EXCERPTS FROM THE MINUTES OF THE 30TH REGULAR SESSION OF THE SANGGUNIAN BAYAN OF BACOOR, CAVITE HELD AT THE SESSION HALL, BACOOR MUNICIPAL HALL, BACOOR, CAVITE ON THE 31ST DAY OF MARCH 2008.

PRESENT:

HON. MIGUEL N. BAUTISTA ---------- Acting Presiding Officer

HON. ROLANDO S. REMULLA ---------- Councilor
HON. AVELINO B. SOLIS ---------- Councilor
HON. HUBERT V. GERVACIO ---------- Councilor
HON. REYNALDO M. FABIAN ---------- Councilor
HON. NORMITA D. CELESTINO ---------- Councilor
HON. AVELINO S. DE CASTRO ---------- Councilor
HON. BAYANI M. DE LEON ---------- Councilor
HON. GIANNE LOUISE OLEGARIO ------- Councilor (SKF-Pres)
HON. CATHERINE SARINO ---------- Councilor (ABC-Pres.)

Municipal Ordinance No. 4-G
Series of 2008

AN ORDINANCE ENACTING THE BACOOR BUILDING CODE.

Sponsored by ***Councilor Hubert Gervacio***

WHEREAS, pursuant to the powers of the Sangguniang Bayan of Bacoor, Cavite, its members conducted a series of public hearings in aid of legislation intended to address the municipality's problems regarding the safety of homes, building, and infrastructures within the municipality, among others.

WHEREAS, the Sangguniang Bayan hired legal consultants for the purpose of determining the existence of any municipal ordinance pertaining to the above-mentioned issue and assist the Sangguniang Bayan in drafting the necessary legislation to address the same.

WHEREAS, after conducting the necessary consultations and public hearing, a draft ordinance entitled the "Bacoor Building Code" was presented to the Sangguniang Bayan for review and consideration.

WHEREAS, after a thorough deliberation on the merits of the said proposed municipal ordinance, the Sangguniang Bayan decided to suspend its Internal Rules and proceeded to vote on the said piece of legislation;

NOW, THEREFORE:

Be it ordained by the Sangguniang Bayan of Bacoor, Cavite in regular session assembled upon motion of Councilor Hubert Gervacio and unanimously seconded by all its members that:

Section 1. The proposed Building Code of Bacoor is hereby unanimously enacted. A copy of the said municipal ordinance is attached hereto as **Annex "A"**.

Section 2. Should any provision of the said municipal ordinance be declared void, the remaining provisions of the above-mentioned ordinance not affected thereby shall remain valid and in effect.

Section 3. The said ordinance shall take effect immediately after its publication in a newspaper of general circulation.

Section 4. Let copies of the said municipal ordinance be sent to the Office of the Municipal Mayor and to all the concerned departments of the municipal government of Bacoor, Cavite.

ENACTED by the Sangguniang Bayan of Bacoor, Province of Cavite this 31st day of March, 2008.

Attested by:

ORIGINAL SIGNED
ATTY. KHALID A. ATEGA JR.
Secretary to the Sangguniang Bayan

Certified by:

ORIGINAL SIGNED
HON. ROSETTE M. FERNANDO
Vice Mayor/Presiding Officer

Approved by:

ORIGINAL SIGNED
HON. STRIKE B. REVILLA
Municipal Mayor

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which are required by this Code in a building or structure when constructed, altered, or repaired, shall be maintained on good working order.

SECTION 5. Unsanitary, Unsafe, Hazardous, or Dangerous Sites. The land or site upon which will be constructed any building or structure, or any ancillary or auxiliary facility thereto, shall be sanitary, hygienic, or safe. Where the land or site is polluted, unsanitary, unhygienic, unsafe, or hazardous, conditions contributing to or causing its being polluted, unsanitary, unhygienic, unsafe, or hazardous shall be reasonably improved or corrected, or proper remedial measures shall be prescribed or incorporated in the design or construction of the building or structure in accordance with the provisions of this Code.

The land or site upon which shall be constructed a building, structure or any ancillary or accessory facility thereto, for use of human habitation or abode, shall be at a safe distance from streams or bodies of water and/source of air considered to be polluted, and building or structure considered to be a potential source of fire or explosion, such as ammunitions factory or dump and storage place for highly inflammable material.

SECTION 6. Dangerous and Ruinous Buildings or Structures - The provisions of this Code shall apply to all dangerous buildings, as herein defined, which are now in existence or which may hereafter be constructed, as well as to ruinous buildings as defined in Article 482 of the Civil Code of the Philippines.

Dangerous Buildings Defined. - Dangerous buildings are those which are structurally unsafe or not provided with safe egress, or which constitute a fire hazard, or are otherwise dangerous to human life, or which in relation to existing use constitute a hazard to safety or health or public welfare, by reason of inadequate maintenance, dilapidation, obsolescence, fire hazard, or abandonment; or which otherwise contribute to the pollution of the site or the community to an intolerable degree. Any building or structure which has any or all of the conditions or defects hereinafter described, or conditions or defects similar thereto, shall be deemed to be dangerous building: Provided, That such conditions or defect exists to the extent that the life, health, property, or safety of the public or its occupant is endangered:

Whenever any door, aisle, passageway, stairway, or other means of exit is not of sufficient width or size, or is not so arranged as to provide safe and adequate means of exit in case of fire or panic;

Whenever the stress in any materials member or portion thereof, due to all dead and live loads, is more than one and one-half times the working stress/es allowed in this Code for new building of similar structure, purpose, or location: *Provided*, That in determining working stress, the working stress method of analysis shall be used, and in the case of engineering *"overstress"*, the ultimate strength method;

Whenever any portion thereof has been damaged by fire, earthquake, wind, flood, or by any other cause, to such an extent that the structural strength or the stability thereof is materially less than it was before such catastrophe and is less than the minimum requirements of this Code for new buildings of similar structures, purpose, or location;

Whenever any portion or member or appurtenance thereof is likely to fall, or to become detached or dislodged, or to collapse and thereby injure persons or damage property;

Whenever any portion or member or any appurtenance or ornamentation of the exterior thereof is not of such sufficient strength or stability, or is not so anchored, attached, or fastened - place so as to be capable of resisting a wind pressure of one-half of that specified in this Code for new buildings of similar structure; purpose, or location without exceeding the working stresses permitted for such buildings;

Whenever the building or structure, or any portion thereof, because of: (i) dilapidation, deterioration, or decay; (ii) faulty construction; (iii) the removal, movement, or instability of any portion of the ground necessary for the purpose of supporting such building; (iv) the deterioration, decay, or inadequacy of its foundation; or (v) any other cause, is likely to partially or completely collapse;

Whenever, for any reason, the building or structure, or any portion thereof, is manifestly unsafe for the purpose for which it is being used;

Whenever the exterior walls or other vertical structural member lean, or buckle to such an extent that the structure falls within the condition described in the preceding subparagraph (2), above, or whenever any portion thereof suffers a material reduction of the fire and weather resistance qualities of characteristics required by this Code for newly constructed buildings of like area, height, and occupancy in the same location;

Whenever a building or structure, used or intended to be used for dwelling purposes, because of inadequate maintenance, dilapidation, decay, damage, faulty construction or arrangement, inadequate light, air, or sanitation facilities, or otherwise, is found to be unsanitary, unfit for human habitation, or in such a condition that is likely to cause sickness or disease;

Whenever any building or structure, because of obsolescence, dilapidated, condition, deterioration, damage, inadequate exits, lack of sufficient fire-resistive construction, or other cause, is found to be a fire hazard;

Whenever, the building or structure has installed unsafe electrical wirings or unsafe mechanical equipments integral to its structure (e.g. elevators) as determined by the Building Official; or fails to comply with the provisions of the Plumbing Code.

Whenever any portion of a building or structure remains on a site after demolition or destruction of the building or structure is abandoned for a period in excess of six months, so as to constitute a nuisance or hazard to the public;

Whenever any building or structure is in such a condition as to constitute a public nuisance defined in Article 694 and 695 of the Civil Code of the Philippines.

Abatement of Dangerous Buildings. In all cases of dangerous buildings, except those covered by Article 482 and 694 to 707 of the Civil Code of the Philippines, the Building

Official shall order their repair, vacation, or demolition in accordance with the following procedure:

(1) Where the dangerous building can reasonably be repaired such that it will no longer be dangerous, it shall be ordered repaired;

(2) Where the dangerous building is such that to repair it would cost more than fifty percent (50%) of the current to replacement cost of the building, it shall be repaired or demolished at the option of the owner;

(3) Where the dangerous building poses an immediate threat to life, limb, or property, it shall be vacated immediately, then repaired or demolished in accordance with subparagraphs (1) or (2) herein.

Chapter 2 - ENFORCEMENT

SECTION 1. Building Official. The Municipal Engineer shall be the Building Official;

Subject to the approval of the Municipal Mayor, and other civil service laws and rules, the Building Official shall be such number of officers, inspectors, assistants, or other employees possessing the necessary qualifications and competency as may be authorized by the Municipal Council. He may deputize such technically qualified employees as may be necessary to carry out the provisions of this Code. For purposes of this Subsection, the terms "necessary qualifications and competency" and "technically qualified" shall mean that the person to be deputized shall have passed the highest grade of examination called for in the applicable law regulating the practice of the branch of engineering or architecture related to or associated with the duties and powers which the person to be deputized shall assume.

SECTION 2. Building permits. (a) Any person, firm, or corporation, including any department, office, bureau, agency of instrumentality of the government intending to construct, alter, repair, move, convert or demolish any building or structure, or cause the same to be done, shall obtain a building permit from the Building Official for whichever of such work is proposed to be undertaken for the building or structure, before any such work is started.

When authorized by the Building Official in accordance with the provisions of this Code, plans and specifications need not be submitted for the following:

(1) Group A traditional indigenous type of dwelling construction costing not more than FIFTEEN THOUSAND PESOS (P15,000.00); and

(2) Group J Division 1 Occupancy of Type 1 conventional wood frame construction or of the traditional indigenous type of construction costing not more than FIFTEEN THOUSAND PESOS (P15,000.00);.

The applicant for a building permit for private buildings or structures after having complied

with all the requirements prescribed therefor in accordance with the provisions of this Code, shall be issued a building permit within fifteen (15) days from the date of payment of the permit fee for Groups A and J Occupancies and within thirty (30) days from the date of payment of the permit fee for other Group Occupancies, unless the Building Official or his Deputy authorized to issue the permit shall inform the applicant in writing why the permit should not be issued, and shall indicate thereon the particular provisions of the Code violated by the applicant or the particular requirements not complied with. Within fifteen (15) days from the date of receipt by the applicant or advice from the Building Official or his Deputy authorized to issue the permit why the building permit should not be issued, or why the building permit is suspended or revoked, the applicant may appeal the non-issuance, suspension, or revocation thereof, to the Mayor. Said appeal shall be decided within fifteen (15) days from receipt thereof, otherwise, the applicant may bring the matter to the proper court of Justice for final disposition.

All public buildings shall conform to the provisions of this Code. Public buildings shall be exempt from payment of building permit, inspection, and other fees.

SECTION 3. Fees. Pursuant to the National Building Code Development Office Memo Circular No. 2 series of 2004, the new schedule of fees and charges are as indicated in Annex "A"

SECTION 4. Inspection and Certificates of Occupancy.

Inspection. Upon completion of the construction, the said duly licensed architect or engineer shall submit to the Building Official the final certification that the building conforms to the provisions of the Code and with the detailed plans and specifications submitted.

Certificates of Occupancy. The proper Certificate of Occupancy shall be issued to the applicant within seven (7) days from completion of the requirements for inspection and occupancy and payment of any and all fees therefor, unless the building Official or his Deputy issuing the Certificate shall show cause in writing why the Certificate should not be issued and shall indicate thereon the particular provisions of the Code violated or the particular requirements not complied with. Within fifteen (15) days from receipt by the applicant of the advice from Building Official or his Deputy authorized to issue the certificate why the certificate should not be issued, or why the certificate is suspended or revoked, the applicant may appeal the non-issuance, suspension, or revocation thereof, to the Secretary of the DPWH . Said appeal shall be decided within fifteen (15) days from receipts thereof, otherwise, the applicant may bring the matter to the proper Court of Justice for final disposition. The building may be occupied only upon issuance of the Certificate of Occupancy.

SECTION 5. Violations of This Code Covering Designs, Materials, Methods of Construction, and Workmanship

(a) In all cases of violation of this Code covering design, materials, methods of construction, and workmanship, the Building Official shall observe the following procedure in ordering the alteration to conform to this Code or demolition of the building or portion thereof:

(1) Where the building is in the process of construction, the construction of the portion or portions in violation of this Code shall be stopped until the same shall have been altered to conform to this Code, unless such partial violation will impair the stability and safety of the whole or part of the structure, in which case, the whole construction shall be stopped.

(2) Where a building or portion thereof has been constructed, the following procedure shall be observed:

(2.1) In case it can be reasonably altered to conform to the requirements of this Code, it shall be altered accordingly;

(2.2) In case the alteration will cost more than 50 percent (50%) of the current construction cost of the building, it shall be altered to conform to this Code or demolished at the option of the owner;

(2.3) In case the building or portion thereof poses an immediate danger to life, limb, or property, the same shall be vacated immediately, then altered to conform to the requirements of this Code or demolished in accordance with subparagraphs (1) and (2) herein.

(3) If the owner, after receipt of the order of alteration or demolition fails to comply with such order within a period of one year, said construction shall be declared a nuisance and be abated in accordance with the provisions of Article 699 of the Civil Code of the Philippines.

(b) This Code shall not be construed to deprive any person the right to avail himself of any and all judicial proceedings or remedies available under existing laws.

