made and shall be on the property and at the expense of the person causing the excavation to be made. The building official may require excavations that are not otherwise protected to be protected by the construction of a substantial barricade or fence not less than 6 feet (1829 mm) in height enclosing the excavated area.

3304.1.1 Slope limits. ~~Slopes for permanent fill shall not be steeper than one unit vertical in two units horizontal (50 percent slope). Cut slopes for permanent excavations shall not be steeper than one unit vertical in two units horizontal (50 percent slope). Deviation from the foregoing limitations for cut slopes shall be permitted only upon the presentation of a soil investigation~~

~~report acceptable to the building official.~~ **Grading of filling.** When a lot or plot is graded to a higher or lower finished grade level than the natural grade on adjacent property, the owner of such lot or plot shall provide a retaining wall or walls on his/her own property to protect the adjacent property from caving of earth or overflow of water.

3304.1.2 Surcharge. ~~No fill or other surcharge loads shall be placed adjacent to any building or structure unless such building or structure is capable of withstanding the additional loads caused by the fill or surcharge. Existing footings or foundations which can be affected by any excavation shall be underpinned adequately or otherwise protected against settlement and shall be protected against later movement.~~ **Notification of adjoining property owners.** When the safety of adjoining buildings or other structures may be affected by a proposed excavation, the owners of such adjoining buildings or other structures shall be notified not less than 10 days before such excavation is commenced by the person proposing to do such excavating. Such notice shall be in writing and shall state the depth and location of the proposed excavation.

3304.1.3 Footings on adjacent slopes. ~~For footings on adjacent slopes, see Chapter 18.~~ **Access to adjoining property.** When any proposed excavation may, because of location, site, conditions or method of excavation, affect the existing conditions of adjoining buildings or other structures, the owners of such adjoining buildings or structures shall grant the person proposing to do such excavating permission to enter their properties for the purpose of physical examination of their properties prior to the commencement of excavating, and at reasonable periods thereafter during the progress of the excavating work. If the person causing an excavation to be made is granted permission to enter adjoining premises for the purpose of supporting adjoining property, or for the purpose of supporting or protecting adjoining buildings or other structures, he/she shall provide adequate protection for such adjoining premises, building or other structures against damage resulting from his/her operation. If such permission is not granted, the owner of such adjoining premises, building or other structure shall be responsible for its maintenance, support, or protection at his/her own expense, and for that purpose he/she shall be granted permission to enter the premises where the excavation is to be, or

is, made. In either case, the person granted the right of entry upon adjacent property shall perform the necessary work within a reasonable time and without injury to the person or persons permitting such entry.

3304.1.4 Fill supporting foundations. ~~Fill to be used to support the foundations of any building or structure shall comply with Section 1803.4. Special inspections of compacted fill shall be in accordance with Section 1704.7.~~ **Failure to comply.** If the person whose duty it is under the provisions of this code to make safe an excavation, to prevent the movement of adjoining earth, or to maintain, support, or protect adjoining buildings or other structures shall neglect or fail to do so, the building official shall notify such person in writing of his/her duties under the provisions of this code. If such person shall fail to perform the duty required by this code within such reasonable time after receipt of such notice as allowed by the building official, the building official may cause such work to be stopped until such person complies with this code.

3304.1.5 Drainage. Whenever the surface of a lot or plot is excavated, filled or graded, catch basins or connected underdrains shall be installed to preclude the accumulation of surface water. Surface water shall not be drained onto adjacent property that is not in the same ownership without written permission from the owner of the adjacent property, and existing natural ground drainage of the ground area surrounding the lot or plot that is excavated, filled, or graded shall not be obstructed. No condition shall be created nor any existing condition maintained whereby there will be upon any lot or plot excavations, depressions, pits, holes, gullies or other depressions that may accumulate and retain surface water. Any such condition shall be promptly abated and protected by filling in or by providing drainage as set forth above.

3304.1.6 Sandblasting. Dry sandblasting shall be prohibited except in enclosed areas. Wet sandblasting may be permitted, provided that measures are taken to prevent sand and other residue from falling or drifting onto public property or property of others.

3304.1.7 Tree and Shrub Ordinance compliance. See City Code Chapter 33, Article V for requirements regarding grading and construction within the dripline area of protected trees.

SECTION 3305

SANITARY

PREPARATION OF BUILDING SITE, ETC.

3305.1 Facilities required. ~~Sanitary facilities shall be provided during construction, remodeling or demotion activities in accordance with the *International Plumbing Code*.~~ **Removal of stumps, roots, and lumber.** All stumps and roots shall be removed from the soil to a depth of at least 12 inches (305 mm) below the surface of the ground in the area to be occupied by the building.

All wood forms that have been used in placing concrete, if within the ground or between foundation sills and the ground, shall be removed before a building is occupied or used for any purpose. Before completion, loose or casual wood shall be removed from direct contact with the ground under the building.

3307.1 Protection required. Adjoining public and private property shall be protected from damage during construction, remodeling and demolition work. Protection must be provided for footings, foundations, party walls, chimneys, skylights and roofs. Provisions shall be made to control water run-off and erosion during construction or demolition activities. The person making or causing an excavation to be made shall provide written notice to the owners of adjoining buildings advising them that the excavation is to be made and that the adjoining buildings should be protected. Said notification shall be delivered not less than 10 days prior to the scheduled starting date of the excavation.

The person causing any excavation to be made shall prevent the movement of the earth of adjoining properties and the trees and natural objects thereon or therein, and shall be responsible for maintaining or restoring public sidewalks, curbs and pavements, and the properties of public utilities that may be affected by the excavation. The maintenance or restoration of sidewalks, curbs and pavements shall be performed in accordance with the grades, levels and other requirements of the

jurisdiction's Department of Public Works and Engineering, and the maintenance or restoration of the property of public utilities shall be in accordance with the procedures established by the owners thereof for new construction.

~~[F]3309.1 **Reserved.** Where required.~~ All structures under construction, alteration or demolition shall be provided with not less than one approved portable fire extinguisher at each stairway on all floor levels where combustible materials have accumulated. An approved portable fire extinguisher shall be provided in every storage and construction shed. The building official is authorized to require additional approved portable fire extinguishers where special hazards exist, such as flammable or combustible liquid storage hazards. Fire extinguishers shall comply with Section 906.

~~3309.2 **Fire hazards.**~~ The provisions of this code and of the *International Fire Code* shall be strictly observed to safeguard against all fire hazards attendant upon construction operations.

~~3310.1 **Stairways required.**~~ Where a building has been constructed to a height greater than 50 feet (15 240 mm) or four stories, or where an existing building exceeding 50 feet (15 240 mm) in height is altered, at least one temporary lighted stairway shall be provided unless one or more of the permanent stairways are erected as the construction progresses.

~~3310.2 **Maintenance of exits.**~~ Required exits shall be maintained at all times during remodeling or alterations and additions to any building.

~~3311.4 **Water supply.**~~ Water supply for fire protection, either temporary or permanent shall be made available as soon as combustible material accumulates. **Temporary standpipes.** Temporary standpipes may be provided in place of permanent systems if they are designed to furnish a minimum of 500 gallons of water per minute (1893 L) at 50 pounds per square inch (345 kPa) pressure with a standpipe size of not less than 4 inches (102 mm). All outlets shall not be less than 2 ½ inches (63.5 mm). Pumping equipment sufficient to provide this pressure and volume shall be available at all times when the building reaches 150 feet above grade.

~~**3312.2 Operation of valves.** Operation of sprinkler control valves shall be permitted only by properly authorized personnel and shall be accompanied by notification of duly designated parties. When the sprinkler protection is being regularly turned off and on to facilitate connection of newly completed segments, the sprinkler control valves shall be checked at the end of each work period to ascertain that protection is in service.~~

SECTION 3313
TRENCH SAFETY

3313.1 Requirements. See Subchapter C of Chapter 756 of the Texas Health and Safety Code for requirements applicable to trench safety. It is the responsibility of the owner to assure compliance with applicable state and federal laws, and no provision of this code shall be deemed to excuse compliance with applicable state and federal requirements for trench safety.

CHAPTER 34

EXISTING STRUCTURES

3401.3 Compliance with other codes. Alterations, repairs, additions and changes of occupancy to existing structures shall comply with the provisions for alterations, repairs, additions and changes of occupancy in the City of Houston Construction Code and the Fire Code, International Fire Code, International Fuel Gas Code, International Plumbing Code, International Property Maintenance Code, International Private Sewage Disposal Code, International Mechanical Code, International Residential Code and ICC Electrical Code.

3402.1 Existing buildings or structures. ~~Additions, alterations or repairs to any building or structure shall conform with the requirements of the code for new construction. Additions or alterations shall not be made to an existing building or structure which will cause the existing building or structure to be in violation of any provisions of this code. An existing building plus additions shall comply with the height and area provisions of Chapter 5. Portions of the structure not altered and not affected by the alteration are not required to comply with the code requirements for a new structure.~~ **General.** Buildings and structures to which additions, alterations or repairs are made shall comply with all the requirements of this code for new facilities except as specifically provided in this section. See Section 907 for provisions requiring installation of smoke detectors in existing Group R, Division 3 occupancies.

Exception: ~~For buildings and structures in flood hazard areas established in Section 1612.3, any additions, alterations or repairs that constitute substantial improvement of the existing structure, as defined in Section 1612.2, shall comply with the flood design requirements for new construction and all aspects of the existing structure shall be brought into compliance with the requirements for new construction for flood design.~~

3402.2 Structural. ~~Additions or alterations to an existing structure shall not increase the force in any structural element by more than 5 percent, unless the increased forces on the element are still in~~

~~compliance with the code for new structures, nor shall the strength of any structural element be decreased to less than that required by this code for new structures. Where repairs are made to structural elements of an existing building, and uncovered structural elements are found to be unsound or otherwise structurally deficient, such elements shall be made to conform to the requirements for new structures.~~ **When allowed.** Additions, alterations or repairs may be made to any building or structure without requiring the existing building or structure to comply with all the requirements of this code, provided the addition, alteration or repair conforms to that required for a new building or structure.

Additions or alterations shall not be made to an existing building or structure that will cause the existing building or structure to be in violation of any of the provisions of this code, and such additions or alterations shall not cause the existing building or structure to become unsafe. An unsafe condition shall be deemed to have been created if an addition or alteration will cause the existing building or structure to become structurally unsafe or overloaded, will not provide adequate egress in compliance with the provisions of this code or will obstruct existing exits, will create a fire hazard, will reduce required fire resistance, or will otherwise create conditions dangerous to human life. Any building so altered, which involves a change in use or occupancy, shall not exceed the height, number of stories and area permitted for new buildings. Any building plus new additions shall not exceed the height, number of stories and area specified for new buildings.

Additions or alterations shall not be made to an existing building or structure when such existing building or structure is not in full compliance with the provisions of this code except when such addition or alteration will result in the existing building or structure being no more hazardous based on life safety, fire safety and sanitation, than before such additions or alterations are undertaken. (See also Section 415.9 for Group H Division 5 Occupancies.)

Exception: Alterations of existing structural elements, or additions of new structural elements, which are not required by this code and are initiated for the purpose of increasing the lateral-force-resisting strength or stiffness of an existing structure, need not be designed for forces conforming to these regulations provided that an engineering analysis is submitted to show that:

1. The capacity of existing structural elements required to resist forces is not reduced;

2. The lateral loading to required existing structural elements is not increased beyond their capacity;
3. New structural elements are detailed and connected to the existing structural elements as required by these regulations;
4. New or relocated nonstructural elements are detailed and connected to existing or new structural elements as required by these regulations; and
5. An unsafe condition as defined above is not created.

3405.1 Conformance. No change shall be made in the use or occupancy of any building that would place the building in a different division of the same group of occupancy or in a different group of occupancies, unless such building is made to comply with the requirements of this code for such division or group of occupancy. Subject to the approval of the building official, the use or occupancy of existing buildings shall be permitted to be changed and the building is allowed to be occupied for purposes in other groups without conforming to all the requirements of this code for those groups, provided the new or proposed use is equal to or less hazardous, based on life and fire risk, than the existing use.