TITLE 2 - FIRE AND FIRE-RESISTIVE STANDARDS REQUIREMENTS FOR FIRE ZONES

Chapter 1
General Provisions

SECTION 1. General

(a) *Fire Zones Defined.* Fire zones are areas within which only certain types of building are permitted to be constructed based on their use, occupancy, type of construction, and resistance to fire.

(b) *Building Located in More Than One Fire Zone.* If a building or structure is located in more than one fire zone and more than one-third of its total floor area is in a more restricted fire zone, then the entire building shall conform to the requirements for the more restricted area.

(c) *Moved Building.* Any building or structure moved within or into any fire zone shall be made to comply with all the requirements for buildings of that fire zone.

(d) *Temporary Buildings.* Temporary buildings or structures conforming to the requirements of this Code, used for the protection of the public around and in conjunction with construction work may be erected in any of the fire zones: *Provided,* that such work is allowed by special permit from the Building Official and such is used only for a limited period of time.

(e) *Center Lines of Streets.* For the purpose of this Chapter, the center line of an adjoining street or alley may be considered an adjacent property line. Distance shall be measured at right angles to the street or alley.

Chapter 2
FIRE-RESISTIVE REQUIREMENTS AND STANDARDS FOR FIRE PROTECTION

SECTION 1. Fire-Resistive Requirements

(a) Exterior bearing and nonbearing walls of Types II and III constructions shall have one-hour fire-resistive rating; while those of types IV and V shall have four-hour fire-resistive rating.

(b) Interior bearing walls, permanent partitions, floors, and roofs of Types II to IV constructions shall have one-hour fire-resistive rating; while those of Type V shall have three-hour fire-resistive rating for walls, one-hour fire-resistive rating for partitions, and two-hour fire-resistive rating for vertical openings, floors, and roofs.

(c) Structural frames of Types II and III constructions shall have one-hour fire-resistive rating; those of Type IV shall have two-hour fire-resistive rating; and those of Type V shall have three-hour fire-resistive rating.

(d) Exterior doors and windows shall have three-fourths-hour fire-resistive rating for all types of construction.

SECTION 2. Fire-Resistive Standards

(a) *General.* Materials and systems of fire-resistive purposes shall be classified according to their fire-resistive ratings as determined by internationally accepted testing methods, subject to the provisions of this Section.

(b) *One-Hour Fire-Resistive Time Period Rating*

(1) The following walls and partitions shall have a one-hour fire-resistive rating: Solid masonry, 10 centimeters (4 inches) thick; hollow unit masonry, 15 centimeters (6 inches) thick; solid concrete, 10 centimeters (4 inches) thick; stud walls covered on each side with 1.9 centimeters (3/4 inch) lath and plaster, 1.6 centimeters (5/8 inch) of vermiculite gypsum board, or 2.5 centimeters (1 inch) of gypsum board; and 5 centimeters (2 inches) nominal thickness tongue and groove wood, or two layers of

1.9 centimeters (3/4 inch) tongue and groove wood separated by sheet metal or asbestos paper and treated on each side with a fire-retardant coating having a flame-spread rating of 50 or less. Square-edged boards may be used is the layers are laid at right angles with each other.

(2) The following floors shall have a one-hour fire-resistive rating: masonry or concrete, 10 centimeters (4 inches) thick; wood joists having two layers of flooring above and a plaster or gypsum board ceiling, 1.9 centimeters (3/4 inch) in thickness - the two layers of flooring shall be separated by sheet metal or asbestos building paper; 6.3 centimeters (2-1/2 inches) net thickness tongue and grooved wood floors covered with 1.9 centimeters (3/4 inch) wood flooring laid at right angles thereto. The supporting beams for such floors shall be not less than 15 centimeters (6 inches) in minimum dimension.

(3) The following protections for metal structural members shall have one-hour fire-resistive rating: 2.5 centimeters (1 inch) of concrete; 3.8 centimeters (1-1/2 inches) of masonry; and metal lath and 2.5 centimeters (1 inch) of plaster.

(4) The following shall also have a one-hour fire-resistive rating; wood columns, 20 centimeters (8 inches) or more in least dimension; and wood beams, 15 centimeters (6 inches) or more in least dimension.

(c) *Two-Hour Fire-Resistive Time Period Rating*

(1) The following partitions, walls, and floors shall have a two-hour fire-resistive rating: solid masonry, 15 centimeters (6 inches) thick; hollow unit masonry, 20 centimeters (8 inches) thick; and solid concrete, 127 centimeters (5 inches) thick.

(2) The following protections for metal structural members shall have a two-hour fire-resistive rating. 3.8 centimeters (1-1/2 inches) of concrete; 5 centimeters (2 inches) of masonry; and two layers of metal lath and plaster with 1.9 centimeters (3/4 inch) air space between and having a total thickness of 6.3 centimeters (2-1/2 inches).

(d) *Three-Hour Fire-Resistive Time Period Rating*

(1) The following partitions, walls, and floors shall have a three-hour fire-resistive rating: solid masonry, 17.8 centimeters (7 inches) thick; hollow unit masonry, 25.4 centimeters (10 inches) thick; and solid concrete, 15 centimeters (6 inches) thick.

(2) The following protection for metal structural members shall have a three-hour fire resistive rating: centimeters (2 inches) of concrete; 7.6 centimeters (3 inches) of masonry.

(e) *Four-Hour Fire-Resistive Time Period Rating*

(1) The following partitions, walls, and floors shall have a four-hour fire resistive rating: solid masonry walls, 20 centimeters (8 inches) thick; hollow unit masonry, 30 centimeters (12 inches) thick; and solid concrete, 17.8 centimeters (7 inches) thick.

(f) *Steel Joists.* Steel joist floors shall have from one to four-hour fire-resistive rating based on internationally accepted standards of engineering.

(g) *Flame-Proof Materials.* Materials required to be flame-proofed shall be treated with a flame-retardant having flame-spread rating of 50 less as determined by the "Tunnel Test".

SECTION 3. Interior Wall and Ceiling Finish. Finishes for interior walls and ceilings of any building shall be classified according to their flame-spread characteristics using the internationally accepted "Tunnel Test" or other equivalent test for fire protection. The class of materials according to flame-spread characteristics shall be determined for each occupancy group. The smoke density shall not be greater than that obtain from the burning of untreated wood under similar conditions when tested in accordance with the "Tunnel Test" in the way intended for use. The products of combustion shall be no more toxic than the burning of untreated wood under similar conditions.

Interior Finish Materials. Interior walls and ceiling finish shall mean interior wainscoting, paneling, or other finish applied structurally or for decoration, acoustical correction, surface insulation or similar purposes. Requirements for finishes shall not apply to trim, doors, and windows or their frames, nor to materials which are less than one millimeter (0.039 inch) in thickness cemented to an incombustible backing. Interior finish materials applied to walls and ceilings shall be tested as specified herein and regulated for purposes of limiting flame-spread.

TITLE 3 - REQUIREMENTS BASED ON OCCUPANCY

CLASSIFICATION OF ALL BUILDINGS BY USE OR OCCUPANCY AND GENERAL REQUIREMENTS FOR ALL OCCUPANCIES

SECTION 1. Occupancy Classified

(a) Building proposed, for construction shall be identified according to its use or the character of its occupancy and shall be classified as follows:

(1) Group A - Residential: Dwellings. Group A Occupancies shall include dwellings. (Division 1 and Division 2 as defined in Section 8 of this Code) (Title 1, Chapter 2, Section2)

(2) Group B - Residential: Hotels and Apartments. - Group B Occupancies shall include boarding or lodging houses, hotels, apartment houses, convents, and monasteries (each accomodating more than 10 persons).

(3) Group C - Education and Recreation. Group C Occupancies shall be any building used for school or day care purposes more than eight hours per week, involving

assemblage for instruction, education, or recreation, and not classed in Group I or in Divisions 1 and 2 of Group H Occupancies.

(4) Group D - Institutional. Group D Occupancies shall include: Division 1 - Mental hospitals, mental sanitariums, jails, prisons, reformatories, and buildings where personal liberties of inmates are similarly restrained; Division 2 - Nurseries for full-time care of children under kindergarten age, hospitals, sanitariums, nursing homes with non-ambulatory patients, and similar buildings (each accommodating more than five persons); Division 3 - Nursing homes for ambulatory patients, homes for children of kindergarten age or over (each accommodating more than five persons); Provided, That Group D Occupancies shall not include buildings used only for private residential purposes or for a family group.

(5) Group E - Business and Mercantile. Group E Occupancies shall include: Division 1 - Gasoline filling and service stations; storage garage and boat storage structures where no work is done except exchange of parts and maintenance requiring no open flame, welding, or the use of highly flammable liquids; Division 2 - Wholesale and retail stores, office buildings, drinking and dining establishments having an occupant load test than 100, printing plants, municipal police and fire stations, factories and workshops using materials not highly flammable or combustible, storage and sales room for combustible goods, and paint stores without bulk handling, and Division 3 - Aircraft hangars where no repair work is done except exchange of parts and maintenance requiring no open flame, welding, or the use of highly flammable liquids open parking garages and heliports.

(6) Group F - Industrial. Group F Occupancies shall include: Ice plants, power plants, pumping plants, cold storage, and creameries; factories and workshops using incombustible and non-explosive materials; and storage and sales rooms of incombustible and non-explosive materials.

(7) Group G - Storage and Hazardous. Group G Occupancies shall include: Division 1 - Storage and handling of hazardous and highly flammable or explosive materials other than flammable liquids; Division 2 - Storage and handling of flammable liquids; dry cleaning plants using flammable liquids; paint stores with bulk handling; paint shops and spray painting rooms, and shops; Division 3 - Wood working establishments, planning mills and box factories, shops factories where loose, combustible fibers or dust are manufactured, processed or generated; warehouses where highly combustible material is stored; Division 4 - Repair garages; and Division 5 - Aircraft repair hangars.

(8) Group H - Assembly Other Than Group I. Group H Occupancies shall include: Division 1 - Any assembly building with a stage and an occupant load of less than 100 in the building; Division 2 - Any assembly building without a stage and having an occupant load of 300 or more in the building; Division 3 - Any assembly building without a stage and having an occupant load of less than 300 in the building, including such buildings used for school purposes less than eight hours per week; and Division 4 - Stadiums, reviewing stands, amusement park structures not included within Group I or Divisions 1, 2, and 3, Group H Occupancies.

(9) Group I - Assembly Occupant Load 1000 or More. Group I Occupancies shall be any assembly building with a stage and an occupant load of 1000 or more in the building.

(10) Group J - Accessory. Group J Occupancies shall include: Division 1 - Private garages, carports, sheds, and agricultural buildings; Division 2 - Fences over 1.80 meters (6 feet) high, tanks, and towers.

(b) The Building Official shall identify and indicate in the Certificate of Occupancy the appropriate classification to which a building or structure to be constructed belongs.

SECTION 2. Change in Use. No change shall be made in the character of occupancies or use of any building which would place the building in a different division of the same group of occupancy or in a different group of occupancies, unless such buildings is made to comply with the requirements for such division or group of occupancy: Except, That the character of occupancy of existing buildings may be changed subject to the approval of the Building Official and the building may be occupied for purposes set forth in other Groups without conforming to all the requirements for those Groups, provided the new or proposed use is less hazardous, based on life and fire risk, than the existing use.

SECTION 3. Mixed Occupancy

(a) *General.* When a building is used for more than one occupancy purposes, each part of the building comprising a distinct "Occupancy" shall be separated from any other occupancy. When a building is used for more than one occupancy purpose, it shall be subject to the most restrictive requirements for the occupancies concerned: Except, - (1) When a one-Storey building houses more than one occupancy, each portion of the building shall conform to the requirements for the occupancy housed therein, and the area of the building shall be such that the sum of the actual areas divided by the allowable area for each separate occupancy shall not exceed one; and (2) Where minor accessory uses do not occupy more than 10 per cent of the area of any floor of a building, nor more than 10 per cent of the basis are permitted in the occupancy requirements. The major use of the building shall determine the occupancy classification provided the uses are separated in accordance with requirements for occupancy separation.

(b) *Forms of Occupancy Separation.* Occupancy separations shall be vertical or horizontal or both, or when necessary, of such other form as may be required to afford a complete separation between the various occupancy divisions in the building.

(c) *Types of Occupancy Separation.* Occupancy separations shall be classed as "One-Hour Fire-Resistive" "Two-Hour Fire-Resistive", "Three-Hour Fire-Resistive", and "Four-Hour Fire-Resistive".

(1) A *"One-Hour Fire-Resistive Occupancy Separations"* shall be of not less than one-hour fire-resistive construction. All openings in such a separations shall be protected a fire assembly having a one-hour fire-resistive rating.

(2) A *"Two-Hour Fire-Resistive Occupancy Separation"* shall be of not less than two-hour fire-resistive construction. All openings in such separation shall be protected by a fire assembly having a one and one-half-hour fire-resistive rating.

(3) A *"Three-Hour Fire-Resistive Occupancy Separation"* shall be of not less than three-hour fire-resistive construction. All openings in walls forming such separation shall be protected by a fire assembly having a three-hour fire-resistive rating. The total width of all openings in any three-hour fire-resistive occupancy separation wall in any one-Storey shall not exceed twenty-five (25) percent of the length of the wall in that Storey and no single opening shall have an area greater than 10.00 square meters (107.1 square feet). All openings in floors forming a "Three-Hour Fire-Resistive Occupancy Separation" shall be protected by vertical enclosures extending above and below such openings. The walls of such vertical enclosures shall be of not less than ten (10) hours fire-resistive construction, and all openings therein shall be protected by a fire assembly having one and one-half-hour fire-resistive rating.

(4) A *"Four-Hour Fire-Resistive Occupancy Separation"* shall have no openings therein and shall be of not less than four-hour fire-resistive construction.

(d) *Fire Ratings for Occupancy Separation.* Occupancy separations shall be provided between various groups, subgroupings, or divisions of occupancies. The Secretary shall promulgate rules and regulations for appropriate occupancy separations in buildings of mixed occupancy: *Provided,* That where any occupancy separation is required, the minimum shall be a "One-Hour Fire-Resistive Occupancy Separation"; and where the occupancy separation is horizontal, structural members supporting the separation shall be protected by equivalent fire-resistive construction.

SECTION 4. Location on Property

(a) *General.* Buildings shall adjoin or have access to a public space, yard, or street on not less than one side. Required yards shall be permanently maintained. For the purpose of this Section, the center line of an adjoining street or alley shall be considered an adjacent property line. Eaves over required windows shall be not less than 75 centimeters (30 inches) from the side and rear and rear property lines.

(b) *Fire Resistance of Walls.* Exterior walls shall have fire resistance and opening protection in accordance with requirements set by the Secretary. Projections beyond the exterior wall shall not extend beyond a point one-third the distance to the property line from an exterior wall; or a point one-third the distance from an assumed vertical plane located where fire-resistive protection of openings is first required due to location on property, whichever is the least restrictive. Distance shall be measured at right angles from the property line. When openings in exterior walls are required to be protected due to distance from property line, the sum of the area of such openings shall not exceed 50 per cent of the total area of the wall in each Storey.

(c) *Buildings on Same Property and Buildings Containing Courts.* For the purpose of determining the required wall and opening protection, buildings on the same property and court walls shall be assumed to have a property line between them. When a new building is

to be erected on the same property with an existing building, the assumed property line from the existing building shall be the distance to the property line for each occupancy as set forth by the Secretary: Provided, That two or more buildings on the same property may be considered as portions of one building of the aggregate area of such buildings is within the limits of allowable floor areas for a single building; and that when the buildings so considered house different occupancies or are of different types of construction, the area shall be that allowed for the most restricted occupancy or construction.

SECTION 5. Allowable Floor Areas

(a) *Areas of One-Storey Buildings and Building Over One Storey.* Allowable floor areas for one-Storey buildings and buildings over one Storey shall not exceed the limits determined in accordance with occupancy groups and types of construction.

(b) *Area Separation Walls.* Each portion of a building separated by one or more area separation walls may be considered a separate building provided the area separation wall meet the requirements of this Code.

SECTION 6. Allowable Area Increases. The floor area hereinabove provided may be increased in certain specific instances and under appropriate conditions, based on the existence of public space, streets, or yards extending along the adjoining two or more sides of the building or structure.

SECTION 7. Maximum Height of Buildings and Increases

The maximum height and number of stories of every building shall be dependent upon the character of the occupancy and the type of construction, and shall not exceed the limits determined by population density, building bulk, widths of streets, and car parking requirements. The height shall be measured from the highest adjoining sidewalk or ground surface, provided that the height measured from the lowest adjoining surface shall not exceed such maximum height by more than 3.00 meters (10 feet): Except, That towers, spires, and steeples, erected as a part of a building and not used for habitation or storage, are limited as to height only by structural design if completely of incombustible materials, or may extend not to exceed 6.00 meters (19 feet, 8 inches) above the height limits for each occupancy group if of combustible materials.

SECTION 8. Maximum Requirements for Group A Dwellings

(a) *Dwelling Location and Lot Occupancy.* The dwelling shall occupy not more than 90 per cent ninety percent (90%)of a corner lot and eighty percent (80%) of an inside lot, and subject to the provisions on easements of light and view of the Civil Code of the Philippines, shall be at least 2.00 meters (6 feet, inches) from the property line.

(b) *Light and Ventilation.* Every dwelling shall be so constructed and arranged as to provide adequate light and ventilation.

(1) Habitable rooms, bathrooms, toilet rooms and utility rooms shall have a height of not less than 2.40 meters (8 feet), measured from floor to ceiling.

(2) Rooms shall have a minimum size of 6.00 square meters (65 square feet) with a least horizontal dimension of 2.00 meters (6 feet, 7 inches) for rooms of human habitations; 3.00 square meters (32 feet) with a least horizontal dimension of 1.50 meters (5 feet) for kitchens; and 1.20 square meters (13 square feet) with a least horizontal dimension of 90 centimeters (3 feet) for bathrooms.

(3) Windows shall be at least 1/10th of the floor area of the room.

(c) *Sanitation.* Every dwelling shall be provided with at least one sanitary toilet and adequate washing and drainage facilities.

(d) *Foundation.* Footing shall be of sufficient size and strength to support the load and dwelling and shall be at least 30 centimeters (1 foot) thick and 60 centimeters (2 feet) below the surface of the ground. Each post shall be anchored to such footings by straps and bolts of adequate size.

(e) *Post or Suportales.* The dimensions of wooden post or suportales shall be those found in Table 3.01 of the National Building Code - A Dimension of Wooden Posts or Suportales (Annex B).

(f) *Floor.* The live load of the first floor shall be at least 200 kilograms per square meter (40 pounds per square foot) and for the second floor, at least 150 kilograms per square meter (30 pounds per square foot).

(g) *Roof.* The wind load for roofs shall be at least 150 kilograms per square meter (30 pounds per square foot).

(h) *Stairs.* Stairs may be 75 centimeters (30 inches) wide, with a rise of 20 centimeters (8 inches) and a run of 23 centimeters (9 inches).

(i) *Entrance and Exit.* There shall be one entrance and one exit.

(j) *Electrical Outlets.* There shall be at least one convenience outlet per 6.00 meters (20 feet) of wall measured along the floor and one light outlet for every room.

(k) *Mechanical Requirements.* Family dwellings not more than two stories shall be exempt from the requirements of the Mechanical Code.

SECTION 9. Requirements for Group Occupancies

(a) Subject to the provisions of this Code and its Implementing Rules and Regulations, the Mayor may promulgate regulations for each occupancy group covering: allowable construction, height, and area; location on property, exit facilities, light, ventilation, and sanitation; enclosure of vertical openings; fire-extinguishing system; and special hazards.

TITLE 4 - TYPES OF CONSTRUCTION

CLASSIFICATION OF ALL BUILDINGS BY TYPES OF CONSTRUCTION AND GENERAL REQUIREMENTS

SECTION 1. Types of Construction

(a) The requirements of this Chapter are minimum for the varying degrees of public safety and resistance to fire. Every building proposed for construction shall be identified according to the following:

(1) *Type I.* Type I Buildings shall be of wood construction. The structural elements may be any of the materials permitted by this Code.

(2) *Type II.* Type II Buildings shall be of wood construction with protective fire-resistant materials and one-hour fire-resistive throughout: Except, That permanent nonbearing partitions may use fire-retardant treated wood within the framing assembly.

(3) *Type III.* Type III Buildings shall be masonry and wood construction, Structural elements may be any of the materials permitted by this Code: Provided, That the building shall be one-hour fire-resistive throughout. Exterior walls shall be of incombustible fire-resistive construction.

(4) *Type IV.* Type IV Building shall be of steel, iron, concrete, or masonry construction. Walls and permanent partitions shall be of incombustible fire-resistive construction: Except, That permanent nonbearing partitions of one-hour fire resistive construction framing assembly.

(5) *Type V.* Type V Buildings shall be fire-resistive. The structural elements shall be of steel, iron, concrete, or masonry construction. Walls and permanent partitions shall be incombustible fire-resistive construction.

(b) Other subtypes or divisions within Types I to V may be determined by the Secretary. Any building which does not conform entirely to a type of construction herein set forth shall be classified into a type having an equal or lesser degree of fire-resistance of the building.

(c) The Building Official shall identify and indicate in the Certificate of Occupancy the appropriate classification to which a building or structure to be constructed belongs.

SECTION 2. Change in Type. No change shall be made in the type of construction of any building which would place the building in a different subtype or type of construction unless such building is made to comply with the requirements for such subtype or type of construction: Except, That the type of construction of existing buildings may be changed subject to the approval of the Building Official and the building may be constructed for purposes set forth in other Types without conforming to all the requirements for those

Types, provided the new or proposed construction is less hazardous, based on life and fire risk, than the existing construction.

TITLE V (5) - LIGHT, VENTILATION, AND SANITATION
LIGHT AND VENTILATION

SECTION 1. Light and Ventilation

(a) Subject to the provisions of the Civil Code on easement on light and view, and to provisions of this Title, every building shall be so constructed, arranged, and equipped as to provide adequate light and ventilation.

(b) All building erected shall face a street or public alley or private street which has been officially approved.

(c) No building shall be altered or arranged so as to reduce the size of any room or the relative area of windows to less than that provided for buildings under this Code, or so as to create an additional room, unless such additional room conforms to the requirements of this Code.

(d) No building shall be enlarged, so that the dimensions of any required courtyard would be less than that prescribed for any such building.

SECTION 2. Measurement of Site Occupancy

(a) The measurement of site occupancy or lot occupancy shall be taken at the ground level and shall be exclusive of courts, yards, and light wells.

(b) Courtyards and light wells shall be measured clear of any projections from the walls enclosing such wells or yards with the exception of roof leaders, wall copings, sills, or steel fire escapes, not exceeding 1.20 meters (4 feet) in width.

SECTION 3. Percentage of Site Occupancy

(a) The maximum site occupancy shall be governed by the use, type of construction, and height of the building, and the use, area, nature and location of the site, subject to the provisions of local zoning requirements and in accordance with rules and regulations set forth by the Secretary.

SECTION 4. Minimum Size of Courts and Their Least Dimensions

(a) The minimum size of courts and their least dimensions shall be dependent upon the use, type of construction, and height of the building subject to the requirements set forth by the Secretary: *Provided*, That in no case shall be the minimum horizontal dimension of courts be less than 2.00 meters (6 feet, 7 inches).

(b) All inner courts shall be connected to a street or yard, either by a passageway with a minimum width of 1.20 meters (4 feet) or by a door through a room or rooms.

SECTION 5. Ceiling Heights

(a) Habitable rooms, bathrooms, toilet rooms, storage rooms, and utility rooms shall have a ceiling height of not less than 2.40 meters (8 feet), measured from the floor to the ceiling: *Provided,* That for buildings of more than one Storey, the minimum ceiling height of the first Storey shall be 2.70 meters (9 feet) and 2.40 meters (8 feet) for the second Storey, and succeeding stories. Garages shall have an unobstructed headroom clearance of not less than 2.10 meters (7 feet) above the finished floor.

SECTION 6. Minimum Size of Rooms and Their Least Dimensions

(a) The minimum sizes of rooms and their least horizontal dimensions shall be as follows: 6:00 square (65 square feet) with at least nominal dimension of 2.00 meters (6 feet 7 inches) for rooms for human habitation; 3.00 square meters (32 square feet) with a least horizontal dimension of 1.50 meters (5 feet) for kitchens; and 1.20 square meters (12 square feet) with a least horizontal dimension of 0.90 meter (3 feet) for bathrooms.

SECTION 7. Minimum Air Space Requirements in Determining the Size of Rooms

(a) The following minimum air spaces shall be provided:

(1) For school rooms: 3.00 meters (106 cubic feet) with 1.00 square meter (10.7 square feet) of floor area per person.

(2) For workshops, factories, and offices: 10.00 cubic meters (354 cubic feet) or air space per person at daytime and 14.00 cubic meters (494 cubic feet) of air space per person at night time.

(3) For habitable rooms: 14.00 cubic meters (494 cubic feet) of air space per adult person and 7.00 cubic meters (247 cubic feet) of air space per child under 10 years of age.

SECTION 8. Window Openings

(a) Every room intended for any use, not otherwise provided with air-conditioning or mechanical ventilation system as herein provided in this Code, shall be provided with a window or windows whose total area of openings shall be at least 1/10th the floor area of the room, and such shall open directly to a court, yard, public way or alley, or water course.

SECTION 9. Mezzanine Floor

(a) A Mezzanine floor is a partial, intermediate floor in any Storey or room of a building having an area not more than one-half of the area of the room or space in which it is constructed.

(b) A mezzanine floor shall be constructed with a clear ceiling height of not less than 1.90 meters (6 feet, 4 inches) above and below.

SECTION 10.Vent Shafts

(a) *Size.* Vent shafts shall have a cross-sectional area of not less than 1/10th of a square meter for every meter of height of shafts (1 square foot per 10 feet) but not less than 1.00 square meter (10.7 square feet) in any case. No such shaft shall be less than 60 centimeters (2 feet) in its least dimension.

(b) *Skylights.* Unless open to the outer air at the top for its full area, such shaft shall be covered by a skylight having a net area of fixed louver openings equal to the maximum required shaft area.

(c) *Air Ducts.* Air ducts shall be connected to a street or court by a horizontal duct or intake at a point below the lowest window opening on such shaft. Such duct or intake shall have a minimum unobstructed cross-sectional area of not less than 0.30 square meter (3.2 square feet) with a minimum dimension of 30 centimeters (1 foot). The opening to the duct or intake shall not be less than 30 centimeters (1 foot) above the bottom of the shaft and the street surface or bathroom of court, at the respective ends of the conduct or intake.

SECTION 11. Ventilating Skylights

(a) *Skylights.* Skylights shall have a glass area not less than that required for the window they replace. They shall be equipped with movable sashes or louvers of an aggregate net area not less than that required for openable parts in the window they replace or with approved ventilation of equal efficiency.

(b) *Ventilation.* Rooms containing industrial heating equipment shall be provided with adequate artificial means of ventilation to prevent excessive accumulation of hot or polluted air.