3406.1 Historic buildings. ~~The provisions of this code relating to the construction, repair, alteration, addition, restoration and movement of structures, and change of occupancy shall not be mandatory for historic buildings where such buildings are judged by the building official to not constitute a distinct life safety hazard.~~ Repairs, alterations and additions necessary for the preservation, restoration, rehabilitation or continued use of a building or structure may be made without conformance to all the requirements of this code when authorized by the building official, provided:

1. The building or structure has been designated as having special historical or architectural significance by the City Council of this jurisdiction as a landmark or is a contributing structure within a historic district as designated by the City Council of this jurisdiction. The foregoing designations shall be as provided in Article VI of Chapter 33 of the City Code.
2. Any unsafe conditions described in this code are corrected.

3. The restored building or structure will be no more hazardous based on life safety, fire safety, and sanitation than the existing building.

SECTION 3408
ACCESSIBILITY FOR EXISTING BUILDINGS
RESERVED

~~**3408.1 Scope.** The provisions of Sections 3408.2 through 3408.8.5 apply to maintenance, change of occupancy, additions and alterations to existing buildings, including those identified as historic buildings.~~

~~**Exception:** Type B dwelling units required by Section 1107.5.4 are not required to be provided in existing buildings and facilities.~~

~~**3408.2 Maintenance of facilities.** A building, facility or element that is constructed or altered to be accessible shall be maintained accessible during occupancy.~~

~~**3408.3 Change of occupancy.** Unless technically infeasible, provisions for new construction shall apply to those portions of existing buildings which are altered concurrently with a change of occupancy. In addition, existing buildings that undergo a change of group or occupancy shall have all of the following accessible features:~~

- ~~1. At least one accessible entrance.~~
- ~~2. At least one accessible route from an accessible entrance to primary function areas.~~
- ~~3. Signage complying with Section 1109.~~
- ~~4. Accessible parking, where parking is being provided.~~
- ~~5. At least one accessible passenger loading zone, where loading zones are provided.~~
- ~~6. At least one accessible route connecting accessible parking and accessible passenger loading zones to an accessible entrance.~~

~~Where it is technically infeasible to comply with the new construction standards for any alteration or additional requirements for a change of group or occupancy, the provisions of Sections~~

~~3408.5 and 3408.7 shall apply. Where an area of primary function is altered concurrently with a change of group or occupancy, Section 3408.6 shall apply.~~

~~**3408.4 Additions.** Provisions for new construction shall apply to additions. An addition that affects the accessibility to, or contains an area of primary function, shall comply with the requirements in Section 3408.6 for accessible routes.~~

~~**3408.5 Alterations.** A building, facility or element that is altered shall comply with the applicable provisions in Chapter 11 and ICC/ANSI A117.1, unless technically infeasible. Where compliance with this section is technically infeasible, the alteration shall provide access to the maximum extent technically feasible.~~

~~**Exceptions:**~~

- ~~1. The altered element or space is not required to be on an accessible route, unless required by Section 3408.6.~~
- ~~2. Accessible means of egress required by Chapter 10 are not required to be provided in existing buildings and facilities.~~

~~**3408.5.1 Extent of application.** An alteration of an existing element, space, or area of a building or facility shall not impose a requirement for greater accessibility than that which would be required for new construction. Alterations shall not reduce or have the effect of reducing accessibility of a building, portion of a building, or facility.~~

~~**3408.6 Alterations affecting an area containing a primary function.** Where an alteration affects the accessibility to, or contains an area of primary function, the route to the primary function area shall be accessible. The accessible route to the primary function area shall include toilet facilities or drinking fountains serving the area of primary function.~~

~~**Exceptions:**~~

- ~~1. The costs of providing the accessible route is not required to exceed 20 percent of the costs of the alterations affecting the area of primary function.~~

- ~~2. This provision does not apply to alterations limited solely to windows, hardware, operating controls, electrical outlets and signs.~~
- ~~3. This provision does not apply to alterations limited solely to mechanical systems, electrical systems, installation or alteration of fire protection systems, and abatement of hazardous materials.~~
- ~~4. This provision does not apply to alterations undertaken for the primary purpose of increasing the accessibility of an existing building, facility or element.~~

~~**3408.7 Scoping for alterations.** The provisions of Section 3408.7.1 through 3408.7.14 shall apply to alterations to existing buildings and facilities.~~

~~**3408.7.1 Elevators.** Altered elements of existing elevators shall comply with ASME A17.1 and ICC/ANSI A117.1. Such elements shall also be altered in elevators programmed to respond to the same hall call control as the altered elevator.~~

~~**3408.7.2 Platform lifts.** Platform (wheelchair) lifts complying with ICC/ANSI A117.1 and installed in accordance with ASME A17.1 shall be permitted as a component of an accessible route.~~

~~**3408.7.3 Stairs and escalators in existing buildings.** In alterations where an escalator or stair is added where none existed previously an accessible route shall be provided in accordance with Sections 1104.4 and 1104.5.~~

~~**3408.7.4 Ramps.** Where steeper slopes than allowed by Section 1003.3.4.1 are necessitated by space limitations, the slope of ramps in or providing access to existing buildings or facilities shall comply with Table 3408.7.4.~~

**TABLE 3408.7.4
RAMPS**

SLOPE	MAXIMUM RISE
Steeper than 1:10 but not steeper than 1:8	3 inches
Steeper than 1:12 but not steeper than 1:10	6 inches

3408.7.5 Dining areas. ~~An accessible route to raised or sunken dining areas, or to outdoor seating areas is not required provided that the same services and decor are provided in an accessible space usable by any occupant and not restricted to use by people with a disability.~~

3408.7.6 Performance areas. ~~Where it is technically infeasible to alter performance areas to be on an accessible route, at least one of each type of performance area shall be made accessible.~~

3408.7.7 Assembly areas. ~~Seating shall adjoin an accessible route that also serves as a means of egress. Where it is technically infeasible to disperse accessible seating throughout an altered assembly area, the minimum required number of wheelchair space clusters shall be one-half of that required by Section 1107.2.2.1. In existing assembly seating areas with a mezzanine, where the main level provides three-fourths or more of the total seating capacity, wheelchair space clusters are permitted to be dispersed on the main level. Each accessible seating area shall have provisions for companion seating.~~

3408.7.8 Sleeping rooms and accommodations. ~~Where I-1 sleeping rooms, I-2 sleeping rooms or patient rooms, I-3 residential units, or R-1 and R-2 sleeping accommodations are being altered or added, the requirements of Section 1107 for accessible rooms and Chapter 9 for accessible alarms apply only to the quantity of spaces being altered or added.~~

~~**3408.7.9 Toilet rooms.** Where it is technically infeasible to alter existing toilet and bathing facilities to be accessible, an accessible unisex toilet or bathing facility is permitted. The unisex facility shall be located on the same floor and in the same area as the existing facilities.~~

~~**3408.7.10 Dressing, fitting and locker rooms.** Where it is technically infeasible to provide accessible dressing, fitting or locker rooms at the same location as similar types of rooms, one accessible room on the same level shall be provided. Where separate sex facilities are provided, accessible rooms for each sex shall be provided. Separate sex facilities are not required where only unisex rooms are provided.~~

~~**3408.7.11 Check-out aisles.** Where check-out aisles are altered in facilities having a selling space of 5,000 square feet (465 m²) or more, at least one check-out aisle serving each function shall be made accessible.~~

~~**3408.7.12 Dispersion of seating at fixed or built-in tables, counters, or work surfaces.** Accessible seating at fixed or built-in tables, counters or work surfaces shall be distributed throughout the space or facility as much as technically feasible.~~

~~**3408.7.13 Sales and service counters.** Where it is technically infeasible for existing counters for sales or distribution of goods or services to be made accessible, an accessible auxiliary counter shall be provided.~~

~~**3408.7.14 Thresholds.** The maximum height of thresholds at doorways shall be 3/4 inch (19.1 mm). Such threshold shall have beveled edges on each side.~~

~~**3408.8 Historic buildings.** These provisions shall apply to buildings and facilities designated as historic structures that undergo alterations or a change of occupancy, unless technically infeasible. Where compliance with the requirements for accessible routes, ramps, entrances, or toilet facilities would threaten or destroy the historic significance of the building or facility, as determined by the~~

authority having jurisdiction, the alternative requirements of Section 3408.8.1 through 3408.8.5 for that element shall be permitted.

~~**3408.8.1 Site arrival points.** At least one accessible route from a site arrival point to an accessible entrance shall be provided.~~

~~**3408.8.2 Multilevel buildings and facilities.** An accessible route from an accessible entrance to public spaces on the level of the accessible entrance shall be provided.~~

~~**3408.8.3 Entrances.** At least one main entrance shall be accessible.~~

~~**Exception:** If a main entrance cannot be made accessible, an employee or service entrance that is unlocked while the building is occupied shall be made accessible.~~

~~The accessible entrance shall have a notification system or be provided with remote monitoring.~~

~~**3408.8.4 Toilet and bathing facilities.** Where toilet rooms are provided at least one accessible toilet room complying with Section 1108.2.1 shall be provided.~~

~~**3408.8.5 Ramps.** The slope of a ramp run of 24 inches (610 mm) maximum shall not be steeper than one unit vertical in eight units horizontal (12 percent slope).~~

SECTION 3409

BUILDING CONSERVATION

3409.1 Applicable references. For existing buildings, see Appendix L. See also Section 102.6. For a comprehensive code and guidelines on the treatment of existing buildings, see the *Uniform Code for Building Conservation*.

SECTION 3409

COMPLIANCE ALTERNATIVES

~~**3409.1 Compliance.** The provisions of this section are intended to maintain or increase the current degree of public safety, health and general welfare in existing buildings while permitting repair, alteration, addition and change of occupancy without requiring full compliance with Chapters 2 through 33, or Sections 3401.3 through 3406, except where compliance with other provisions of this code is specifically required in this section.~~

~~**3409.2 Applicability.** Structures existing prior to [DATE TO BE INSERTED BY THE JURISDICTION.] Note: it is recommended that this date coincide with the effective date of building codes within the jurisdiction], in which there is work involving additions, alterations or changes of occupancy shall be made to conform to the requirements of this section or the provisions of Sections 3402 through 3406. The provisions in Sections 3409.2.1 through 3409.2.5 shall apply to existing occupancies that will continue to be, or are proposed to be, in Groups A, B, E, F, M, R, S and U. These provisions shall not apply to buildings with occupancies in Group H or I.~~

~~**3409.2.1 Change in occupancy.** Where an existing building is changed to a new occupancy classification and this section is applicable, the provisions of this section for the new occupancy shall be used to determine compliance with this code.~~

~~**3409.2.2 Part change in occupancy.** Where a portion of the building is changed to a new occupancy classification, and that portion is separated from the remainder of the building with fire barrier walls assemblies having a fire resistance rating as required by Table 302.3.3 for the separate occupancies, or with approved compliance alternatives, the portion changed shall be made to conform to the provisions of this section. Where a portion of the building is changed to a new occupancy classification, and that portion is not separated from the remainder of the building with fire separation assemblies having a fire resistance rating as required by Table 302.3.3 for the separate occupancies, or with approved compliance alternatives, the provisions of this section which apply to each occupancy shall apply to the entire building. Where there are~~

~~conflicting provisions, those requirements which secure the greater public safety shall apply to the entire building or structure.~~

~~**3409.2.3 Additions.** Additions to existing buildings shall comply with the requirements of this code for new construction. The combined height and area of the existing building and the new addition shall not exceed the height and area allowed by Chapter 5. Where a fire wall that complies with Section 705 is provided between the addition and the existing building, the addition shall be considered a separate building.~~