SECTION 12. Artificial Ventilation

(a) *General.* When artificial ventilation is required, the equipment shall be designed and constructed to meet the following requirements in air changes:

(1) *Business and Workrooms*

(1.1) For rooms wholly above grade occupied for office, clerical or administrative purposes, or as stores, sales, rooms, restaurants, markets, factories, workshops, or machinery rooms, not less than three (3) changes of air per hour shall be provided.

(1.2) For rooms wholly above grade, occupied as bakeries, hotel or restaurant kitchen, laundries other than accessory to dwellings, and boiler rooms, of not less than ten (10) changes or of air per hour shall be provided.

(2) *Rooms in Public and Institutional Buildings*

(2.1) For auditoriums and other rooms used for assembly purposes, not less than 0.85 cubic meter (30 cubic feet) of air per minute shall be supplied for each person for whom seating or
other accommodation is provided.

(2.2) For wards and dormitories of institutional buildings, not less than 0.85 cubic meter (30 cubic feet) of air per minute shall be supplied for each person accommodated.

SECTION 13. Sanitation. All buildings erected for human habitation should be provided with plumbing facilities installed in conformity with the National Plumbing Code adopted and promulgated by the National Master Plumbers Association of the Philippines pursuant to Republic Act 1378, otherwise known as the "Plumbing Law".

TITLE 6 - REGULATIONS FOR USE OF PUBLIC PROPERTY

Chapter 1- BUILDING PROJECTION OVER PUBLIC STREETS

SECTION 1. General

(a) No part of any building structure or any of its appendages shall project beyond the property line of the building site, except as provided in this Code.

(b) The projection of any structure of appendage over a public property shall be the distance measured horizontally from the property line to the outermost point of the projection.

SECTION 2. Projection into Alleys and Streets

(a) No part of any structure or its appendage shall project into any alley or street except as provided in this Code.

(b) No projection shall be allowed on any national roads or public highway.

(c) Footing located at least 2.40 meters (8 feet) below grade may project not more than 30 centimeters (12 inches) beyond the property line.

(d) Foundation may be permitted to encroach into public sidewalk areas to a width not exceeding 50 centimeters (1 foot, 8 inches): Provided, That the top of the said foundations or footings does not reach beyond the level of a plane 60 centimeters (2 feet) below the established grade; and *Provided, further,* That said projection does not obstruct any existing utility such as power, communication, gas, water, or sewer lines, unless the owner concerned shall pay the corresponding entities for the re-routing of the parts affected.

SECTION 3. Projection of Balconies and Appendages Over Streets

(a) The extent of any projection over an affected alley or street shall be uniform within a block and shall conform to the limitations set forth in Table 6.01-A: Projection of balconies and Appendages (Annex B) of the National Building Code.

(b) The clearance between the established grade of the street or sidewalk and the undersurface of the balcony shall be not less than 3.00 meters (10 feet).

SECTION 4. Arcades

(a) Arcades shall be constructed on sidewalks when required by local ordinances. The width of the arcade and its height over affected sidewalks shall be uniform within a block: *Provided*, That, in no case, shall an arcade be less than 3.00 meters (10 feet) above the establishment sidewalk grade of the established street.

(1) *General.* For the purpose of this Section, a marquee shall include by any object or decoration attached thereto.

(2) *Projection and Clearance.* The horizontal clearance between the outmost edge of the marquee and the curb line shall be not less than 30 centimeters (1 foot). The vertical clearance between the payment or grounds line and the undersurface of the marquee shall be not less than 2.70 meters (9 feet).

(3) *Construction.* A Marquee shall be constructed of incombustible material or materials of not less than one-hour fire-resistive construction. It shall be provided with the necessary drainage facility.

(4) *Location Prohibited.* Every marquee shall be so located as not to interfere with the operation of any exterior standpipe connection or to obstruct the clear passage from stairways or exists from the building or the installation or maintenance of electroliers.

SECTION 5. Movable Awnings or Hoods

(a) *Definition. An* awning is a movable shelter supported entirely from the exterior wall of a building and of a type which can be retracted, folded, or collapsed against the face of a supporting building.

(b) *Clearance.* The horizontal clearance between the awning and the curb line shall be not less than 30 centimeters (1 foot). The vertical clearance between the undermost surface of the awning and the payment or ground line shall be not less than 2.40 meters (8 feet). Collapsible awnings shall be so designed that they shall not block required when collapsed.

SECTION 6. Doors. Doors either fully opened or when opening, shall not project beyond the property line.

SECTION 7. Corner Buildings with Chaflans

(a) Every corner building on a public street or alley less than 30.60 meters (12 feet) in width shall be made with a chaflan or truncated angle at the corner. The face of the triangle so formed shall be at right angles to the bisector of the angle of intersection of the street lines; *Provided,* That, in no case, shall the length of the chaflan be less than 4.00 meters (13 feet, 4 inches). In special cases, the Building Official shall determine the size and form of the chaflan.

(b) If the building(s) is (are) arcaded, no chaflan is required notwithstanding the width of the public street or alleys less than 12.00 meters (39 feet, 4 inches).

Chapter 2- PROTECTION OF PEDESTRIANS DURING CONSTRUCTION OR DEMOLITION

SECTION 1. General

(a) No person shall use or occupy a street, alley, or public sidewalk for the performance of work under a building permit, except in accordance with the provisions of this Chapter.

(b) No person shall perform any work on any building or structure adjacent to a public way in general use by the public for pedestrian travel, unless the pedestrians are protected as specified in this Chapter.

(c) Any material or structure temporarily occupying public property, including fences, canopies, and walkways, shall be adequately lighted between sunset and sunrise.

SECTION 2. Temporary Use of Streets and Alleys. The use of public property shall meet legal requirements and subject to permit to be issued officially by the Building Official.

SECTION 3. Storage on Public Property. Materials and equipment necessary for work to be done under a permit shall not be placed or stored on public property so as to obstruct the free and convenient approach to and use of any fire hydrant, fire or police alarm box, utility box, catch basin, or manhole, or so as not to interfere with any drainage of any street or alley gutter.

SECTION 4. Mixing Mortar on Public Property. The mixing or handling of mortar, concrete, or similar materials on public street shall not be allowed, except when the same are to be used on such streets or any portion thereof such as curbs, gutters, manholes, sidewalks, culverts, and the like.

SECTION 5. Protection of Utilities. All public or private utilities above or below the ground shall be protected from any damages by any work being done under the permit. This protection shall be maintained while such work is being done and shall not obstruct the normal functioning of any such utility.

SECTION 6. Walkway

(a) A temporary walkway not less than 1.20 meters (4 feet) wide shall be provided in lieu of the sidewalk, or in case there is none, in front of the building site during construction or demolition unless the Building Official authorizes the sidewalk to be fenced and closed. Adequate signs and railings shall be provided to direct pedestrian traffic.

(b) The walkway shall be capable of supporting a uniform live load of 633 kilograms per square meter (150 pounds per square foot). A durable wearing surface shall be provided throughout the construction period.

SECTION 7. Pedestrian protection

(a) *Protection Required.* Pedestrian traffic shall be protected by a railing on the street side when the walkway extends into the roadway, by a railing when adjacent to excavations, and by such other appropriate portion such as those set forth in Table 6.02-A of the National Building Code: Type of Protection Required for Pedestrian (Annex B).

(b) *Railings.* Railings shall be built substantially and should be at least 1.00 meter (3 feet, 3 inches) in height.

(c) *Fence.* Fences shall be built of an approved material, not less than 2.40 meters (8 feet) in height above grade, and to be placed on the side of the walkway nearest to the building site. Fences shall enclose entirely the building site. Openings in such fences shall be provided with doors which shall be kept closed at all times.

(d) *Canopies.* The protective canopy shall have a clear height of 2.40 meters (8 feet) above the walkway, and shall be constructed structurally safe. Every canopy shall have a solid fence built along its entire length on the construction side. If materials are stored or work is done on top of the canopy, the edge along the street shall be adopted by a tight curb board not less than 30 centimeters (1 foot) high and a railing not less than 1.00 meters (3 feet, 3 inches) high shall be provided. The entire structure shall be designed to carry the loads imposed upon it: Provided, That the live load shall be not less than 633 kilograms per square meter (150 pounds per square foot).

SECTION 8. Maintenance and Removal of Protection Devices

(a) *Maintenance.* Such protection devices shall be properly maintained in place and kept in good order for the entire length of time pedestrians may be endangered.

(b) *Removal.* Every protection fence or canopy shall be removed within thirty (30) days after such protection is no longer required.

SECTION 9. Demolition

(a) The work of demolishing any building shall not be commenced until the required pedestrian protection structures are in place.

(b) The Building Official shall require the permitee to submit plans and complete schedule for demolition. No work shall be done until such plans and schedule for demolition are approved by the Building Official.

TITLE 7 - ENGINEERING REGULATIONS
GENERAL DESIGN REQUIREMENTS

SECTION 1. Scope. The design and construction of all buildings and structures shall be in compliance with the provisions of the National Structural Code for Buildings, latest edition, adopted and promulgated by the Board of Examiners of Civil Engineers pursuant to Republic Act Numbered 544, as amended, otherwise known as the "Civil Engineering Law".

TITLE 8 - DETAILED REGULATIONS
GENERAL REQUIREMENTS

SECTION 1. General. Buildings proposed for construction shall comply with all the regulations and specifications herein set forth governing quality, characteristics and properties of materials, methods of design and construction, type of occupancy, and classification of construction.

SECTION 2. Excavations, Foundations, and Retaining Walls

(a) *General.* Subject to the provisions of Articles 684 to 686 of the Civil Code of the Philippines on lateral and subjacent support, the quality of materials and design used structurally in excavations, and footings shall conform to the internationally recognized and accepted principles of engineering.

(b) *Excavation or fills.*

(1) Excavation or fills for any building structure and excavations or fills accessory thereto shall be so constructed or protected that they do not endanger life and property.

(2) Whenever or wherever the depth of any excavation for a new construction is such that the lateral and subjacent support of the adjoining property or existing structure thereon would be affected in a manner that the stability of safety of the same is in endanger, the person undertaking or causing the excavation to be undertaking or causing the excavation to be undertaken shall be responsible for the expense of underpinning or extending the foundation or footings of the aforementioned property or structure only when such underpinning is necessary for the safety of the same during excavation.

(3) Excavations and other similar disturbances made on public property caused by public utilities shall be repaired immediately and returned to its former condition within 48 years from the start of such excavations and disturbances by the public

utility franchise owner and the duly constituted officials thereof. Adequate signs and safeguards shall be installed around and near the excavation to protect the public from any danger of falling into the excavation. Repeated and flagrant violations of this Section shall be the basis of revocation of any public utility franchise. This provision shall not exempt the franchise owner and the duly constituted officials thereof from any criminal or civil liabilities arising from such excavations and disturbances to third persons.

(c) *Footings and Foundations, and Retaining Walls*

(1) Footings and foundations shall be of the appropriate type, of adequate size, and capacity in order to safely sustain the superimposed loads under seismic or any condition to external forces that may affect the safety or stability of the structure. It shall be the responsibility of the architect and/or engineer to adopt the type and design of the same in accordance with generally accepted principles and standards of engineering.

(2) Whenever or wherever there exists in the site of the construction on abrupt change in the ground levels or levels of the foundation such that instability of the soil could result, retaining walls shall be provided and such shall be of adequate design and type of construction in accordance with generally accepted standards and principles of engineering.

SECTION 3. Veneer

(a) *Definition.* Veneer is a nonstructural facing of brick, concrete, stone, tile, metal, plastic, glass, or other similar approved materials attached to a backing or structural components of the building for the purpose of ornamentation, protection, or enclosure that may be adhered, integrated, or anchored either on the exterior or interior of the building or structure.

(b) *Design Requirements.* The design of all veneer shall comply with the following:

(1) Veneer shall support no load other than its own weight and the vertical dead load of veneer above.

(2) Surfaces to which veneer is attached shall be designed to support the additional vertical and lateral loads imposed by the veneer.

(3) Consideration shall be given for differential movement of supports including that caused by temperature changes, shrinkage, creep, and deflection.

(4) Adhered veneer and its backing shall be designed to have a bond to the supporting elements sufficient to withstand shearing stresses due to their weights including seismic effects on the total assemblage.

(5) Anchored veneer and its attachments shall be designed to resist external forces equal to twice the weight of the veneer.

(6) Anchors, supports, and veneers shall be incombustible corrosion-resistant.

(c) *Construction.* The person undertaking or causing a construction to be undertaken shall observe, to the satisfaction of the Building Official, internationally recognized and accepted principles governing dimensions of units, weights of materials, methods of construction, attachment or anchorage, bonding or anchorage, bonding or adhesion, structural adequacy and type and rigidity of backing, and considerations for differential movements of supports including that caused by temperature changes, shrinkage, creep, and deflection.

SECTION 4. Enclosure of Vertical Openings

(a) *General.* Vertical openings be enclosed depending upon the fire-resistive requirements of a
particular type of construction as set forth in this Code.

(b) *Elevator Enclosures.* Walls and partitions enclosing elevators and escalators shall be not less than the fire-resistive construction required under the Types of Construction. Enclosing walls of elevators shafts may consist of wire glass set in metal frames on the entrance side only. Elevator shafts extending through more than two stories shall be equipped with an approved means of adequate ventilation to and through the main roof of the building: *Provided,* That in buildings housing Groups G and F Occupancies equipped with automatic fire-extinguishing systems throughout, enclosures shall not be required to escalators: Provided, further, That the top of the escalator opening at each Storey shall be provided with a draft curtain. Such draft curtain shall enclose the perimeter of the unenclosed opening and shall extend from the ceiling downward at least 30 centimeters (12 inches) on all sides. Automatic sprinklers shall be provided around the perimeter of the opening and within 60 centimeters (2 feet) of the draft curtain. The distance between the sprinklers shall not exceed 1.80 meters (6 feet) center-to-center.