~~**3409.2.4 Alterations and repairs.** An existing building or portion thereof, which does not comply with the requirements of this code for new construction shall not be altered or repaired in such a manner that results in the building being less safe or sanitary than such building is currently. If, in the alteration or repair, the current level of safety or sanitation is to be reduced, the portion altered or repaired shall conform to the requirements of Chapters 2 through 12 and Chapters 14 through 33.~~

~~**3409.2.5 Accessibility requirements.** All portions of the buildings proposed for change of occupancy shall conform to the accessibility provisions of Chapter 11.~~

~~**3409.3 Acceptance.** For repairs, alterations, additions and changes of occupancy to existing buildings that are evaluated in accordance with this section, compliance with this section shall be accepted by the building official.~~

~~**3409.3.1 Hazards.** Where the building official determines that an unsafe condition exists, as provided for in Section 115, such unsafe condition shall be abated in accordance with Section 115.~~

~~**3409.3.2 Compliance with other codes.** Buildings that are evaluated in accordance with this section shall comply with the *International Fire Code* and *International Property Maintenance Code*.~~

~~**3409.4 Investigation and evaluation.** For proposed work covered by this section, the building owner shall cause the existing building to be investigated and evaluated in accordance with the provisions of this section.~~

~~**3409.4.1 Structural analysis.** The owner shall have a structural analysis of the existing building made to determine adequacy of structural systems for the proposed alteration, addition or change of occupancy. The existing building shall be capable of supporting the minimum load requirements of Chapter 16.~~

~~**3409.4.2 Submittal.** The results of the investigation and evaluation as required in Section 3409.4, along with proposed compliance alternatives, shall be submitted to the building official.~~

~~**3409.4.3 Determination of compliance.** The building official shall determine whether the existing building, with the proposed addition, alteration or change of occupancy, complies with the provisions of this section in accordance with the evaluation process in Sections 3409.5 through 3409.9.~~

~~**3409.5 Evaluation.** The evaluation shall be comprised of three categories: fire safety, means of egress and general safety, as defined in Sections 3409.5.1 through 3409.5.3.~~

~~**3409.5.1 Fire safety.** Included within the fire safety category are the structural fire resistance, automatic fire detection, fire alarm and fire suppression system features of the facility.~~

~~**3409.5.2 Means of egress.** Included within the means of egress category are the configuration, characteristics and support features for means of egress in the facility.~~

CHAPTER 46
HOUSTON SIGN CODE

The Houston Sign Code, which is published as a separate document, constitutes Chapter 46 of this code.

APPENDIX E

SUPPLEMENTARY ACCESSIBILITY REQUIREMENTS

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

SECTION E1101

GENERAL

E1101.1 Scope. The provision of this appendix shall control the supplementary requirements for the design and construction of facilities for accessibility to physically disabled persons.

~~**E1101.2 Design.** Technical requirements for items herein shall comply with this code and ICC/ANSI A117.1.~~

SECTION E1102

DEFINITIONS

E1102.1 General. The following words and terms shall, for the purposes of this appendix, have the meanings shown herein:

~~**CLOSED-CIRCUIT TELEPHONE.** A telephone with a dedicated line such as a house phone, courtesy phone or phone that must be used to gain entrance to a facility.~~

~~**TRANSIENT LODGING.** A building, facility, or portion thereof, excluding inpatient medical care facilities and long term care facilities, that contains one or more dwelling units or sleeping accommodations. Examples of transient lodging include, but are not limited to, resorts, group homes, hotels, motels, dormitories, homeless shelters, halfway houses and social service lodging.~~

SECTION E1103

ACCESSIBLE ROUTE

~~E1103.1 Raised platforms.~~ In banquet rooms or spaces where a head table or speaker's lectern is located on a raised platform, an accessible route shall be provided to the platform.

**SECTION E1104
SPECIAL OCCUPANCIES**

~~E1104.1 General.~~ Transient lodging facilities shall be provided with accessible features in accordance with Sections E1104.2 through E1104.3.1.

~~E1104.2 Accessible beds.~~ In rooms or spaces having four or more beds, the number of accessible beds in each room shall be provided in accordance with Table E1104.2. If facilities for separate sexes are provided, accessible beds must be dispersed for both sexes.

**TABLE E1104.2
ACCESSIBLE BEDS**

TOTAL NUMBER OF BEDS IN SLEEPING ACCOMMODATIONS	MINIMUM REQUIRED NUMBER OF ACCESSIBLE BEDS
4 to 25	1
26 to 50	2
51 to 75	4
76 to 100	5
101 to 150	7
151 to 200	8
201 to 300	10
301 to 400	12
401 to 500	13
501 to 1,000	3% of total
Over 1,001	30 plus 2 for each 100 over 1,000

~~**E1104.2.1 Sleeping areas.** A clear floor space complying with ICC/ANSI A117.1 shall be provided on both sides of the accessible bed. The clear floor space shall be positioned for parallel approach to the side of the bed.~~

~~**Exception:** This requirement shall not apply where a single clear floor space complying with ICC/ANSI A117.1 positioned for parallel approach is provided between two beds.~~

~~**E1104.3 Communication features.** In transient lodging facilities, sleeping accommodations with accessible communication features shall be provided in accordance with Table E1104.3 and shall comply with Section E1104.3.1.~~

~~**E1104.3.1 Notification devices.** Visual notification devices shall be provided to alert room occupants of incoming telephone calls and a door knock or bell. Notification devices shall not be connected to visual alarm signal appliances. Permanently installed telephones shall have volume controls and an electrical outlet complying with ICC/ANSI A117.1 located within 48 inches (1219 mm) of the telephone to facilitate the use of a TTY.~~

**TABLE E1104.3
SLEEPING ACCOMMODATIONS WITH ACCESSIBLE
COMMUNICATION FEATURES**

TOTAL NUMBER OF SLEEPING ACCOMMODATIONS PROVIDED	MINIMUM REQUIRED NUMBER OF SLEEPING ACCOMMODATIONS WITH ACCESSIBLE COMMUNICATION FEATURES
1	1
2 to 25	2
26 to 50	4
51 to 75	7
76 to 100	9
101 to 150	12

151 to 200	14
201 to 300	17
301 to 400	20
401 to 500	22
501 to 1,000	5% of total
1,001 and over	50 plus 3 for each 100 over 1,000

**SECTION E1105
OTHER FEATURES AND FACILITIES**

E1105.1 Water coolers. ~~Where water coolers are provided, at least 50 percent, but not less than one, of such units provided on each floor shall comply with ICC/ANSI A117.1.~~

E1105.2 Portable toilet and bathing rooms. ~~Where multiple single-user portable toilet or bathing units are clustered at a single location, at least 5 percent, but not less than one toilet unit or bathing unit at each cluster, shall comply with ICC/ANSI A117.1.~~

Exception: ~~Portable toilet units provided for use exclusively by construction personnel on a construction site.~~

E1105.3 Laundry equipment. ~~Where washing machines or clothes dryers are provided in spaces required to be accessible, at least one of each type shall comply with ICC/ANSI A117.1.~~

E1105.4 Vending machines and similar equipment. ~~In restaurants and cafeterias, spaces for vending machines and similar equipment shall comply with ICC/ANSI A117.1.~~

E1105.5 Automatic teller machines and fare machines. ~~Where automatic teller machines or self-service fare vending, collection, or adjustment machines are provided, at least one machine of each~~

type at each location where such machines are provided shall be accessible. Where bins are provided for envelopes, waste paper, or other purposes, at least one of each type shall be accessible.

**SECTION E1106
TELEPHONES**

E1106.1 General. Where public pay telephones, public closed-circuit telephones, or other types of public telephones are provided, accessible public telephones shall be provided in accordance with Sections E1106.2 through E1106.5 for each type of public telephone provided. For purposes of this section, a bank of telephones shall be considered two or more adjacent telephones.

E1106.2 Wheelchair accessible telephones. Where public telephones are provided, wheelchair accessible telephones complying with ICC/ANSI A117.1 shall be provided in accordance with Table E1106.2.

**TABLE E1106.2
WHEELCHAIR ACCESSIBLE TELEPHONES**

NUMBER OF TELEPHONES PROVIDED ON A FLOOR OR LEVEL	MINIMUM REQUIRED NUMBER OF WHEELCHAIR-ACCESSIBLE TELEPHONES
1 or more single unit	1 per floor or level
1 bank	1 per floor or level
2 or more banks	1 per bank ^a

a. At least one telephone per floor shall provide a forward approach complying with ICC/ANSI A117.1, except for exterior installations where dial tone first service is available.

E1106.3 Volume controls. Each wheelchair accessible telephone required by Section E1106.2 and 25 percent, but not less than one, of other public telephones provided shall have volume control complying with ICC/ANSI A117.1. Such telephones shall be identified by signs containing pictograms of a telephone handset with radiating sound waves complying with ICC/ANSI A117.1.

Exception: Pictograms are not required where every public telephone has volume control.

~~**E1106.4 TTYs.** TTYs complying with ICC/ANSI A117.1 shall be provided in accordance with Sections E1106.4.1 through E1106.4.8.~~

~~**E1106.4.1 Bank requirement.** Where four or more public pay telephones are provided at a bank of telephones, at least one public TTY shall be provided at that bank.~~

~~**Exception:** TTYs are not required at banks of telephones located within 200 feet (60 960 mm) of, and on the same floor as, a bank containing a public TTY.~~

~~**E1106.4.2 Floor requirement.** Where four or more public pay telephones are provided on a floor of a building, at least one public TTY shall be provided on that floor.~~

~~**E1106.4.3 Building requirement.** Where four or more public pay telephones are provided in a building, at least one public TTY shall be provided in the building.~~

~~**E1106.4.4 Site requirement.** Where four or more public pay telephones are provided on a site, at least one public TTY shall be provided on the site.~~

~~**E1106.4.5 Rest stops, emergency road stops, and service plazas.** Where a public pay telephone is provided at a public rest stop, emergency road stop or service plaza, at least one public TTY shall be provided.~~

~~**E1106.4.6 Hospitals.** Where a public pay telephone is provided in or adjacent to a hospital emergency room, hospital recovery room, or hospital waiting room, at least one public TTY shall be provided at each such location.~~

~~**E1106.4.7 Transportation facilities.** Transportation facilities shall be provided with TTYs in accordance with Sections E1109.2.5 and E1110.2 in addition to the TTYs required by Sections E1106.4.1 through E1106.4.4.~~

~~**E1106.4.8 Signs.** Public TTYs shall be identified by the International Symbol of TTY complying with ICC/ANSI A117.1. Directional signs indicating the location of the nearest public TTY shall be provided at banks of public pay telephones not containing a public TTY. Such signs shall comply with ICC/ANSI A117.1 and shall include the International Symbol of TTY.~~

~~**E1106.5 Shelves for portable TTYs.** Where a bank of telephones in the interior of a building consists of three or more public pay telephones, at least one public pay telephone at the bank shall be provided with a shelf and an electrical outlet in accordance with ICC/ANSI A117.1.~~

~~**SECTION E1107**~~

~~**SIGNAGE**~~

~~**E1107.1 Signs.** Required accessible portable toilets and bathing facilities shall be identified by the International Symbol of Accessibility.~~

~~**E1107.2 Permanent designations.** Where exterior signs are provided as permanent designations of permanent interior rooms and spaces at the door to the space they serve, the signs shall be tactile. Where interior signs are provided as permanent designations of permanent interior rooms and spaces, the signs shall be tactile. Where pictograms are provided as permanent designations of permanent interior rooms and spaces, the pictograms shall have tactile text descriptors. Signage shall comply with ICC/ANSI A117.1.~~

~~**E1107.3 Directional and informational signs.** Signs which provide direction to, or information about, permanent interior spaces of the site and facilities shall contain visual characters complying with ICC/ANSI A117.1.~~

~~**Exception:** Building directories, personnel names, company or occupant names and logos, menus and temporary signs are not required to comply with ICC/ANSI A117.1.~~

~~**E1107.4 Other signs.** Signage indicating special accessibility provisions shall be provided as follows:~~

- ~~1. At bus stops and terminals, signage must be provided in accordance with Section E1108.4.~~
- ~~2. At fixed facilities and stations, signage must be provided in accordance with Sections E1109.2.2 through E1109.2.2.3.~~
- ~~3. At airports, terminal information systems must be provided in accordance with Section E1110.3.~~

~~**SECTION E1108**~~

~~**BUS STOPS AND TERMINALS**~~

~~**E1108.1 General.** Bus stops and terminals shall comply with Sections E1108.2 through E1108.5.~~

~~**E1108.2 Bus stop pads.** Where new bus stop pads are constructed at bus stops, bays or other areas where a lift or ramp is to be deployed, they shall comply with Sections E1108.2.1 through E1108.2.4.~~

~~**E1108.2.1 Surface.** Bus stop pads shall have a firm, stable surface.~~

~~**E1108.2.2 Dimensions.** Bus stop pads shall have a clear length of 96 inches (2438 mm) minimum measured from the curb or vehicle roadway edge and a clear width of 60 inches (1524 mm) minimum measured parallel to the vehicle roadway to the maximum extent allowed by legal or site constraints.~~

~~**E1108.2.3 Connection.** Bus stop pads shall be connected to streets, sidewalks or pedestrian paths by an accessible route complying with Section 1104.~~

~~**E1108.2.4 Slope.** The slope of the bus stop pad parallel to the roadway shall, to the extent practicable, be the same as the roadway. For water drainage, a maximum slope of 1:48 perpendicular to the roadway is allowed.~~

~~**E1108.3 Bus shelters.** Where provided, new or replaced bus shelters shall provide a minimum clear floor or ground space complying with ICC/ANSI A117.1. Such shelters shall be connected by an accessible route to the boarding area required by E1108.2.~~

~~**E1108.4 Signs.** New bus route identification signs shall comply with ICC/ANSI A117.1.~~

~~**Exception:** Bus schedules, timetables and maps that are posted at the bus stop or bus bay are not required to comply with this requirement.~~

~~**E1108.5 Bus stop siting.** Bus stop sites shall be chosen such that, to the maximum extent practicable, the areas where lifts or ramps are to be deployed comply with Sections E1108.2 and E1108.3.~~

SECTION E1109

FIXED TRANSPORTATION FACILITIES AND STATIONS

~~**E1109.1 General.** Fixed transportation facilities and stations shall comply with the applicable provisions of Sections E1109.2 through E1109.4.~~

~~**E1109.2 New construction.** New stations in rapid rail, light rail, commuter rail, intercity bus, intercity rail, high speed rail and other fixed guideway systems shall comply with Sections E1109.2.1 through E1109.2.9.~~

~~**E1109.2.1 Station entrances.** Where different entrances to a station serve different transportation fixed routes or groups of fixed routes, at least one entrance serving each group or route shall comply with Section 1104 and ICC/ANSI A117.1. Accessible entrances shall, to the maximum extent practicable, coincide with those used by the majority of the general public. In below ground subway stations, at least one entrance to each station shall comply with Section 1104 and ICC/ANSI A117.1.~~

~~**E1109.2.2 Signs.** Signage in fixed transportation facilities and stations shall comply with Sections E1109.2.2.1 through E1109.2.2.3.~~

~~**E1109.2.2.1 Tactile signs.** Where signs are provided at entrances to stations identifying the station or the entrance, or both, at least one sign at each entrance shall be tactile and shall comply with ICC/ANSI A117.1. Such signs shall be placed in uniform locations at entrances within the transit system to the maximum extent practicable.~~

~~**Exception:** Where the station has no defined entrance but signs are provided, the tactile signs shall be placed in a central location.~~

~~**E1109.2.2.2 Identification signs.** Stations covered by this section shall have identification signs complying with ICC/ANSI A117.1. Signs shall be clearly visible and within the sightlines of a standing or sitting passenger from within the train on both sides when not obstructed by another train.~~

~~**E1109.2.2.3 Informational signs.** Lists of stations, routes and destinations served by the station which are located on boarding areas, platforms, or mezzanines shall comply with ICC/ANSI A117.1. A minimum of one tactile sign identifying the specific station and complying with ICC/ANSI A117.1 shall be provided on each platform or boarding area. Signs covered by this provision shall, to the maximum extent practicable, be placed in uniform locations within the transit system.~~

~~**Exception:** Where sign space is limited, track numbers, train destination names, directions to the ticket office, and information essential to using the transit system shall have a character height of 3 inches (76 mm) minimum and shall comply with ICC/ANSI A117.1. Specific exit street names, directional information, and other information not essential to use of the transit system shall have a character height of 1.5 inches (38 mm) minimum and shall comply with ICC/ANSI A117.1.~~

~~**E1109.2.3 Fare machines.** Self-service fare vending, collection and adjustment machines shall comply with ICC/ANSI A117.1. Where self-service fare vending, collection or adjustment machines~~

are provided for the use of the general public, at least one accessible machine of each type provided shall be provided at each accessible point of entry or exit.

E1109.2.4 Rail-to-platform height. In stations covered by this section, rail-to-platform height shall be coordinated with the floor height of new vehicles so that the vertical difference, measured when the vehicle is at rest, is within plus or minus 0.625 inch (15.9 mm) under normal passenger load conditions. For rapid rail, light rail, commuter rail, high speed rail, and intercity rail systems in new stations, the horizontal gap, measured when the new vehicle is at rest, shall be 3 inches (76 mm) maximum. For slow-moving automated guideway “people mover” transit systems, the horizontal gap in new stations shall be 1 inch (25.4 mm) maximum.

Exceptions:

1. For existing vehicles operating in new light rail, commuter rail, high speed rail, and intercity rail stations, the maximum vertical difference with respect to the new platform shall be plus or minus 1.5 inches (38 mm).
2. In light rail, commuter rail and intercity rail systems where it is not operationally or structurally feasible to meet the horizontal gap or vertical difference requirements, mini-high platforms, carborne or platform-mounted lifts, ramps or bridge plates, or similar manually deployed devices meeting the applicable requirements of 36 CFR Part 1192, or 49 CFR Part 38 shall suffice.

E1109.2.5 TTYs. Where a public pay telephone is provided in a transit facility (as defined by the Department of Transportation) at least one public TTY complying with ICC/ANSI A117.1 shall be provided in the station. Where four or more public pay telephones serve a particular entrance to a rail station, at least one TTY telephone complying with ICC/ANSI A117.1 shall be provided to serve that entrance.

E1109.2.6 Track crossings. Where it is necessary to cross tracks to reach boarding platforms, the route surface shall be level with the rail top at the outer edge and between the rails, except for a 2.5

~~inch (64 mm) maximum gap on the inner edge of each rail to permit passage of wheel flanges. Where gap reduction is not practicable, an above-grade or below-grade accessible route shall be provided.~~

~~**E1109.2.7 Public address systems.** Where public address systems are provided to convey information to the public in terminals, stations or other fixed facilities, a means of conveying the same or equivalent information to persons with hearing loss or who are deaf shall be provided.~~

~~**E1109.2.8 Clocks.** Where clocks are provided for use by the general public, the clock face shall be uncluttered so that its elements are clearly visible. Hands, numerals and digits shall contrast with the background either light on dark or dark on light. Where clocks are mounted overhead, numerals and digits shall comply with ICC/ANSI A117.1.~~

~~**E1109.2.9 Escalators.** Where provided in below-grade stations, escalators shall have a clear width of 32 inches (813 mm) minimum.~~

~~**E1109.3 Existing facilities: key stations.** Rapid, light and commuter rail key stations, as defined under criteria established by the Department of Transportation in Subpart C of 49 CFR Part 37, and existing intercity rail stations shall comply with Sections E1109.3.1 through E1109.3.3.~~

~~**E1109.3.1 Accessible route.** At least one accessible route from an accessible entrance to those areas necessary for use of the transportation system shall be provided. The accessible route shall include the features specified in Section E1109.2, except that escalators shall not be required to comply with Section E1109.2.9. Where technical infeasibility in existing stations requires the accessible route to lead from the public way to a paid area of the transit system, an accessible fare collection machine complying with Section E1109.2.3 shall be provided along such accessible route.~~

~~**E1109.3.2 Rail to platform height.** In light rail and commuter rail key stations, the platform or a portion thereof and the vehicle floor shall be coordinated so that the vertical difference, measured~~

when the vehicle is at rest, within plus or minus 1.5 inches (38 mm) under normal passenger load conditions, and the horizontal gap, measured when the vehicle is at rest, is 3 inches (76 mm) maximum for at least one door of each vehicle or car required to be accessible by 49 CFR Part 37.

Exceptions:

1. Existing vehicles retrofitted to meet the requirements of 49 CFR Part 37.93 (one-car-per-train rule) shall be coordinated with the platform such that, for at least one door, the vertical difference between the vehicle floor and the platform, measured when the vehicle is at rest with 50 percent normal passenger capacity, is within plus or minus 2 inches (51 mm) and the horizontal gap is 4 inches (102 mm) maximum.
2. Where it is not structurally or operationally feasible to meet the horizontal gap or vertical difference requirements, mini-high platforms, car-borne or platform mounted lifts, ramps or bridge plates, or similar manually deployed devices, meeting the applicable requirements of 36 CFR Part 1192 shall suffice.

E1109.3.3 Direct connections. New direct connections to commercial, retail or residential facilities shall, to the maximum extent feasible, have an accessible route complying with Section 3408.6 from the point of connection to boarding platforms and transportation system elements used by the public. Any elements provided to facilitate future direct connections shall be on an accessible route connecting boarding platforms and transportation system elements used by the public.

E1109.4 Existing facilities: alterations. For the purpose of complying with 3408.6, an area of primary function shall be as defined by applicable provisions of 49 CFR Part 37.43(e) or 28 CFR Part 36.403.

SECTION E1110

AIRPORTS

E1110.1 New construction. New construction of airports shall comply with Sections E1110.2 through E1110.4.

~~**E1110.2 TTYs.** Where public pay telephones are provided, at least one TTY shall be provided in compliance with ICC/ANSI A117.1. Additionally, if four or more public pay telephones are located in a main terminal outside the security areas, a concourse within the security areas, or a baggage claim area in a terminal, at least one public TTY complying with ICC/ANSI A117.1 shall also be provided in each such location.~~

~~**E1110.3 Terminal information systems.** Terminal information systems that broadcast information to the general public through a public address system shall provide a means to provide the same or equivalent information to persons with a hearing loss or who are deaf.~~

~~**E1110.4 Clocks.** Where clocks are provided for use by the general public, the clock face shall be uncluttered so that its elements are clearly visible. Hands, numerals and digits shall contrast with their background either light on dark or dark on light. Where clocks are mounted overhead, numerals and digits shall comply with ICC/ANSI A117.1.~~

**SECTION E1114
REFERENCED STANDARDS**

DOJ 36 CFR Part 1192 /DOT 49 CFR Part 38,	ADA Accessibility Guidelines for Transportation Vehicles (ADAAG). Washington, D.C.: Department of Justice, 1991.	E1109.2.4, E1109.3.2
<hr/>		
DOT 49 CFR Part 37, /DOT 49 CFR Part 38,	Transportation Services for Individuals with Disabilities (ADA); Washington, D.C.: Department of Transportation, 1999.	E1109.3, E1109.3.2, E1109.4
<hr/>		
DOJ 28	CFR Part 36, Americans with Disabilities Act (ADA). Washington, D.C.:	E1109.4
<hr/>		

~~ICC/ANSI
A117.1-98,~~

~~Accessible and Usable
Buildings and Facilities.~~

~~E1101.2, etal~~

APPENDIX E
EXCAVATION AND GRADING

SECTION E101

PURPOSE

E101.1 General. The purpose of this appendix is to safeguard life, limb, property and the public welfare by regulating grading on private property

SECTION E102

SCOPE

E102.1 General. This appendix sets forth rules and regulations to control excavation, grading and earthwork construction, including fills and embankments; establishes the administrative procedure for issuance of permits; and provides for approval of plans and inspection of grading construction.