(c) *Other Vertical Openings.* All shafts, ducts, chutes, and other vertical openings not covered in paragraph (b), above shall have enclosing walls conforming to the requirements specified under the Type of Construction of the building in which they are located. In other than Group A Occupancies rubbish and linen chutes shall terminate in rooms separated from the remainder of the building by a One-Hour Fire-Resistive Occupancy Separation. Openings into the chutes shall not be located in required exit corridors or stairways.

(d) *Air Ducts.* Air ducts passing through a floor shall be enclosed in a shaft. The shaft shall be as required in this Code for vertical openings. Dampers shall be installed where ducts pierce the shaft enclosure walls. Air ducts in Group A Occupancies need not be enclosed in a shaft if conforming to the mechanical provisions of this Code.

SECTION 5. Floor Construction

(a) Floor construction shall be of materials and construction as specified under Title 2 on FireZones and Fire-Resistive Standards and under Title 4 on Types of Construction.

(b) All floors shall be so framed and tied into the framework and supporting walls as to form an integral part of the whole building.

(c) The types of floor construction used shall provide means to keep the beams and girders from spreading by installing either ties or bridging, with no laterally unsupported length of joints being permitted to exceed 2.40 meters (8 feet) except as otherwise specified in this Code.

SECTION 6. Roof Construction and Covering

(a) *Roof Coverings.* Roof coverings for all buildings shall be either fire-retardant or ordinary depending upon the fire-resistive requirements of the particular Type of Construction. The use of combustible roof insulation shall be permitted in all Types of Construction provided it is covered with approved roof covering applied directly thereto.

(b) *Roof Trusses.* All roofs shall be so framed and tied into the framework and supporting walls so as to form an integral part of the whole building. Roof trusses shall have all joints well fitted and shall have all tension members well tightened before any load is placed on the truss. Diagonal and sway bracing shall be used to brace all roof trusses. The allowable working stresses of materials in trusses shall conform to this Code. The minimum net section of the members after framing shall be used in determining the strength on the truss at any point.

(c) *Attics*

(1) *Access.* An attic access opening shall be provided in the ceiling of the top floor of buildings with combustible ceiling or roof construction. The opening shall be located in a corridor or hallway of buildings or three or more stories in height, and readily accessible in buildings of any height. The opening should not be less than fifty-five (55) centimeters by seventy-five (75) centimeters (22 inches by 30 inches). Seventy-five centimeters (30 inches) minimum clear headroom shall be provided above the access opening. Attics with a maximum vertical clear height of less than seventy-five (75) centimeters (30 inches) need not be provided with access openings.

(2) *Area Separations.* Enclosed attics spaces formed of combustible construction shall be divided into horizontal areas not exceeding 230 square meters (2500 square feet) by partitions extending from the ceiling to the roof. Such partitions shall be not less than 13 millimeters (1/2 inch) thick gypsum wallboard, or 2.5 centimeters (1 inch) nominal thickness tight-fitting wood, 10 millimeters (3/28 inch) thick plywood or approved incombustible materials adequately supported. Openings in the partitions shall be protected by self-closing doors constructed as required for the partitions: Except, that where the entire attic is equipped with an approved automatic fire-extinguishing system, the attic space may be divided into areas not to exceed 700 square meters (7500 square feet).

(3) *Draft Stops.* Regardless of the Type of Construction, draft stops shall be installed in trussed roofs, between roof and bottom chord of trusses, in all buildings exceeding

1900 square meters (20,000 square feet). Draft stops shall be constructed as for attic area separations, and in accordance with Type of Construction.

(4) *Ventilation.* Enclosed attics and enclosed rafter spaces formed where ceilings are applied direct to the underside of roof rafters, shall have cross ventilation for each separate space by ventilating and openings protected against the entrance of rain. The net free ventilating area shall be not less than 1/150ths of the area of the space ventilated, except that the area nay be 1/300ths this provided by ventilators located in the upper portion of the space to be ventilated at least ninety (90) centimeters (3 feet) above eave or cornice vents with the balance of the required ventilation provide by eave or cornice vents.

(d) *Roof Drainage.* Roof systems not designed to support accumulated water shall be sloped for drainage.

(1) *Roof Drains.* Unless roofs are sloped to drain over roof edges or are designed to support accumulated water, roof drains shall be installed at each low point of the roof. Roof drains shall be adequate in size to convey the water tributary to the roof drains.

(2) *Overflow Drains and Scuppers.* Where roof drains are required, overflow drains having the same size as the roof drains shall be installed with the inlet flow line located 5 centimeters (2 inches) above the low point of the roof, or overflow scuppers having three times the size of the roof drains may be installed in adjacent parapet walls with the inlet flow line 5 centimeters (2 inches) above the low the point of the adjacent roof and having minimum opening height of 10 centimeters (4 inches). Overflow drains shall be connected to drain lines independent from the roof drains.

(3) *Concealed Piping.* Roof drainage overflow drains, when concealed within the construction of the building, shall be installed.

(4) *Over Public Property.* Roof drainage water from a building shall not be permitted to flow over public property, except for Groups A and J Occupancies.

(e) *Flashing.* At the juncture of the roof and vertical surface, flashing and counter-flashing shall be provided.

SECTION 7. Stairs, Exits, and Occupant Loads

(a) *General.* The construction of stairs, exits, and occupant loads shall conform to requirements for occupants of buildings, reviewing stands, bleachers, and grandstands.

(1) *Determination of Occupant Loads.* The occupant load permitted in any building or portion thereof shall be determined by dividing the floor area assigned to that use by the square meters or square feet per occupant according generally accepted principles of engineering. The capacity of a building containing mixed occupancies

shall be determined by adding the number of occupants of the various parts of the building classified as to Occupancy and Type of Construction.

(2) *Exit Requirements.* Exit requirements of a building or portion thereof used for different purposes shall be determined by the occupant load which gives the largest number of persons. No obstruction shall be placed the required width of an exit except projections permitted by this code.

(3) *Posting of Room Capacity.* Any room having an occupant load of more than fifty (50) where fixed seats are not installed, and which is used for classroom, assembly, or similar purpose, shall have the capacity of the room posted in a conspicuous place near the main exit from the room. Approved signs shall be maintained in a legible manner by the owner or his authorized agent, and shall indicate the number of occupants permitted for each room use.

(4) *Changes in Elevation.* Except in Group A Occupancies, changes in elevation of not less than 30 centimeters (12 inches) along any exit serving a tributary occupant load of ten (10) or more shall be by means of ramps.

(b) *Exits Required*

(1) *Number of Exits.* Every building or usable portion thereof shall have at least one (1) exit. In all occupancies, floors above the first Storey having an occupant load of more than 10 shall have not less than two exits. Each mezzanine used for other than storage purposes, if greater in area than 185 square meters (2000 square feet), or if more than 18.00 meters (60 feet) in any dimension shall have not less than two stairways to an adjacent floor. Every Storey or portion thereof, having an occupant load of 500 to 999 shall have not less than three (3) exits. Every Storey or portions thereof, having an occupant load of 1000 or more shall have not less than four (4) exits. The number of exits required from any Storey of a building shall be determined by using the occupant loads of floors which exit through the level under consideration as follows: fifty percent (50%)of the occupant load in the first adjacent Storey above (and the first adjacent Storey below, when a Storey below exits through the level under consideration) and 25 per cent of the occupant load in the Storey immediately beyond the first adjacent Storey. The maximum number of exits required for any Storey shall be maintained until egress is provided from the structure. For purposes of this Section, basements or cellars and occupied roofs shall be provided with exits as required for stories. Floors above the second Storey, basements, and cellars used for other than service of the building shall have not less than two (2) exits.

(2) *Width.* The total width of exits in meters shall be not less than the total occupant load served divided by 165 (in feet, by 50). Such width of exits shall be divided approximately equally among the separate exits. The total exit width required from any Storey of a building shall be determined by using the occupant load of that Storey, plus the percentage of the occupant loads of floors which exit through the level under considerations as follows: fifty percent (50%)of the occupant load in the first adjacent Storey above (and the first adjacent Storey below when a Storey below

exits through the level under consideration) and twenty-five (25%) of the occupant load in the Storey immediately beyond the first adjacent Storey. The maximum exit width required from any Storey of a building shall be maintained.

(3) *Arrangement of Exits.* If only two exits are required they shall be placed a distance apart equal to not less than one-fifth (1/5) of the perimeter of the area served measured in a straight line between exits. Where three or more exits are required they shall be arranged a reasonable distance apart so that if one becomes blocked others will be available.

(4) *Distance to Exits.* No point in an unsprinkled building shall be more than 45.00 meters (150 feet) from an exterior exit door, a horizontal exit, exit passageway, or an enclosed stairway, measured along the line of travel. In building equipped with a complete automatic fire-extinguishing system the distance from exits may be increased to 60.00 meters (200 feet).

(c) *Doors.* The provisions herein shall apply to every exit door serving an area having an occupant load more than 10, or serving hazardous rooms or areas.

(1) *Swing.* Exit doors shall swing in the direction of exit travel when serving any hazardous areas or when serving an occupant load of 50 or more. Double acting doors shall not be used as a part of fire assembly, nor equipped with panic hardware. A double acting door shall be provided with a view panel of not less than 1300 square centimeters (200 square inches).

(2) *Type of Lock or Latch.* Exit door shall be openable from the inside without the use of a key or any special knowledge or effort: Except, That this requirement shall not apply to exterior exit doors in a Group E or F Occupancy if there is a conspicuous, readily visible and durable sign on or adjacent to the door, stating that the door is to remain unlocked during business hours. The locking device must be of a type that will be readily distinguishable as locked. Flush bolts or surface bolts are prohibited.

(3) *Width and Height.* Every required exit doorway shall be of a size as to permit the installation of a door not less than 90 centimeters (3 feet) in width and not less than 2.00 meters (6 feet, 7 inches) in height. When installed in exit doorways, exits doors shall be capable of opening at least 90 degrees and shall be so mounted that the clear width of the exitway is not less than 70 centimeters (2 feet, 4 inches). In computing the required exit width, the net dimension of the exitway shall be used.

(4) *Door Leaf Width.* No leaf an exit door shall exceed 1.20 meters (4 feet) in width.

(5) *Special Doors.* Revolving, sliding, and overhead doors shall not be used as required exits.

(6) *Egress from Door.* Every required exit door shall give immediate access to an approved means of egress from the building.

(7) *Change in Floor Level at Doors.* Regardless of the occupant load, there shall be a floor or landing on each side of and exit door. The floor or landing shall be level with, or not more than 5 centimeters (2 inches) lower than the threshold of the doorway: Except, That in Groups A and B Occupies, a door may open on the top step of a flight of stairs or an exterior landing providing the door does not swing over the top step or exterior landing and the landing is not more than 19 centimeters (7-1/2 inches) below the floor level.

(8) *Door Identification.* Glass doors shall conform to the requirements specified in Section 10.05.05. Other exit doors shall be so marked that they are readily distinguishable from the adjacent construction.

(9) *Additional Doors.* When additional doors are provided for egress purposes, they shall conform to all provisions in the following cases: Approved revolving door having leaves which will collapse under opposing pressures may be used in exit situations: *Provided,* That such doors have a minimum width of 2.00 meters (6 feet, 7 inches); or they are not used in occupancies where exits are required to be equipped with panic hardware; or at least one conforming exit door is located adjacent to each revolving door installed in a building, and the revolving door shall not be considered to provide any exit width.

(d) *Corridors and Exterior Exit Balconies.* The provisions herein shall apply to every corridor and exterior exit balcony serving as required exit for an occupant load of more than 10.

(1) *Width.* Every corridor or exterior exit balcony shall be not less in which 1.12 meters (3 feet, 8 inches).

(2) *Projections.* The required width of corridors and exterior exit balconies shall be unobstructed: Except, that trim, handrails, and doors when fully opened shall not reduce the required width by more than 18 centimeters (7 inches). Doors in any position shall not reduce the required width by more than one-half.

(3) *Access to Exits.* When more than one exit is required, they shall be so arranged to allow going to either direction from any point in the corridor or exterior exit balcony to a separate exit, except for dead ends permitted.

(4) *Dead Ends.* Corridors and exterior exit balconies with dead ends are permitted when the dead ends do not exceed 6.00 meters (20 feet) in length.

(5) *Construction.* Walls and ceilings of corridors shall be not less than one hour fire-resistive construction: Except, that this requirement shall not apply to exterior exit balcony railings, corridors of a one-Storey building housing a Group E or F Occupancy occupied by one tenant only and which serves an occupant load of 30 less, nor to corridors, formed by temporary partitions. Exterior exit balconies cannot project into an area where protected openings are required.

(6) *Openings.* Where corridor walls are required to be one-hour fire-resistive

construction every interior door opening shall be protected as set forth in generally recognized and accepted requirements for dual -purpose fire exit doors. Other interior openings, except ventilation louvers equipped with approved automatic fire shutters shall be 6.3 millimeters (1/4 inch) fixed wire glass set in steel frames. The total area of all openings other than doors, in any portion of an interior corridor wall shall not exceed 25 per cent of the area of the corridor wall of the room which it is separating from the corridor.

(e) *Stairways.* Every stairway serving any building or portion thereof shall conform to the following requirements of this Code except stairs or ladders used only to attend equipment.