SECTION E103

PERMITS REQUIRED

E103.1 Permits required. Except as specified in Section E103.2 of this section, no person shall do any grading without first having obtained a grading permit from the building official.

E103.2 Exempted work. A grading permit is not required for the following:

1. When approved by the building official, grading in an isolated, self-contained area if there is no danger to private or public property.
2. An excavation below finished grade for basements and footings of a building, retaining wall or other structure authorized by a valid building permit. This shall not exempt any fill made with the material from such excavation or exempt any excavation having an unsupported height greater than 5 feet (1524 mm) after the completion of such structure.

3. Cemetery graves.
4. Refuse disposal sites controlled by other regulations.
5. Excavations for wells or tunnels or utilities.
6. Mining, quarrying, excavating, processing or stockpiling of rock, sand, gravel, aggregate or clay where established and provided for by law, provided such operations do not affect the lateral support or increase the stresses in or pressure upon any adjacent or contiguous property.
7. Exploratory excavations under the direction of soil engineers or engineering geologists.
8. An excavation that (1) is less than 2 feet (610 mm) in depth or (2) does not create a cut slope greater than 5 feet (1524 mm) height and steeper than 1 unit vertical in 1 1/2 units horizontal (66.7% slope).
9. A fill less than 1 foot (305 mm) in depth and placed on natural terrain with a slope flatter than 1 unit vertical in 5 units horizontal (20% slope), or less than 3 feet (914 mm) in depth, not intended to support structures, that does not exceed 50 cubic yards (38.3 m³) on any one lot and does not obstruct a drainage course.

Exemption from the permit requirements of this chapter shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this chapter or any other laws or ordinances.

E103.3 State and federal requirements. This Appendix is cumulative of all state and federal laws and regulations, including, but not limited to, Chapter 756 of the Texas Health and Safety Code and regulations issued thereunder and the Occupational Safety and Health Administration standards. No provision of this Appendix nor any permit issued hereunder shall be construed to authorize any work to be performed in a manner inconsistent with state or federal requirements, and it is the responsibility of the permit holder to ensure compliance therewith.

SECTION E104

HAZARDS

E104.1 General. Whenever the building official determines that any existing excavation or embankment or fill on private property has become a hazard to life and limb, or endangers property, or adversely affects the safety, use or stability of a public way or drainage channel, the owner of the property upon which the excavation or fill is located, or other person or agent in control of said property, upon receipt of notice in writing from the building official, shall within the period specified therein repair or eliminate such excavation or embankment so as to eliminate the hazard and be in conformance with the requirements of this code.

SECTION E105

DEFINITIONS

E105.1 General. For the purposes of this appendix, the definitions listed hereunder shall be construed as specified in this section.

APPROVAL shall mean that the proposed work or completed work conforms to this chapter in the opinion of the building official.

AS-GRADED is the extent of surface conditions on completion of grading.

BEDROCK is in-place solid rock.

BENCH is a relatively level step excavated into earth material on which fill is to be placed.

BORROW is earth material acquired from an off-site location for use in grading on a site.

CIVIL ENGINEER is a professional engineer registered in the state to practice in the field of civil works.

CIVIL ENGINEERING is the application of the knowledge of the forces of nature, principles of mechanics and the properties of materials to the evaluation, design and construction of civil works.

COMPACTION is the densification of a fill by mechanical means.

EARTH MATERIAL is any rock, natural soil or fill or any combination thereof.

ENGINEERING GEOLOGIST is a geologist experienced and knowledgeable in engineering geology.

ENGINEERING GEOLOGY is the application of geologic knowledge and principles in the investigation and evaluation of naturally occurring rock and soil for use in the design of civil works.

EROSION is the wearing away of the ground surface as a result of the movement of wind, water or ice.

EXCAVATION is the mechanical removal of earth material.

FILL is a deposit of earth material placed by artificial means.

GEOTECHNICAL ENGINEER. See "soils engineer."

GRADE is the vertical location of the ground surface.

Existing Grade is the grade prior to grading

Finish Grade is the final grade of the site that conforms to the approved plan.

Rough Grade is the stage at which the grade approximately conforms to the approved plan.

GRADING is any excavating or filling or combination thereof.

KEY is a designed compacted fill placed in a trench excavated in earth material beneath the toe of a proposed fill slope.

PROFESSIONAL INSPECTION is the inspection required by this code to be performed by the civil engineer, soils engineer or engineering geologist. Such inspections include that performed by persons supervised by such engineers or geologists and shall be sufficient to form an opinion relating to the conduct of the work.

SITE is any lot or parcel of land or contiguous combination thereof, under the same ownership, where grading is performed or permitted.

SLOPE is an inclined ground surface the inclination of which is expressed as a ratio of horizontal distance to vertical distance.

SOIL is naturally occurring superficial deposits overlying bedrock.

SOILS ENGINEER (GEOTECHNICAL ENGINEER) is an engineer experienced and knowledgeable in the practice of soils engineering (geotechnical) engineering.

SOILS ENGINEERING (GEOTECHNICAL ENGINEERING) is the application of the principles of soils mechanics in the investigation, evaluation and design of civil works involving the use of earth materials and the inspection or testing of the construction thereof.

TERRACE is a relatively level step constructed in the face of graded slope surface for drainage and maintenance purposes.

SECTION E106
GRADING PERMIT REQUIREMENTS

E106.1 Permits required. Except as exempted in Section E103 of this code, no person shall do any grading without first obtaining a grading permit from the building official. A separate permit shall be obtained for each site, and may cover both excavations and fills.

E106.2 Application. The provisions of Section 105.3 are applicable to grading. Additionally, the application shall state the estimated quantities of work involved.

E106.3 Grading designation. Grading in excess of 5,000 cubic yards (3825 m³) shall be performed in accordance with the approved grading plan prepared by a civil engineer, and shall be designated as "engineered grading." Grading involving less than 5,000 cubic yards (3825 m³) shall be designated "regular grading" unless the permittee chooses to have the grading performed as engineered grading, or the building official determines that special conditions or unusual hazards exist, in which case grading shall conform to the requirements for engineered grading.

E106.4 Engineered grading requirements. Application for a grading permit shall be accompanied by two sets of plans and specifications, and supporting data consisting of a soils engineering report and engineering geology report. The plans and specifications shall be prepared and signed by an individual licensed by the state to prepare such plans or specifications when required by the building official.

Specifications shall contain information covering construction and material requirements.

Plans shall be drawn to scale upon substantial paper or cloth and shall be of sufficient clarity to indicate the nature and extent of the work proposed and show in detail that they will conform to the provisions of this code and all relevant laws, ordinances, rules and regulations. The first sheet of each set of plans shall give location of the work, the name and address of the owner, and the person by whom they were prepared.

The plans shall include the following information:

1. General vicinity of the proposed site.
2. Property limits and accurate contours of existing ground and details of terrain and area drainage.
3. Limiting dimensions, elevations or finish contours to be achieved by the grading, and proposed drainage channels and related construction.
4. Detailed plans of all surface and subsurface drainage devices, walls, cribbing, dams and other protective devices to be constructed with, or as a part of, the proposed work, together with a map showing the drainage area and the estimated runoff of the area served by any drains.
5. Location of any buildings or structures on the property where the work is to be performed and the location of any buildings or structures on land of adjacent owners that are within 15 feet (4572 mm) of the property or that may be affected by the proposed grading operations.
6. Recommendations included in the soils engineering report and the engineering geology report shall be incorporated in the grading plans or specifications. When approved by the building official, specific recommendations contained in the soils engineering report and the engineering geology report, which are applicable to grading, may be included by reference. The dates of the soils engineering and engineering geology reports together with the names, addresses and phone numbers of the firms or individuals who prepared the reports.

E106.5 Soils engineering report. The soils engineering report required by Section E106.4 shall include data regarding the nature, distribution and strength of existing soils, conclusions and recommendations for grading procedures and design criteria for corrective measures, including buttress fills, when necessary, and opinion on adequacy for the intended use of sites to be developed by the proposed grading as affected by soils engineering factors, including the stability of slopes.

E106.6 Engineering geology report. The engineering geology report required by Section E106.4 shall include an adequate description of the geology of the site, conclusions and recommendations regarding the effect of geologic conditions on the proposed development, and opinion on the adequacy for the intended use of sites to be developed by the proposed grading, as affected by geologic factors.

E106.7 Liquefaction study. The building official may require a geotechnical investigation in accordance with Sections 1802.4 when, during the course of an investigation, all of the following conditions are discovered, the report shall address the potential for liquefaction:

1. Shallow ground water, 50 feet (15 240 mm) or less.
2. Unconsolidated sandy alluvium.
3. Seismic Zones C and D.

E106.8 Regular grading requirements. Each application for a grading permit shall be accompanied by a plan in sufficient clarity to indicate the nature and extent of the work. The plans shall give the location of the work, the name of the owner and the name of the person who prepared the plan. The plan shall include the following information:

1. General vicinity of the proposed site.
2. Limiting dimensions and depth of cut and fill
3. Location of any buildings or structures where work is to be performed, and the location of any buildings or structures within 15 feet (4572 mm) of the proposed grading.

E106.9 Issuance. The provisions of Section 105.3 are applicable to grading permits. The building official may require that grading operations and project designs be modified if delays occur which incur weather-generated problems not considered at the time the permit was issued.

The building official may require professional inspection and testing by the soils engineer. When the building official has cause to believe that geologic factors may be involved, the grading will be required to conform to engineered grading.

SECTION E107

GRADING FEES

E107.1 General. Fees shall be assessed in accordance with the provisions of this section or shall be as set forth in the fee schedule adopted by the jurisdiction.

E107.2 Grading permit fees. A fee for each grading permit shall be paid to the building official as set forth in Section 117.2.1. Separate permits and fees shall apply to retaining walls or major drainage structures as required elsewhere in this code. There shall be no separate charge for standard terrace drains and similar facilities

SECTION E108

BONDS

E108.1 Bond required. The building official may require bonds in such form and amounts as may be deemed necessary to ensure that the work, if not completed in accordance with the approved plans and specifications, will be corrected to eliminate hazardous conditions.

In lieu of a surety bond the applicant may file a cash bond or instrument of credit with the building official in an amount equal to that which would be required in the surety bond.

SECTION E109

CUTS

E109.1 General. Unless otherwise recommended in the approved soils engineering or engineering geology report, cuts shall conform to the provisions of this section.

In the absence of an approved soils engineering report, these provisions may be waived for minor cuts not intended to support structures.

E109.2 Slope. The slope of cut surfaces shall be no steeper than is safe for the intended use and shall be no steeper than 1 unit vertical in 2 units horizontal (50% slope) unless the permittee furnishes a soils engineering or an engineering geology report, or both, stating that the site has been investigated and giving an opinion that a cut at a steeper slope will be stable and not create a hazard to public or private property.

SECTION E110

FILLS

E110.1 General. Unless otherwise recommended in the approved soils engineering report, fills shall conform to the provisions of this section.

In the absence of an approved soils engineering report, these provisions may be waived for minor fills not intended to support structures.

E110.2 Preparation of ground. Fill slopes shall not be constructed on natural slopes steeper than 1 unit vertical in 2 units horizontal (50% slope). The ground surface shall be prepared to receive fill by removing vegetation, noncomplying fill, topsoil and other unsuitable materials scarifying to provide a bond with the new fill and, where slopes are steeper than 1 unit vertical in 5 units horizontal (20% slope) and the height is greater than 5 feet (1524 mm), by benching into sound bedrock or other competent material as determined by the soils engineer. The bench under the toe of a fill on a slope steeper than 1 unit vertical in 5 units horizontal (20% slope) shall be at least 10 feet (3048 mm) wide. The area beyond the toe of fill shall be sloped for sheet overflow or a paved drain shall be provided. When fill is to be placed over a cut, the bench under the toe of fill shall be at least 10 feet (3048 mm) wide but the cut shall be made before placing the fill and acceptance by the soils engineer or engineering geologist or both as a suitable foundation for fill.