(1) *Width.* Stairways serving an occupant load of more than 50 shall be not less in width than 1.12 meters (3 feet, 8 inches). Stairways serving an occupant load of 50 less may be 90 centimeters (3 feet) wide. Private stairways serving an occupant load less than 10 may be 75 centimeters (2 feet, 6 inches) wide. Trim and handrails shall not reduce the required width by more than 9 centimeters (3-1/2 inches).

(2) *Rise and Run.* The rise of every step in a stairway shall not exceed 19 centimeters (7-1/2 inches) and the run shall not be less than 25 centimeters (10 inches). Except as provided under paragraph (d) the maximum variations in the height of risers and the width of treads in any one flight shall be 5 millimeters (3-1/2 inch): Except, that in private stairways serving an occupant load of less than 10, the rise may be 20 centimeters (8 inches) and run may be 23 centimeters (9 inches).

(3) *Winding Stairway.* In Group A Occupancies and in private stairways in Group B Occupancies, winders may be used if the required width of run is provided at a point not more than 30 centimeters (12 inches) from the side of the stairway where the treads are the narrower, but in no case shall any width of run be less than 15 centimeters (6 inches) at any point.

(4) *Circular Stairways.* Circular stairs may be used as an exit provided the minimum width of run is not less than 25 centimeters (10 inches). All treads in any one flight between landings shall have identical dimensions within a 5-millimeter (3/16-inch) tolerance.

(5) *Landings.* Every landing shall have a dimension measured in the direction of travel equal to the width of the stairway. Such dimension need not exceed 1.20 meters (4 feet) when the stair has a straight run. Landings, when provided shall not be reduced in width by more than 9.3 centimeters (3-1/2 inches) by a door when fully open.

(6) *Basement Stairways.* Where a basement stairway and stairway to an upper Storey terminate in the same exit enclosure, an approved barrier shall be provided to prevent persons from continuing on into the basement. Directional exit signs shall be provided as specified in this Code.

(7) *Distance Between Landings.* There shall be not more than 3.65 meters (12 feet) vertically between landings.

(8) *Handrails.* Stairways shall have handrails on each side, and every stairway required to be more than 3.00 meters (9 feet) in width shall be provided with not less than one intermediate handrail for each 3.00 meters (9 feet of required width. Intermediate handrails shall be spaced approximately equal within the entire width of the stairway. Handrails shall be placed not less than 75 centimeters (2 feet, 6 inches) nor more than 85 centimeters (2 feet, 10 inches) above the nosing of threads, and ends of handrails shall be returned or shall terminate in newel posts or safety terminals: Except, in the following cases: Stairways 1.12 meters (3 feet, 8 inches or less in width and stairway serving one individual dwelling unit in Group A or B Occupancies may have one handrails, except that such stairway open on one or both sides shall have handrails provided on the open side or sides; or stairways having less four than four risers need not have handrails.

(9) *Exterior Stairway Protection.* All openings in the exterior wall below or within 3.00 meters (10 feet), measured horizontally, of an exterior exit stairway serving a building over two stories in height shall be protected by a self-closing fire assembly having a three-fourths-hour fire-resistive rating: Except, that openings may be unprotected when two separated exterior stairways serve an exterior exit balcony.

(10) *Stairway Construction-Interior.* Interior stairways shall be constructed as specified in this Code. Where there is enclosed usable space shall be protected on the enclosed side as required for one-hour fire-resistive construction.

(11) *Stairway Construction-Exterior.* Exterior stairways shall be of incombustible material: Except, That on Type III buildings which do not exceed two stories in height, and are located in less fire-resistive Fire Zones, as well as on Type I buildings, these may be of wood not less than 5 centimeters (2 inches) in nominal thickness. Exterior stairs shall be protected as required for exterior walls due to location on property as specified in this Code. Exterior stairways shall not project into an area where openings are required to be protected. Where there is enclosed usable space under stairs the walls and soffits of the enclosed space shall be protected on the enclosed side as required for one-hour fire-resistive construction.

(12) *Stairway to Roof.* In every building more than two stories in height, one stairway shall extend to the roof surface, unless the roof has a slope greater than 1 in 3.

(13) *Headroom.* Every required stairway shall have a headroom clearance of not less than 2.00 meters (6 feet, 8 inches). Such clearance shall be established by measuring vertically from a plane parallel and tangent to the stairway tread nosing to the soft above all points.

(f) *Ramps.* A ramp conforming to the requirements of this Code may be used as an exit. The width of ramps shall be as required for corridors.

(g) *Horizontal Exit.* If conforming to the provisions of this Code, a horizontal exit may be required exit. All openings in a separation wall shall be protected by a fire assembly having a fire-resistive rating of not less than one hour. A horizontal exit shall lead into a floor area

having capacity for an occupant load not less than the occupant load served by such exit. The capacity shall be determined by allowing 0.28 square meter (3 square feet) of net clear floor area per ambulatory occupant and 1.86 square meters (20 square feet) per non-ambulatory occupant. The dispersal area into which the horizontal exit leads shall be provided with exits as required by this Code.

(h) *Exit Enclosures.* Every interior stairway, ramp, or escalator shall be enclosed as specified in this Code: Except, that in other than Group D Occupancies, an enclosure will not be required for a stairway, ramp, or escalator serving only one adjacent floor and connected with corridors or stairways serving other floors. Stairs in Group A Occupancies need not be enclosed.

(1) Enclosure walls shall be of not less than two-hour fire-resistive construction elsewhere. There shall be no openings into exit enclosures except exit doorways and openings in exterior walls. All exit doors in an exit enclosure shall appropriately be protected.

(2) Stairway and ramp enclosures shall include landings and parts of floors connecting stairway flights and shall also include a corridor on the ground floor leading from the stairway to the exterior of the building. Enclosed corridors or passageways are not required from unenclosed stairways.

(i) *Exit Outlets, Courts, and Passageways.* Every exit shall discharge into a public way, exit court, or exit passageway. Every exit court shall discharge into a public way or exit passageway. Passageways shall be without openings other than required exits and shall have walls, floors, and ceilings of the building but shall be not less than one-hour fire-resistive construction.

(1) *Width.* Every exit court and exit passageway shall be at least as wide as the required total width of the tributary exits, such as required width being based on the occupant load served. The required width of exit courts or exit passageways shall be unobstructed except as permitted in corridors. At any point where the width of an exit court is reduced from any cause, the reduction in width shall be effected gradually by a guardrail at least 90 centimeters (3 feet) in height. The guardrail shall make an angle of not more than 30 degrees with the exit court.

(2) *Slope.* The slope of exit courts shall not exceed 1 in 10. The slope of exit passageways shall not exceed 1 in 8.

(3) *Number of Exits.* Every exit court shall be provided with exits as required by this Code.

(4) *Openings.* All openings into an exit court less than 3.00 meters (10 feet) wide shall be protected by fire assemblies having a three-fourths-hour fire resistive rating: Except, that openings more than 3.00 meters (10 feet) above the floor of the exit court may be unprotected.

(k) *Exit Signs and Illumination.* Exits shall be illuminated at any time the building is occupied

with light having an intensity of not less than one-foot candle at floor level: Except, That for Group A Occupancies the exit illumination shall be provided with separate circuits or separated sources of power (but not necessarily separate from exit signs) when these are required for exit
sign illumination.

(l) *Aisles.* Every portion of every building in which are installed seats, tables, merchandise, equipment, or similar materials shall be provided with aisles leading to an exit.

(1) *Width.* Every aisle shall be not less than 90 centimeters (3 feet) wide if serving only one side, and not less than 1.07 meters (3 feet, 6 inches) wide if serving both sides. Such minimum width shall be measured at the point farthest from an exit, cross aisles, or foyer and shall be increased by 4 centimeters (1 1/2 inches) for each 1.50 meters (5 feet) in length toward the exit, cross aisle, or foyer. With continental spacing, side aisle shall be not less than 1.12 meters (3 feet, 8 inches) in width.

(2) *Exit Distance.* In area occupied by seats and in Group H and I Occupancies without seats, the line of travel to an exit door by an aisle shall not be not more than 46.00 meters (150 feet). With standard spacing, as specified in this Code, aisles shall be so located that there will be not more than six intervening seats between any seat and the nearest aisle. With continental spacing, the number of intervening seats may be increased to 29 where exit doors are provided along each aisle of the row of seats at the rate of one pair of exit doors for five rows of seats. Such exit doors shall provide a minimum clear width of 1.75 meters (5 feet, 6 inches).

(3) *Cross Aisle.* Aisles shall terminate in a cross aisle, foyer, or exit. The width of the cross aisle shall be not less than the sum of the required width of the widest aisle plus 50 per cent of the total required width of the remaining aisle leading thereto. In Groups C, H, and E Occupancies, aisles shall not be provided a dead end greater than 6.00 meters (20 feet) in length.

(4) *Vomitories.* Vomitories connecting the foyer or main exit with the cross aisles shall have a total width not less than the sum of the required width of the widest aisles leading thereto plus 50 per cent of the total required width of the remaining aisles leading thereto.

(5) *Slope.* The slope portion of aisles shall not exceed 1 in 8.

(m) *Seats*

(1) *Seat Spacing.* With standard seating the spacing of rows of seats from back-to-back shall be not less than 84 centimeters (2 feet, 9 inches), nor shall less than 69 centimeters (2 feet, 3 inches) plus the sum of the thickness of the back and inclination of the back. Automatic or self-rising seats shall be measured in the seat-up position, other seats shall be measured in the seat-down position. With continental seating, the spacing of rows of unoccupied seats shall provide a clear width measured horizontally, as follows: 45 centimeters (18 inches) clear for rows of 18 seats or less; 51 centimeters (20 inches) clear for rows of 35 seats or less; 51

centimeters (21 inches) clear for rows of 45 seats or less; and 56 centimeters (22 inches) clear for rows of 46 seats or more.

(2) *Width.* The width of any seat shall not less than 45 centimeters (1 foot, 6 inches).

(n) *Special Hazards*

(1) *Boiler Rooms.* Except in Group A Occupancies, every boiler room and every room containing an incinerator or L-P Gas or liquid fuel-fired equipment shall be provided with at least two means of egress, one of which may be a ladder. All interior openings shall be protected as set by internationally recognized and accepted practice for dual-purpose fire exit doors.

(2) *Cellulose Nitrate Handling.* Film laboratories, projection rooms, and nitro-cellulose processing rooms shall have not less than two exits.

(o) *Reviewing Stands, Grandstands, and Bleachers*

(1) *Height of Stands.* Stands employing combustible framing shall be limited to 11 rows or 2.70 meter (9 feet) in height.

(2) *Design Requirements.* The minimum unit live load for reviewing stands, grandstands, and bleachers shall be 488 kilograms per square meter (100 pounds per square foot) of horizontal projection for the structure as a whole. Seat and footboards shall be 178.5 kilograms per linear meter (120 pounds per linear foot). The sway force, applied to seats, shall be 35.7 kilograms per linear meter (24 pounds per linear foot) parallel to the seats and 14.8 kilograms per linear meter (10 pounds per linear foot) perpendicular to the seats. Sway forces need not be applied simultaneously with other lateral forces.

(3) *Spacing of Seats*

(3.1) *Row Spacing.* The minimum spacing of rows of seats measured from back-to-back shall be: 55 centimeters (22 inches) for seats without backrests in open air standards; 76 centimeters (30 inches) for seats with backrests; and 84 centimeters (33 inches) for chair seating. There shall be a space of not less than 30 centimeters (12 inches) between the back of each seat and front of the seat immediately behind it.

(3.2) *Rise Between Rows.* The maximum rise from one row of seats to the next shall not exceed 40 centimeters (16 inches).

(3.3) *Seating Capacity.* For determining the seating capacity of a stand, the width of any seat shall be not less than 45 centimeters (18 inches) nor more than 48 centimeters (19 inches).

(3.4) *Number of Seats Between Aisles.* The number of seats between any seats and

an aisle shall not be greater than 15 for open air stands with seats without backrests; 9 for open air stands with seats having backrest in buildings, and 6 for seats with backrest in building.

(4) *Aisles*

(4.1) *Aisles Required.* Aisles shall be provided in all stands: Except, That aisles may be omitted when all the following conditions exist: Seats are without backrest; the rise from row to row does not exceed 30 centimeters (12 inches) per row; the number of rows does not exceed 11 in height; the top seating board is not over 3.00 meters (10 feet) above grade; and first seating board is not more than 50 centimeters (20 inches) above grade.

(4.2) *Obstructions.* No obstruction shall be placed in the required width of any aisle or exit way.

(4.3) *Stairs Required.* When an aisle is elevated more than 20 centimeters (8 inches) above grade, the aisle shall be provided with a stairway or ramp whose width is not less than the width of the aisles.

(4.4) *Dead End.* No vertical aisle shall have a dead end more than 16 rows in depth regardless of the number of exits required.

(4.5) *Width.* Aisles shall have a minimum width of 1.07 meters (3 feet, 6 inches).

(5) *Stairs and Ramps.* The requirements in this Code shall apply to all stairs and ramps except for portions that pass through the seating area.

(5.1) *Stair Rise and Run.* The maximum rise of treads shall not exceed 20 centimeters (8 inches) and the minimum width of the run shall be 28 centimeters (11 inches). The maximum variations in the width of treads in any one flight shall be not more than 5 millimeters (3/16 inch) and the maximum variation in the height of two adjacent rises shall not exceed 5 millimeters (3/16 inch).

(5.2) *Ramp Slope.* The slope of ramp shall be of approved nonslip material.

(5.3) *Handrails.* A ramp with a slope exceeding 1 in 10 shall have handrails. Stairs for stands shall have handrails. Handrails shall conform to the requirements of this Code.

(6) *Guardrails*

(6.1) Guardrails shall be required in all locations where the top of seat plank is more than 1.20 meters (4 feet) above the grade and at the front of stands elevated more than 60 centimeters (2 feet) above grade. Where only sections of stands are used, guardrails
shall be provided as required in this Code.

(6.2) Railings shall be 1.07 meters (3 feet, 6 inches) above the rear of a seat plank

or 1.07 meters (3 feet 6 inches) above the rear of the steps in an aisle when the guardrail is parallel and adjacent to the aisle: Except, That the height may be reduced to 90 centimeters (3 feet) for guardrails located in front of the grandstand.

(6.3) A midrail shall be placed adjacent to any seat to limit the open distance above the top of any part of a seat to 3.00 meters (10 feet) where the seat is at the extreme end or at the extreme rear of the bleachers of grandstand. The intervening space shall have one additional rail midway in the opening: Except, that railings may be omitted when stands are placed directly against a wall or fence giving equivalent protection; stairs and ramps shall be provided with guardrails. Handrails at the front of stands and adjacent to an aisle shall be designed at resist a load of 74 kilograms per linear meter (50 pounds per linear foot) applied at the top rail. Other handrails shall be designed at resist a load of 9 kilograms (20 pounds).

(7) *Footboards.* Footboards shall be provided for all rows of seats above the third row, or beginning at such point where the seating plank is more than 60 centimeters (2 feet) above grade.

(8) *Exits*

(8.1) *Distance to Exit.* The line of travel to an exit shall be not more than 45.00 meters (150 feet). For stands with seats without backrests this distance may be measured by direct line from a seat to the exit from the stand.

(8.2) *Aisle Used as Exit.* An aisle may be considered as only one exit unless it is continuous at both ends to a legal building exit or to a safe dispersal area.

(8.3) *Two Exits Required.* A stand with the first seating board not more than 50 centimeters (20 inches) above grade of floor may be considered to have two exits when the bottom of the stands is open at both ends. Every stand or section of a stand within a building shall have at least two means of egress when the stand accommodates more than 50 persons. Every open air stand having seats without backrest shall have at least two means of egress when the stand accommodates more than 300 persons.

(8.4) *Three Exits Required.* Three exits shall be required for stands within a building when there are more than 300 occupants within a stands, and for open-air stands with seats without backrests where a stand or section of a stand accommodates more than 1,000 occupants.

(8.5) *Four Exits Required.* Four exits shall be required when a stand or section of stand accommodates more than 1,000 occupants. Except, that for an open-air stand with seats without backrest four exits need not be provided unless there are accommodations for more than 3,000 occupants.

(8.6) *Width.* The total width of exits in meters shall be not less than the total occupant load served divided by 165 (by 50 in feet): Except, that for open air stands with seats without backrests the total width of exits in meters shall be not less than

the total occupant load served divided by 500 (150 in feet) when exiting by stairs, and divided by 650 (by 200 in feet) when exiting by ramps or horizontally. When both horizontal and stair exits are used, the total width of exits shall be determined by using both figures as applicable. No exit shall be less than 1.07 meters (42 inches) in width. Exits shall be arranged a reasonable distance apart. When but two exits are provided, they shall be spaced not less than one-fifth of the perimeter apart.

(9) *Securing of Chairs.* Chairs and benches used on raised stands shall be secured to the platform upon which they are placed: Except, that when less than 25 chairs are used upon a single raised platform the fastening of seats to the platform may be omitted. When more than 500 loose chairs are used in connection with athletic events, chairs shall be fastened together in groups of not less than three, and shall be tied or staked to the ground.

(10) *Safe Dispersal Area.* Each safe dispersal area shall have at least two exits. If more than 6,000 persons are to be accommodated within such an area, there shall be a minimum of three exits, and for more than 9,000 persons there shall be a minimum of four exits. The aggregate clear width of exits from a safe dispersal area shall be determined on the basis of not less than one exit unit 56 centimeters (22 inches) for each 500 persons to be accommodated and no exit shall be less than 1.12 meters (44 inches) in width. Exits shall be a reasonable distance apart but shall be spaced not less than one-fifth of the perimeter of the area apart from each other.

SECTION 8. Bays, Porches, Balconies

(a) Walls and floors in bay and oriel windows shall conform to the construction allowed for exterior walls and floors of the type of construction of the building to which they are attached. The roof covering of a bay or oriel window shall conform to the requirements of the roofing of the main roof. Exterior balconies attached to or supported by walls required to be of masonry, shall have brackets or beams constructed of incombustible materials. Railings shall be provided for balconies, landings, or porches, which are more than 75 centimeters (2 feet, 6 inches) above grade.

SECTION 9. Chimneys, Fireplaces, and Barbecues

(a) *Chimneys*

(1) *Structural Design.* Chimneys shall be designed, anchored, supported, reinforced, constructed, and installed in accordance with generally accepted principles of engineering. Every chimney shall be capable of producing a draft at the appliance not less than the required for the safe operation of the appliance connected thereto. No chimney shall support any structural load than its own weight unless it is designed to act as a supporting member. Chimneys in an wood-framed building shall be anchored laterally at the ceiling and each floor line which is more than 1.80 meters (6 feet) above grade, except when entirely within the framework on when designed to be free standing.

(2) *Walls.* Every masonry chimneys shall have walls of masonry units, bricks, stones,

listed masonry units, reinforced concrete or equivalent solid thickness of hollow masonry and lined with suitable liners in accordance with the following requirements:

(2.1) *Masonry Chimneys for Residential-type Appliances.* Masonry chimneys shall be constructed of masonry units or reinforced concrete with walls not less than 10 centimeters (4 inches) thick or rubble stone masonry not less than 30 centimeters (12 inches) thick. The chimney linear shall be in accordance with this Code.

(2.2) *Masonry Chimneys for Low-heat-Appliances.* Masonry chimneys shall be constructed of masonry units or reinforced concrete with walls not less than 20 centimeters (8 inches) thick except that rubbles stone masonry shall be not less than 30 centimeters (12 inches) thick. The chimneys linear shall be in accordance with this Code.

(2.3) *Masonry Chimneys for Medium-heat-Appliances.* Masonry chimneys for medium-heat appliances shall be constructed of solid masonry units of reinforced concrete not less than 20 centimeters (8 inches) thick, except that stone masonry shall be not at less than 30 centimeters (12 inches) thick and, in addition shall be lined with not less than 10 centimeters (4 inches) of firebrick laid in a solid bed of fire clay mortar with solidity filled head, bed, and wall joints, starting not less than 60 centimeters (2 feet) below the chimney connector entrance and extending for a distance of at least 7.60 meters (25 feet) above the chimney connector entrance. Chimneys extending 7.60 meters (25 feet) or less above the chimney connector shall be lined to the top.

(2.4) *Masonry Chimneys for High-heat Appliances.* Masonry chimneys for high-heat appliances shall be constructed with double walls of sold masonry units of reinforced concrete not less than 20 centimeters (8 inches) in thickness, with an air space of not less than 5 centimeters (2 inches) between walls. The inside of the interior walls shall be of firebrick not less than 10 centimeters (4 inches) in thickness laid in a solid bid of fire clay mortar with solidly filled head, bed and wall joints.

(2.5) *Masonry Chimneys for Incinerators Installed in Multi-Storey Buildings (Apartment-type Incinerators).* Chimneys for incinerators installed in multi-Storey buildings using the chimney passageway as a refuse chute where the horizontal grate area of combustion chamber does not exceed 0.84 square meter (9 square feet) shall have walls of solid masonry or reinforced concrete, not less than 10 centimeters (4 inches) thick with a chimneys lining as specified in this Code. If the grate area of such an incinerator exceeds 0.84 square meter (9 square feet), walls shall be not less than 10 centimeters (4 inches) of firebrick except that higher than 9.00 meters (30 feet) above the roof of the combustion chamber, common brick alone, 20 centimeters (8 inches) in thickness, may be used.

(2.6) *Masonry Chimneys for Commercial and Industrial-type Incinerators.* Masonry chimneys for commercial and industrial-type incinerators of a size designed for not more than 115 kilograms (250 pounds) or refuse per hour and having a horizontal grate area not exceeding 0.84 meter (9 square feet) shall have walls of solid masonry or reinforced concrete not less than 10 centimeters (4 inches) thick with lining shall extend for not less than 10 centimeters (4 inches) for firebrick, which lining shall extend for not less than

12.00 meters (40 feet) above the roof of the combustion chamber. If the design capacity or grate area of such an incinerator exceed 115 kilograms (250 pounds) per hour and 0.84 square meter (9 square feet) respectively, walls shall be not less than 20 centimeters (8 inches) thick, lined with not less than 10 centimeters (4 inches) of firebrick extending the full height of the chimney.

(3) *Linings.* Fire clay chimney lining shall be not less than 16 millimeters (5/8 inch) thick. The lining shall extend from 20 centimeters (8 inches) below the lowest inlet or, in the case of fireplaces, from the throat of the fireplace to a point above enclosing masonry walls. Fire clay chimney linings shall be installed ahead of the construction of the chimney as it is carried up, carefully bedded one on the other in fire clay mortar, with close-fitting joints left so smooth on the inside. Firebrick not less than 5 centimeters (2 inches) thick may be used in place of fire clay chimney.

(4) *Area.* No chimney passageway shall be smaller in area than the vent connection on the appliance attached thereto.

(5) *Height.* Every masonry chimney shall extend at least 60 centimeters (2 feet) above the part of the roof through which it passes and at least 60 centimeters (2 feet) above the highest elevation of any part of a building within 3.00 meters (10 feet) to the chimney.

(6) *Corbeling.* No masonry chimney shall be corbelled from a wall more than 15 centimeters (6 inches) nor shall a masonry chimney be corbelled from a wall which is less than 30 centimeters (12 inches) in thickness unless it projects equally on each side of the wall. In the second Storey of a two-Storey building of Group A Occupancy, corbelling of masonry chimneys on the exterior of the enclosing walls may equal the wall thickness. In every case the corbelling shall not exceed 2.5-centimeter (1 inch) projection for each course of brick.

(7) *Change in Size or Shape.* No change in the size or shape of a masonry chimney where the chimney passes through the roof shall be made within a distance of 15 centimeters (6 inches) above or below the roof joists or rafters.

(8) *Separation.* When more than one passageway is contained in the same chimney, masonry separation at least 10 centimeters (4 inches) thick bonded into the masonry wall of
the chimney shall be provided to separate passageways.

(9) *Inlets.* Every inlet to masonry chimneys shall enter the side thereof and shall be of not less than 3 millimeters (1/8 inch) thick metal or 16 millimeters (5/8 inch) refractory materials.

(10) *Clearance.* Combustible materials shall not be placed within 5 centimeters (2 inches) of smoke chamber walls or masonry chimney walls when built within a structure, or with 2.5 centimeters (1 inch) when the chimney is built entirely outside the structure.

(11) *Termination.* All incineration shall terminate in a substantially constructed spark arrester having a mesh not exceeding 19 centimeters (3/4 inch).

(12) *Cleanouts.* Cleanout opening shall be provided at the base of every masonry chimney.

(b) *Fireplaces and Barbecues.* Fireplaces, barbecues, smoke chamber, and fireplace chimneys shall be of solid masonry or reinforced concrete and shall conform to the minimum requirements specified in this Code. Factory-built metal room heating stoves may be used in accordance with generally recognized engineering practices.

(1) *Fireplace Walls.* Walls of fireplaces shall be not less than 20 centimeters (8 inches) in thickness. Walls of fireboxes shall be not less than 25 centimeters (10 inches) in thickness: Except, That where a lining of firebrick is used such walls shall be not less than 20 centimeters (8 inches) in thickness. The firebox shall be not less than 50 centimeters (20 inches) in depth. The maximum thickness of joints in firebrick shall be 6 millimeter (1/4 inch).

(2) *Hoods.* Metal hoods used as a part of a fireplace or barbecue shall be not less than No. 18 gauge copper, galvanized steel, or other equivalent corrosion-resistant ferrous metal with all seams and connections of smoke-proof unsoldered construction. The hoods shall be sloped at an angle of 45 degrees or less from the vertical and shall extend horizontally at least 15 centimeters (6 inches) beyond the limits of the firebox. Metal hoods shall be kept a minimum of 40 centimeters (18 inches) from combustion
materials unless approved for reduced clearances.

(3) *Circulators.* Approved metal heat circulators may be installed fireplaces.

(4) *Smoke Chamber.* Front and sidewalls shall be not less than 20 centimeters (8 inches) in thickness. Smoke chamber back walls shall not be not less than 15 centimeters (6 inches) in thickness.

(5) *Fireplace Chimneys.* Walls of chimneys without flue lining shall be not less than 20 centimeters (8 inches) in thickness. Walls of chimneys with flue lining shall be not less than 10 centimeters (4 inches) in thickness and shall not be constructed in accordance with this Code.

SECTION 10. Fire-Extinguishing Systems

(a) *Automatic Fire-Extinguishing Systems: Where Required.* Standard automatic fire-extinguishing systems shall comply with requirements of generally recognized and accepted practices and shall be installed in the following places:

(1) In every basement or cellar with an area of 200 square meters (2152 square feet) or more which is used for habitation, recreation, dining, study, or work, and which base an occupant load of more than 20.

(2) In all dressing rooms, rehearsal rooms, workshops or factories, and other rooms with an occupant load of more than 10, assembly halls under Groups H and I Occupies with an occupant load of more than 500, and if the exit doors of said rooms are more than 30.00 meters (100 feet) from the nearest safe fire dispersal area of the building or opening to a court or street.

(3) In all rooms used as storage or handling of photographic and x-ray nitrocellulose films and other inflammable articles.

(b) *Dry Standpipes.* Every building six more stories in height shall be equipped with one or more dry standpipes.