E110.3 Fill material. Detrimental amounts of organic material shall not be permitted in fills. Except as permitted by the building official, no rock or similar irreducible material with a maximum dimension greater than 12 inches (305 mm) shall be buried or placed in fills.

Exception: The building official may permit placement of larger rock when the soils engineer properly devises a method of placement, and continuously inspects its placement and approves the fill stability. The following conditions shall also apply:

1. Prior to issuance of the grading permit, potential rock disposal areas shall be delineated on the grading plan.
2. Rock sizes greater than 12 inches (305 mm) in maximum dimension shall be 10 feet (3048 mm) or more below grade, measured vertically.

3. Rocks shall be placed so as to assure filling of all voids with well-graded soil.

E110.4 Compaction. All fills shall be compacted to a minimum of 90 percent of maximum density.

E110.5 Slope. The slope of fill surfaces shall be no steeper than is safe for the intended use. Fill slopes shall be no steeper than 1 unit vertical in 2 units horizontal (50% slope).

SECTION E111

SETBACKS

E111.1 General. Cut and fill slopes shall be set back from site boundaries in accordance with this section. Setback dimensions shall be horizontal distances measured perpendicular to the site boundary. Setback dimensions shall be as shown in Figure E111.1

E111.2 Top of cut slope. The top of cut slopes shall not be made nearer to a site boundary line than one fifth of the vertical height of cut with a minimum of 2 feet (610 mm) and a maximum of 10 feet (3048 mm). The setback may need to be increased for any required interceptor drains.

E111.3 Toe of fill slope. The toe of fill slope shall be made not nearer to the site boundary line than one half the height of the slope with a minimum of 2 feet (610 mm) and a maximum of 20 feet (6096 mm). Where a fill slope is to be located near the site boundary and the adjacent off-site property is developed, special precautions shall be incorporated in the work as the building official deems necessary to protect the adjoining property from damage as a result of such grading. These precautions may include but are not limited to:

1. Additional setbacks.
2. Provision for retaining or slough walls.
3. Mechanical or chemical treatment of the fill slope surface to minimize erosion.
4. Provisions for the control of surface waters.

E111.4 Modification of slope location. The building official may approve alternate setbacks. The building official may require an investigation and recommendation by a qualified engineer or engineering geologist to demonstrate that the intent of this section has been satisfied.

SECTION E112

DRAINAGE AND TERRACING

E112.1 General. Unless otherwise indicated on the approved grading plan, drainage facilities and terracing shall conform to the provisions of this section for cut or fill slopes steeper than 1 unit vertical in 3 units horizontal (33.3% slope).

E112.2 Terrace. Terraces at least 6 feet (1829 mm) in width shall be established at not more than 30-foot (9144 mm) vertical intervals on all cut or fill slopes to control surface drainage and debris except that where only one terrace is required, it shall be at midheight. For cut or fill slopes greater than 60 feet (18 288 mm) and up to 120 feet (36 576 mm) in vertical height, one terrace at approximately midheight shall be 12 feet (3658 mm) in width. Terrace widths and spacing for cut and fill slopes greater than 120 feet (36 576 mm) in height shall be designed by the civil engineer and approved by the building official. Suitable access shall be provided to permit proper cleaning and maintenance.

Swales or ditches on terraces shall have a minimum gradient of 5 percent and must be paved with reinforced concrete not less than 3 inches (76 mm) in thickness or an approved equal paving. They shall have a minimum depth at the deepest point of 1 foot (305 mm) and a minimum paved width of 5 feet (1524 mm).

A single run of swale or ditch shall not collect runoff from a tributary area exceeding 13,500 square feet (1254.2 m²) (projected) without discharging into a down drain.

E112.3 Subsurface drainage. Cut and fill slopes shall be provided with subsurface drainage as necessary for stability

E112.4 Disposal. All drainage facilities shall be designed to carry waters to the nearest practicable drainage way approved by the building official or other appropriate jurisdiction as a safe place to deposit such waters. Erosion of ground in the area of discharge shall be prevented by installation of nonerosive downdrains or other devices.

Building pads shall have a drainage gradient of 2 percent toward approved drainage facilities, unless waived by the building official.

Exception: The gradient from the building pad may be 1 percent if all of the following conditions exist throughout the permit area:

1. No proposed fills are greater than 10 feet (3048 mm) in maximum depth.
2. No proposed finish cut or fill slope faces have a vertical height in excess of 10 feet (3048 mm).
3. No existing slope faces steeper than 1 unit vertical in 10 units horizontal (10% slope) have a vertical height in excess of 10 feet (3048 mm).

E112.5 Interceptor drains. Paved interceptor drains shall be installed along the top of all cut slopes where the tributary drainage area above slopes toward the cut and has a drainage path greater than 40 feet (12 192 mm) measured horizontally. Interceptor drains shall be paved with a minimum of 3 inches (76 mm) of concrete or gunite and reinforced. They shall have a minimum depth of 12 inches (305 mm) and a minimum paved width of 30 inches (762 mm) measured horizontally across the drain. The slope of drain shall be approved by the building official.

SECTION E113

EROSION CONTROL

E113.1 Slopes. The faces of cut and fill slopes shall be prepared and maintained to control against erosion. This control may consist of effective planting. The protection for the slopes shall be installed as soon as practicable and prior to calling for final approval. Where cut slopes are not subject to erosion due to the erosion-resistant character of the materials, such protection may be omitted.

E113.2 Other devices. Where necessary, check dams, cribbing, riprap or other devices or methods shall be employed to control erosion and provide safety

SECTION E114

GRADING INSPECTION

E114.1 General. Grading operations for which a permit is required shall be subject to inspection by the building official. Professional inspection of grading operations shall be provided by the civil engineer, soils engineer and the engineering geologist retained to provide such services in accordance with Section E114.5 for engineered grading and as required by the building official for regular grading.

E114.2 Civil engineer. The civil engineer shall provide professional inspection within such engineer's area of technical specialty, which shall consist of observation and review as to the establishment of line, grade and surface drainage of the development area. If revised plans are required during the course of the work they shall be prepared by the civil engineer.

E114.3 Soils engineer. The soils engineer shall provide professional inspection within such engineer's area of technical specialty, which shall include observation during grading and testing for required compaction. The soils engineer shall provide sufficient observation during the preparation of the natural ground and placement and compaction of the fill to verify that such work is being performed in accordance with the conditions of the approved plan and the appropriate requirements of this chapter. Revised recommendations relating to conditions differing from the approved soils engineering and engineering geology reports shall be submitted to the permittee, the building official and the civil engineer.

E114.4 Engineering geologist. The engineering geologist shall provide professional inspection within such engineer's area of technical specialty, which shall include professional inspection of the

bedrock excavation to determine if conditions encountered are in conformance with the approved report. Revised recommendations relating to conditions differing from the approved engineering geology report shall be submitted to the soils engineer.

E114.5 Permittee. The permittee shall be responsible for the work to be performed in accordance with the approved plans and specifications and in conformance with the provisions of this code, and the permittee shall engage consultants, if required, to provide professional inspections on a timely basis. The permittee shall act as a coordinator between the consultants, the contractor and the building official. In the event of changed conditions, the permittee shall be responsible for informing the building official of such change and shall provide revised plans for approval.

E114.6 Building official. The building official shall inspect the project at the various stages of work requiring approval to determine that adequate control is being exercised by the professional consultants.

E114.7 Notification of noncompliance. If, in the course of fulfilling their respective duties under this chapter, the civil engineer, the soils engineer or the engineering geologist finds that the work is not being done in conformance with this chapter or the approved grading plans, the discrepancies shall be reported immediately in writing to the permittee and to the building official.

E114.8 Transfer of responsibility. If the civil engineer, the soils engineer, or the engineering geologist of record is changed during grading, the work shall be stopped until the replacement has agreed in writing to accept their responsibility within the area of technical competence for approval upon completion of the work. It shall be the duty of the permittee to notify the building official in writing of such change prior to the recommencement of such grading.

SECTION E115

COMPLETION OF WORK

E115.1 Final reports. Upon completion of the rough grading work and at the final completion of the work, the following reports and drawings and supplements thereto are required for engineered grading or when professional inspection is performed for regular grading, as applicable.

1. An as-built grading plan prepared by the civil engineer retained to provide such services in accordance with Section E114.5 showing original ground surface elevations, as-graded ground surface elevations, lot drainage patterns, and the locations and elevations of surface drainage facilities and of the outlets of subsurface drains. As-constructed locations, elevations and details of subsurface drains shall be shown as reported by the soils engineer. Civil engineers shall state that to the best of their knowledge the work within their area of responsibility was done in accordance with the final approved grading plan.
2. A report prepared by the soils engineer retained to provide such services in accordance with Section E114.3, including locations and elevations of field density tests, summaries of field and laboratory tests, other substantiating data, and comments on any changes made during grading and their effect on the recommendations made in the approved soils engineering investigation report.
Soils engineers shall submit a statement that, to the best of their knowledge, the work within their area of responsibilities is in accordance with the approved soils engineering report and applicable provisions of this chapter.
3. A report prepared by the engineering geologist retained to provide such services in accordance with Section E114.5, including a final description of the geology of the site and any new information disclosed during the grading and the effect of same on recommendations incorporated in the approved grading plan. Engineering geologists shall submit a statement that, to the best of their knowledge, the work within their area of responsibility is in accordance with the approved engineering geologist report and applicable provisions of this chapter.

E115.2 Notification of Completion. The permittee shall notify the building official when the grading operation is ready for final inspection. Final approval shall not be given until all work, including installation of all drainage facilities and their protective devices, and all erosion-control

measures have been completed in accordance with the final approved grading plan, and the required reports have been submitted.

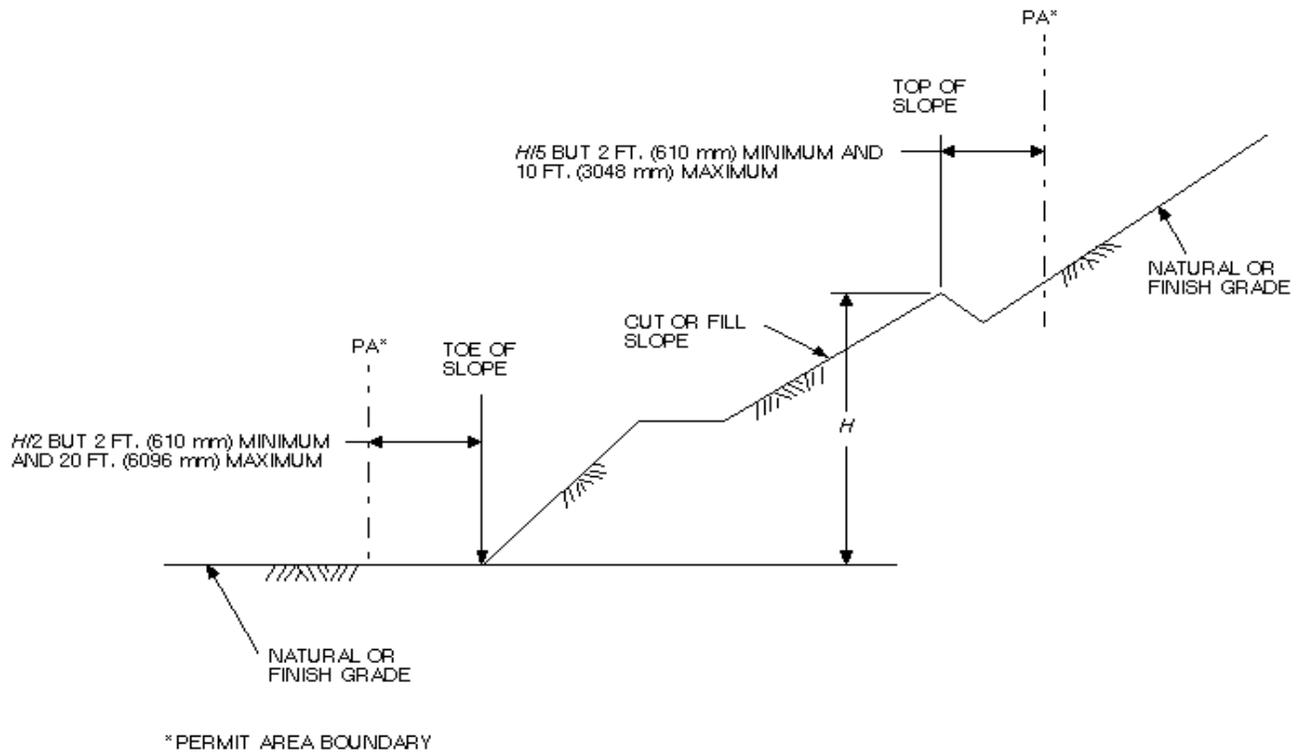


Figure E111.1 – Setback Dimensions

APPENDIX K
CONVENTIONAL LIGHT-FRAME WOOD CONSTRUCTION
FOR HIGH-WIND AREAS

SECTION K101
GENERAL

K101.1 Scope. This chapter applies to regular-shaped buildings that are not more than three stories in height and are of conventional light-frame construction.

Exception: Detached carports and garages not exceeding 700 square feet (65 m²) and accessory to Group R, Division 3 Occupancies need only comply with the roof-member-to-wall-tie requirements of Section K103.8.

SECTION K102
DEFINITION

CORROSION RESISTANT or NONCORROSIVE is material having a corrosion resistance equal to or greater than a hot-dipped galvanized coating of 1.5 ounces of zinc per square foot (4 g/m²) of surface area. When an element is required to be corrosion resistant or noncorrosive, all of its parts, such as screws, nails, wire, dowels, bolts, nuts, washers, shims, anchors, ties and attachments, shall also be corrosion resistant or noncorrosive.

SECTION K103
COMPLETE LOAD PATH AND UPLIFT TIES

K103.1 General. Blocking, bridging, straps, approved framing anchors or mechanical fasteners shall be installed to provide continuous ties from the roof to the foundation system. Tie straps shall be 1½-inch (28.6 mm) by 0.036-inch (0.91 mm) (No. 20 gage) sheet steel and shall be corrosion

resistant as herein specified. All metal connectors and fasteners used in exposed locations or in areas otherwise subject to corrosion shall be of corrosion-resistant or noncorrosive material. The number of common nails specified is the total required and shall be equally divided on each side of the connection. Nails shall be spaced to avoid splitting of the wood.

Exception: Pre-manufactured connectors that provide equal or greater tie-down capacity may be used provided that they are installed in compliance with all the manufacturer's specifications.

K103.2 Wall-to-foundation tie. Exterior walls shall be tied to a continuous foundation system, or an elevated foundation system in accordance with Section K105.

K103.3 Sills and foundation tie. Foundation plates resting on concrete or masonry foundations shall be bolted to the foundation with not less than 1/2-inch-diameter (13 mm) anchor bolts with 7-inch-minimum (178 mm) embedment into the foundation and spaced not more than 6 feet (1829 mm) on center.

K103.4 Floor-to-foundation tie. The lowest-level exterior wall studs shall be connected to the foundation sill plate or an approved elevated foundation system with bent tie straps spaced not more than 48 inches (1219 mm) on center. Tie straps shall be nailed with a minimum of 4 ten penny nails.

K103.5 Wall framing details. The spacing of studs in exterior walls shall be in accordance with Chapter 23. Mechanical fasteners complying with this chapter shall be installed at a maximum of 48 inches (1219 mm) on center as required to connect studs to the sole plates, foundation sill plate and top plates of the wall. The fasteners shall be nailed with a minimum of 8 eight penny nails.

Where openings exceed 4 feet (1219 mm) in width, the required tie straps shall be at each edge of the opening and connected to a doubled full-height wall stud. When openings exceed 12 feet (3658 mm) in width, two ties at each connection or a manufactured fastener designed to prevent uplift shall be provided.

K103.6 Wall sheathing. All exterior walls and required interior main cross-stud partitions shall be sheathed in accordance with Chapter 23.

K103.7 Floor-to-floor tie. Upper-level exterior wall studs shall be aligned and connected to the wall studs below with tie straps placed a minimum of 48 inches (1219) on center and connected with a minimum of 6 eight penny nails per strap.

K103.8 Roof-members-to-wall tie. Tie straps shall be provided from the side of the roof-framing member to the supporting member below the roof. Tie straps shall be placed no further apart than every other roof-framing member and connected with a minimum of 8 eight penny nails.

K103.9 Ridge ties. Opposing common rafters shall be aligned at the ridge and be connected at the rafters with tie straps spaced a maximum of 4 feet (1219 mm) on center and connected with 8 eight penny nails.

K103.10 Gable-end walls. Gable-end wall studs shall be continuous between points of lateral support that are perpendicular to the plane of the wall. Gable-end wall studs shall be attached with approved mechanical fasteners at the top and bottom. Eight 8 penny nails shall be required for each fastener. Fasteners shall be spaced a maximum of 48 inches (1219 mm) on center.

SECTION K104

ROOFS

K104.1 Roof sheathing. Solid roof sheathing shall be applied and shall consist of a minimum 1-inch-thick (25.4 mm) nominal lumber applied diagonally or a minimum 15/32-inch-thick (11.9 mm) wood structural panel or particle board (OSB) or other approved sheathing applied with the long dimension perpendicular to supporting rafters. Sheathing shall be nailed to roof framing in an approved manner. The end joints of wood structural panels or particle board shall be staggered and shall occur over blocking, rafters or other supports.

K104.2 Roof covering. Roof coverings shall be approved and shall be installed and fastened in accordance with Chapter 15 and with the manufacturer's instructions.

K104.3 Roof overhang. The roof eave overhang shall not exceed 3 feet (914 mm) unless an analysis is provided showing that the required resistance is provided to prevent uplift.

The roof overhang at gabled ends shall not exceed 2 feet (610 mm) unless an analysis showing that the required resistance to prevent uplift is provided.

SECTION K105

ELEVATED FOUNDATION

K105.1 General. When approved, elevated foundations supporting not more than one story and meeting the provisions of this section may be used. A foundation investigation may be required by the building official.

K105.2 Material. All exposed wood-framing members shall be treated wood. All metal connectors and fasteners used in exposed locations shall be corrosion-resistant or noncorrosive steel.

K105.3 Wood piles. The spacing of wood piles shall not exceed 8 feet (2438 mm) on center. Square piles shall not be less than 10 inches (254 mm) and tapered piles shall have a tip of not less than 8 inches (203 mm). Eight-inch-square (51613 mm²) piles shall have a minimum embedment length of 5 feet (1524 mm) and shall project not more than 8 feet (2438 mm) above undisturbed ground surface. Eight-inch (203 mm) taper piles shall have a minimum embedment length of 6 feet (1828 mm) and shall project not more than 7 feet (2134 mm) above undisturbed ground surface.

K105.4 Girders. Floor girders shall be solid sawn timber, built-up 2-inch-thick (51 mm) lumber or trusses. Splices shall occur over wood piles. The floor girders shall span in the direction parallel to the potential floodwater and wave action.

K105.5 Connections. Wood piles may be notched to provide a shelf for supporting the floor girders. The total notching shall not exceed 50 percent of the pile cross section. Approved bolted connections with 1/4-inch (6.4 mm) corrosion-resistant or noncorrosive steel plates and 3/4-inch-diameter (19 mm) bolts shall be provided. Each end of the girder shall be connected to the piles using a minimum of two 3/4-inch-diameter (19 mm) bolts.

APPENDIX L
LIFE SAFETY REQUIREMENTS
FOR EXISTING BUILDINGS

SECTION L101
GENERAL

L101.1 Purpose. The purpose of this appendix chapter is to provide a reasonable degree of safety to persons occupying existing buildings by providing for alterations to such existing buildings that do not conform with the minimum requirements of this code. This appendix chapter shall apply to and the term "existing building" shall be construed to mean any building existing within the corporate limits of the city on January 1, 1986, and any building annexed into the corporate limits after that date.

Exception: Group U and Group R, Division 3 Occupancies, and Groups B, F, M, and S, Division 1 or 2 Occupancies (other than motor vehicle repair garages) that are single-story buildings without basements.

L101.2 Compliance program. The owners of existing buildings shall apply for inspection by December 31, 1991, or one year from the date of annexation of the building into the jurisdiction, whichever is later. The building official shall determine the relative hazard category of each application and shall schedule inspections starting with the highest hazard category.

In situations where the jurisdiction or any other regulatory authority requires a valid certificate of occupancy prior to licensing a use and no certificate of occupancy was issued at the time of construction, a Life Safety Compliance Certificate shall satisfy the requirements for an existing building. Inspections that are required for permitting or licensing shall be given priority over other inspections provided that the applicant advises the building official of the need. An application for inspection under this appendix chapter shall be regarded as an application for a certificate of

occupancy for purpose of Section 10-3.1 of the City Code, and each application must be accompanied by the affidavit specified therein.

Hazard categories (from highest to lowest group):

1. Group A, Divisions 1 and 2; Group E; Group I; Group H, Divisions 1 and 2.
2. Group A, Division 3, 4, and 5
3. Group R, Divisions 1 and 2; Group B dining and drinking establishments; Group H other than Group H, Divisions 1 and 2.
4. Groups B, F, M, and S.

The building official shall notify the building owner or the owner's agent of the scheduled inspections at least 30 days in advance. Within 15 days following notification of the inspection date, the owner or agent shall pay the applicable fees established in Section 117.2.3. Following the inspection, the building official shall issue a Life Safety Compliance Certificate if there are no deficiencies. Where deficiencies are found, the owner or agent shall be advised in writing of the nature of the observed deficiencies that require correction. Such written notice shall not be construed to excuse compliance with any defects that may not have been observed or noted by the inspectors, and it shall be the duty of the owner to determine and correct all violations of this appendix chapter. It shall be the duty of the owner or agent to bring the building into full compliance with this appendix chapter within two years from the date that notice is given of deficiencies of inspection except to the extent that an extension of time has been granted as provided in Section L109 of this chapter.

Upon completion of compliance work, the building official shall conduct a final inspection and, upon determining that all requirements have been met, shall issue a Life Safety Compliance Certificate.

L101.3 Unsafe or hazardous conditions. Any condition in a building or building system, including, but not limited to, electrical, mechanical and plumbing systems, that is found to be unsafe, unsanitary or hazardous during a life safety compliance inspection shall be corrected as a part of the owner's compliance plan.

L101.4 Alternate materials and methods. Alternate materials and methods may be used, provided such materials or methods are found by the building official to be, for the purpose intended, at least the equivalent of that prescribed in this chapter in suitability, strength, effectiveness, fire resistance, durability and safety. The building official may permit alternates in conformance with Section 104.11 of this code.

L101.5 Dangerous buildings. The provisions of this appendix chapter shall not be construed to authorize the maintenance, use or keeping of any building in such condition that it constitutes a dangerous building under Article IX of Chapter 10 of the City Code or to excuse or extend the time given for compliance with any order issued thereunder by the hearing officer.

SECTION L102

EXITS

L102.1 Number of means of egress. Every floor above the first story used for human occupancy shall have at least two separate means of egress, one of which may be an exterior fire escape complying with Section L102.4. Subject to the approval of the official, an approved ladder device may be used in lieu of fire escape when the construction feature or location of the building on the property makes the installation of a fire escape impracticable.

Exception: In all occupancies, second stories with an occupant load of 10 or less may have one means of egress.

An exit ladder device when used in lieu of a fire escape shall conform with UBC Standard 10-3 and the following:

1. Serves an occupant load of than 10 or less or a single dwelling or guest room.
2. The building does not exceed three stories in height.
3. The access is adjacent to an opening as specified for emergency egress or rescue from a balcony.
4. Shall not pass in front of any building opening below the unit being served.

5. The availability of activating the device for the ladder is accessible only from the opening or balcony served.
6. Installed so that it will not cause a person using it to be within 6 feet (1829 mm) of exposed electrical wiring.

L102.2 Stair construction. All required stairs shall have a minimum run of 9 inches (229 mm) and a maximum rise of 8 inches (203 mm) and shall have a minimum width of 30 inches (762 mm) exclusive of handrails. Every stairway shall have at least one handrail. A landing having a minimum 30-inch (762 mm) run in the direction of travel shall be provided at each point of access to the stairway.

Exception: Fire escapes as provided for in this section.

Exterior stairs shall be of noncombustible construction.

Exception: On buildings of Types III, IV and V construction, provided the exterior stairs are constructed of wood not less than 2-inch (51 mm) nominal thickness.

L102.3 Corridors. Corridors serving as an exit for an occupant load of 30 or more, shall have walls and ceilings of not less than one-hour fire-resistive construction as required by this code. Existing walls surfaced with wood lath and plaster in good condition or ½-inch (12.7 mm) gypsum wallboard or openings with fixed wired glass set in metal frames are permitted for corridor walls and ceilings and occupancy separations when approved. Doors opening into such corridors shall be protected by 20-minute fire assemblies or solid wood doors not less than 1 ¾ inches (45 mm) thick. Where the existing frame will not accommodate the 1 ¾-inch-thick (45 mm) door, a 1 3/8-inch-thick (35 mm) solid bonded wood-core door or equivalent insulated steel door shall be permitted. Except for Group I Occupancy patient rooms, Group I Occupancy treatment rooms and Group I Occupancy emergency rooms, doors shall be self-closing or automatic closing by smoke detection. Transoms and openings other than doors from corridors to rooms shall comply with Section 714 or be covered with a minimum of ½-inch (12.7 mm) gypsum wallboard or equivalent material on the room side.

Exception: Existing corridor walls, ceilings and opening protection not in compliance with the above may be continued when such buildings are protected with an approved automatic sprinkler system throughout the floor or when such existing corridors are at least 10 feet or more in width.

L102.4 Fire escapes.

L102.4.1. Use as required exit. Existing fire escapes that, in the opinion of the building official, comply with the intent of this section may be used as one of the required exits. The location and anchorage of fire escapes shall be of approved design and construction.

L102.4.2. General requirements. Fire escapes shall comply with the following:

1. Access from a corridor shall not be through an intervening room.
2. All openings within 10 feet (3048 mm) shall be protected by three-fourths hour fire assemblies. When located within a recess or vestibule, adjacent enclosure walls shall be of not less than one-hour fire-resistive construction.
3. Egress from the building shall be by a clear opening having a minimum dimension of not less than 29 inches (737 mm). Such openings shall be openable from the inside without the use of a key or special knowledge or effort. The sill of an opening giving access shall not be more than 30 inches (762 mm) above the floor of the building or balcony.
4. Fire escape stairways and balconies shall support the dead load plus a live load of not less than 100 pounds per square foot (4.79 kN/m²) and shall be provided with a top and intermediate handrail on each side. The pitch of the stairway shall not exceed 60 degrees with a minimum width of 18 inches (457 mm). Treads shall be not less than 4 inches (102 mm) in width and the rise between treads shall not exceed 10 inches (254 mm). All stair and balcony railings shall support a horizontal force of not less than 50 pounds per lineal foot (729.5 N/m) of railing.
5. Balconies shall be not less than 44 inches (1118 mm) in width with no floor opening other than the stairway opening greater than 5/8 inch (16 mm) in width. Stairway openings in such balconies shall be not less than 22 inches by 44 inches (599 mm by 1118 mm). The balustrade of each balcony shall be not less than 36 inches (914 mm) high with not more than 9 inches (229 mm) between balusters.

6. Fire escapes shall extend to the roof or provide an approved gooseneck ladder between the top floor landing and the roof when serving buildings four or more stories in height having roofs with a slope of less than 4 units vertical in 12 units horizontal (33.3 % slope). Fire escape ladders shall be designed and connected to the building to withstand a horizontal force of 100 pounds per lineal foot (1459 N/m); each rung shall support a concentrated load of 500 pounds (2224 N) placed anywhere on the rung. All ladders shall be at least 15 inches (381 mm) wide, located within 12 inches (305 mm) of the building and shall be placed flatwise relative to the face of the building. Ladder rungs shall be 3/4 inch (19 mm) in diameter and shall be located 12 inches (305 mm) on center. Openings for roof access ladders through cornices and similar projections shall have minimum dimensions of 30 inches by 33 inches (762 mm by 838 mm).
7. The lowest balcony shall be not more than 18 feet (5486 mm) from the ground. Fire escapes shall extend to the ground or be provided with counterbalanced stairs reaching to the ground.
8. Fire escapes shall not take the place of stairways required by the codes under which the building was constructed.
9. Fire escapes shall be kept clear and unobstructed at all times and maintained in good working order.

L102.5 Exit and fire escape signs. Exit signs shall be provided as required by this code.

Exception: The use of existing exit signs may be continued when found by the building official to provide adequate direction to the exits in emergency situations.

All doors or windows providing access to a fire escape shall be provided with fire escape signs.

L102.6 Exit illumination. Exits shall be illuminated as required by Section 1003.2.11 of this code.

SECTION L103

ENCLOSURE OF VERTICAL SHAFTS

L103.1 Enclosure of vertical shafts. Interior vertical shafts, including but not limited to stairways, elevator hoistways, service, and utility shafts, shall be enclosed by a minimum one-hour fire-resistive construction. All openings into such shafts shall be protected with one-hour fire assemblies that shall be maintained self-closing or be automatic closing by smoke detection. All other openings shall be fire protected in an approved manner. Existing fusible link-type automatic door closing devices may be permitted if the fusible link rating does not exceed 135°F (57.2°C).

Exceptions:

1. In other than Group I Occupancies, an enclosure will not be required for openings serving only one adjacent floor.
2. Stairways need not be enclosed in a continuous vertical shaft if each story is separated from other stories by one-hour fire resistive construction or approved wired glass set in steel frames. In addition, all exit corridors shall be sprinklered and the openings between the corridor and occupant space shall have at least one sprinkler head above the openings on the tenant side. The sprinkler system may be supplied from the domestic water supply if of adequate volume and pressure.
3. Vertical openings need not be protected if the building is protected by an approved automatic sprinkler system.

SECTION L104

BUILDING ACCESS OR SPRINKLER PROTECTION

L104.1 Building access or sprinkler protection. An approved automatic sprinkler system shall be provided throughout a basement or a story that:

1. Exceeds 1,500 square feet (139.3 m²) in area; and
2. Does not have a minimum of 20 square feet (1.86 m²) of opening entirely above the adjoining ground level in each 50 lineal feet (15 240 mm), or fraction thereof, of exterior wall on at least one side of the building. Openings shall have a minimum clear dimension of 30 inches (762 mm).

Additionally, and notwithstanding the application of the foregoing criteria, if any portion of a basement is located more than 75 feet (22 860 mm) from required openings, the basement shall be provided with an approved automatic sprinkler system throughout. The distance of 75 feet shall be as measured in a straight line without regard to intervening walls or other objects.

Exception: Existing parking garages with no other occupancies may substitute an automatic fire alarm system utilizing “rate-of-rise” detectors when coupled with a smoke-removal system capable of six air changes per hour.

SECTION L105

STANDPIPES

L105.1 Standpipes. Any buildings over four stories in height shall be provided with an approved Class I or Class III standpipe system..

L106

SMOKE DETECTORS

L106.1 General. Day-care centers, dwelling units and guest rooms in hotels or lodging houses that are used for sleeping purposes shall be provided with smoke detectors installed in accordance with the requirements of the *Fire Code*.

L106.2 Power source. Smoke detectors may be battery operated or may receive their primary power from the building wiring when such wiring is served from a commercial source. Wiring shall be permanent and without disconnecting switches other than those required for over current protection.

L106.3 Location with dwelling units. In dwelling units, detectors shall be mounted on the ceiling or wall at a point centrally located in the corridor or area giving access to each separate sleeping area. Where sleeping units are on an upper level, the detector shall be placed at the center of the ceiling directly above the stairway. Detectors shall also be installed in the basements of dwelling units

having stairways that open from the basement into the dwelling. Detectors shall sound an alarm audible in all sleeping areas of the dwelling unit in which they are located.

L106.4 Location in efficiency dwelling units and hotels. In efficiency dwelling units, hotel suites and in hotel sleeping units, detectors shall be located on the ceiling or wall of the main room or hotel sleeping unit. When sleeping units withing an efficiency dwelling unit or hotel suite are on an upper level, the detector shall be placed at the center of the ceiling directly above the stairway. When actuated, the detector shall sound an alarm audible within the sleeping area of the dwelling unit, hotel suite or sleeping unit in which it is located.

SECTION L107

SEPARATION OF OCCUPANCIES

L107.1 General. Occupancy separations shall be provided as specified in Section 302 of this code. When approved by the building official, existing wood lath and plaster in good condition or ½ inch (12.7 mm) gypsum wallboard may be acceptable where one-hour occupancy separations are required.

SECTION L108

FIRE ALARMS

L108.1 General. High-rise buildings as defined in Section 403 of this code shall be equipped with an approved manual fire alarm system that will provide an audible signal at a constantly attended location within the building.

Exception: Systems that are connected to a central, proprietary or remote station service.

SECTION L109
EXTENSION OF TIME

L109.1 Application. The owner of a building may apply to the building official for an extension of time to comply with any requirements of this chapter. The owner of the building shall set forth the following information on such an application:

1. The specific requirements of this chapter for which the owner is seeking an extension of time;
2. The period of time the owner believes is necessary to meet the requirements; and
3. The reasons why the owner believes such an extension of time is necessary.

An application shall be sworn to by the owner of the building.

L109.2 Approval. No request for an extension of time shall be granted unless the building official finds that such an extension of time is reasonably necessary to perform the work and that granting such an extension of time will not result in an unreasonable risk to the safety of the occupants of the building or to others.

L109.3 Denial. If the building official denies any request for an extension of time under this section, the owner of the building may appeal such a decision to the General Appeals Board. If the General Appeals Board upholds the decision of the building official on the matter, the board's decision may be appealed to City Council, if notice of appeal, addressed to City Council, is delivered to the office of the City Secretary within 10 days of the date of the board's decision. Appeals shall be subject to City Council Rule 12 (See Section 2-2 of the City Code).

SECTION L110
EXCEPTIONS

L110.1 Application. The owner of a building may apply to the General Appeals Board for an exception from any requirement of this chapter. The owner of the building shall set forth the following information on such application:

1. The specific requirements for which the owner is seeking an exception; and
2. The reasons the owner believes that an exception should be granted.

An application shall be sworn to by the owner of the building.

L110.2 Approval. No request for an exception shall be granted under this section unless the General Appeals Board finds:

1. That the application of certain requirements of this chapter is not reasonably necessary to protect the safety of the occupants of the building or other persons; or
2. That literal application of certain requirements of this chapter would have an unduly harsh impact so as to substantially destroy the value of the property to its owner after considering the totality of the circumstances.

L110.3 Denial. If the General Appeals Board denies any request for an exception under this section, the owner of the building may appeal such a decision to the City Council if notice of the appeal, addressed to City Council, is delivered to the office of the City Secretary within 10 days of the date of the board's decision. Appeals shall be subject to City Council Rule 12 (See Section 2-2 of the City Code.).