(1) *Construction and tests.* Dry standpipes shall be of wrought iron or galvanized steel and together with fittings and connections shall be of sufficient strength to withstand 20 kilograms per square centimeter (300 pounds per square inch) of water pressure when ready for service, without leaking at the joints, valves, or fittings. Tests shall be conducted by the owner or his representative or contractor in the presence of a representative of the City or Municipal Fire Department whenever deemed necessary for the purpose of certification of its proper function.

(2) *Size.* Dry standpipes shall be of such size as to be capable of delivering 946 liters (250 gallons) per minute from each of any three outlets simultaneously under the pressure created by one fire engine or pumper, based on the existing city equipment available. The local Fire Department shall be consulted as to the proper size and threads of those connections.

(3) *Number Required.* Every building six or more stories in height where the area of any floor above the fifth floor is 950 square meters (10,000 square feet) or less shall be equipped with not less than one dry standpipe and an additional standpipe shall be installed for each additional 950 square meters (10,000 square feet) or fraction thereof.

(4) *Location.* Standpipes shall be located within stairway landings or near such stairways as possible or immediately inside of an exterior wall and 30 centimeters (12 inches) of an opening in a stairway enclosure of the balcony or vestibule of a smoke-proof tower or an outside exit stairway.

(5) *Siamese Connection.* Subject to the provisions of subparagraph (2), all 10-centimeter (4-inch) dry standpipes shall be equipped with a two-way Siamese fire department connection. All 12.5-centimeters (5-inch) dry standpipes shall be equipped with a three-way Siamese fire department connection and 15-centimeter (6-inch) dry standpipes shall be equipped with a four-way Siamese fire department connection. All Siamese inlet connections shall be located on a street front of the building and not less than 30 centimeters (12 inches) nor more than 1.20 meters (4 feet above the grade and shall be equipped with clapper-checks and substantial plugs. All Siamese inlet connections shall be recessed in the wall or otherwise substantially protected.

(6) *Outlets.* All dry standpipes shall be extended from the ground floor to and over the

roof and shall be equipped with a 6.3-centimeter (2-1/2-inch) outlet not more than 1.20 meters (4 feet) above the floor level at each Storey. All dry standpipes shall be equipped with a two-way 6.3-centimeters (2-1/2 inch) outlet above the roof. All outlets shall be equipped with gate valves with substantial chains.

(7) *Signs.* An iron or bronze sign with raised letters at least 2.5 centimeters (1 inch) high shall be rigidly attached to the building adjacent to all Siamese connections and such sign shall read: *"CONNECTION TO DRY STANDPIPE."*

(c) *Wet Standpipes.* Every Group H and I Occupancy of any height and every Group C Occupancy of two or more stories in height, whose corridors are flanked on both sides, and every Group C Occupancy of two or more stories in height, whose corridors serve only one row of rooms on one side and with an open court on the other side, and every Group B, D, E, F, and G Occupancy of three or more stories in height and every Group G and E Occupancy over 1800 square meters (20,000 square feet) in area shall be equipped with one or more interior wet standpipes extending from the cellar or basement into the topmost Storey: Provided, That Group H buildings having no stage and having a seating capacity of less than 500 need to be equipped with interior standpipes.

(1) *Construction.* Interior wet standpipes shall be constructed as required for dry standpipes.

(2) *Size*

(2.1) Interior wet standpipes shall have an internal diameter sufficient to deliver 189 liters (50 gallons) of water per minute under 2.1 kilograms per square centimeter (30 pounds per square inch) pressure at the lose connection, based on the available water supply. Buildings of Groups H and I Occupancies shall have wet standpipe systems capable of delivering the required quantity and pressure from any two outlets simultaneously; for all other occupancies only one outlet need be figured to be at one time. In no case shall the internal diameter of a vet standpipe be less than 5 centimeters (2 inches), except when the standpipe is attached to an automatic fire-extinguishing system as set by the internationally recognized and accepted engineering practices.

2.2) Any approved formula which determines pipe sizes on a pressure drop basis may be used to determine pipe size for wet standpipe systems. The Building Official may require delivery and pressure tests on completed wet standpipe systems before approving such systems.

(3) Numbered Required. Wet standpipes shall be so located that any portion of the can be reached therefrom with a hose not exceeding 23.00 meters (75 feet) in length.

(4) *Location.* In Groups H and I Occupancies, outlets shall be located as follows: one on either side of the stage, one at the rear of the auditorium, and one at the rear of the balconies. Where occupant loads are less than 500 the above requirements may be waived: Provided, that portable fire extinguishers of appropriate capacity and type are installed within easy access from the said locations. In Groups B, C, D, E, F, and G occupancies the location of all interior wet standpipes shall be in accordance with the

requirements for dry standpipes: Provided, That at least one wet standpipe is installed to cover not more than 650 square meters (700 square feet).

(5) *Outlets.* All interior wet standpipes shall be equipped with a 3.8-centimeter (1-1/2 inch) valve in each Storey including the basement or cellar of the building, and located not less than 30 centimeters (1 foot) nor more than 1.50 meters (5 feet) above the floor.

(6) *Threads.* All hose threads in connection with the installation of such standpipes, including valves and reducing fittings, shall be uniform with that used by the local Fire Department.

(7) *Water Supplies.* All interior wet standpipes shall be connected to a street water main not less than 10 centimeters (4 inches) in diameter, or when the water pressure is sufficient, to a water tank of sufficient size as provided in subparagraph (8). When more than one interior wet standpipe is required in the building, such standpipes shall be connected at their bases or at their tops by pipes of equal size.

(8) *Pressure and Gravity Tanks.* Tanks shall have a capacity sufficient to furnish at least 1,346 liters (250 gallons) per minute for a period of not less than 10 minutes. Such tanks shall be located so as to provide not less than 11.3 kilograms (25 pounds) pressure at the topmost hose outlet for its entire supply. Discharge pipes from pressure tanks shall extend 5 centimeters (2 inches) into and above the bottom of such tanks. All tanks shall be tested in place after installation and proved tightly at a hydrostatic pressure 50 per cent in excess of the working pressure required. Where such tanks are used for domestic purpose the supply pipe for such purposes shall be located at or above the centerline of such tanks. Incombustible supports shall be provided for all such supply tanks and not less than 90-centimeters (3-foot) clearance shall be maintained over the top and under the bottom of all pressure tanks.

(9) *Fire Pumps.* Fire pumps shall have a capacity of not less than 1,346 liters (250 gallons) per minute with a pressure of not less than 11.3 kilograms (25 pounds) at the topmost hose outlet. The source of supply for such pump shall be a street water main of not less than 10-centimeter (4-inch) diameter or a well or cistern containing a one-hour supply. Such pumps shall be supplied with an adequate source of power of the building and shall be automatic in operation.

(10) *Hose and Hose Reels.* Each hose outlet of all interior wet standpipes shall be supplied with a hose not less than 3.8 centimeters (1-1/2 inches) in diameter. Such hose shall be equipped with a suitable brass or bronze nozzle and shall be not over 23.00 meters (75 feet) in length. An approved standard form of wall hose reel or racks shall be provided for the hose and shall be located so as to make the hose readily accessible at all times and shall be recessed in the walls or protected suitable cabinets.

(d) *Basement Pipe Inlets.* Basement pipe inlets shall be installed in the first floor of every store, warehouse, or factory where there are cellars or basements under same: Except, where in such cellars or basements there is installed a fire-extinguishing system as specified in this Code, or where the cellars or basements are used for banking purposes, safe deposit vaults, or similar uses.

(1) *Materials.* All basement pipe inlets shall be of cast iron, steel brass, or bronze with lids of cast brass or bronze and shall consist of a sleeve not less than 20 centimeters (8 inches) in diameter through the floor extending to and flush with the ceiling below and with a top flange, recessed with an inside shoulder, to receive the lid and flush with the finish floor surface. The lid shall be a solid casting and have a ring lift recessed on the top thereof, so as to be flush. The lid shall have the words *"FIRE DEPARTMENT ONLY, DO NOT COVER UP"*, cast on the top thereof. The lid shall be installed in such a manner as to permit its removal readily from the inlet.

(2) *Location.* Basement pipe inlets shall be strategically located and kept readily accessible at all times to the Fire Department.

(e) *Approval.* All fire-extinguishing systems, including automatic sprinkles, wet and dry standpipes, automatic chemical extinguishers, basement pipe inlets, and the appurtenance thereto shall meet the approval of the Fire Department of the particular municipality or city as to installation and location and shall be subject to such periodic tests as may require.

SECTION 11. Stages and Platforms

(a) *Stage Ventilators.* There shall be one or more ventilators constructed of metal or other incombustible material near the center and above the highest part of any working stage raised above the stage roof and having a total ventilation area equal to at least five per cent of the floor area within the stage walls. The entire equipment shall conform to the following requirements:

(1) *Opening Action.* Ventilators shall open by spring action or force of gravity sufficient to overcome the effects of neglect, rust, dirt, or expansion by heat or warning of the framework.

(2) *Glass.* Glass, if used in ventilators, must be protected against falling on the stage. A wire screen, if used under the glass, must be so placed that if clogged it cannot reduce the required ventilating area of interfere with the operating mechanism or obstruct the distribution of water from the automatic fire-extinguishing systems.

(3) *Design.* Ventilators, penthouses, and supporting framework shall be designed in accordance with this Code.

(4) *Automatic Openings.* Each ventilator shall be arranged to open automatically after the outbreak of fire by the use of an approved automatic closing device as defined in this Code. The fusible link and operating cable shall hold each door closed against a minimum 13.5-kilogram (30-pound) counterforce exerted by springs or counterweights. This minimum counterforce shall be exerted on each door through its entire arc of travel and for a minimum 115 degrees. A manual control shall be provided.

(5) *Spring Actuations.* Springs, when employed to actuate ventilator doors, shall be capable of maintaining full-required tension indefinitely. Springs shall not be stressed

more than 50 per cent of their rated capacity and shall not be located directly in the air stream, nor exposed to the elements.

(6) *Location of Fusible Links.* A fusible link shall be placed in the cable control system on the underside of the ventilator at or above the roofline, and shall be so located as not to be affected by the operation of fire-extinguishing systems.

(7) *Control.* Remote, manual, or electrical control shall provide for both opening and closing of the ventilator doors for periodic testing and shall be located at a point on the stage designated by the Building Official. When remote control of ventilator is electrical, power failure shall not affect its instant operation in the event of fire. Hand winches may be employed to facilitate operation of manually controlled ventilators.

(8) *Curb Construction.* Curbs shall be constructed as required for the roof.

(b) *Gridirons*

(1) Gridirons, fly galleries, and pin-rails shall be constructed of incombustible materials and fire protection of steel and iron may be omitted. Gridirons and fly galleries shall be designed to support a live load of not less than 112 kilograms per square meter (75 pounds per square foot). Each loft block well shall be designed to support 37.2 kilograms per linear meter (250 pounds per linear foot) and the block well shall be designed to support the aggregate weight of the entire loft block well served. The head block well must be provided with an adequate strong back of lateral brace to offset torque.

(2) The main counterweight sheave beam shall be designed to support a horizontal and vertical uniformly distributed live load sufficient to accommodate the weight imposed by the total number of loft blocks in the gridiron. The sheave blocks shall be designed to accommodate the maximum load for the loft blocks or head blocks served with a safety factor of five.

(c) *Rooms Accessory to Stage.* In buildings having a stage, the dressing room sections, workshops, and storerooms shall be located on the stage side of the proscenium wall and shall be separated from each other and from the stage by not less than a One-Hour Fire-Resistive Occupancy Separation.

(d) *Prosceniums Walls.* A stage shall be completely separated from the auditorium by a proscenium wall of not less than two-hour incombustible construction. The proscenium wall shall extend not less than 1.20 meters (4 feet) above the roof over the auditorium. Proscenium walls may have, in addition to the main proscenium opening at the orchestra pit level and not more than two openings at the stage floor level, each of which shall be not more than 2.00 square meters (25 square feet) in area. All openings in the proscenium wall of a stage shall be protected by a fire assembly having a one and one-half-hour fire-resistive rating. The proscenium opening, which shall be the main opening for viewing performances, shall be provided with a self-closing fire-resistive curtain according to generally recognized and accepted engineering practices.

(e) *Stage Floors.* The Type of Construction for stage floors shall depend upon the requirement based on the Type of Occupancy and the corresponding fire-resistive requirements. All parts of the stage floor shall be designed to support not less than 185 kilograms per square meter (125 pounds per square foot). Openings through stage floors shall be equipped with tight-fitting trap doors

(f) *Platforms.* The Type of Construction for platforms shall depend upon the requirements based on the Type of Occupancy and corresponding fire-resistive requirements. Enclosed platforms shall be provided with one or more ventilators conforming to the requirements of stage ventilators: Except, that the total area shall be equal to five per cent of the area of the platform. When more than one ventilator is provided, they shall be so spaced as to provide proper exhaust ventilation. Ventilators shall not be required for enclosed platforms having a floor area of 45.00 square meters (500 square feet) or less.

(g) *Stage Exits.* At least one exit not less than 90 centimeters (3 feet) wide shall be provided from a passageway not less than 90 centimeters (3 feet) in width to a street or exit court. An exit stair not less than 75 centimeters (2 feet, 6 inches) wide shall be provided for egress from each fly gallery. Each tier of dressing rooms shall be provided with at least two means of egress each not less than 75 centimeters (2 feet, 6 inches) wide and all such stairs shall be constructed as specified in this Code. The stairs required in this Subsection need to be enclosed.

SECTION 12. Motion Picture Projection Rooms

(a) *General.* The provisions of this Section shall apply only where ribbon type motion picture film in excess of 22-millimeter (7/8-inch) width and electric are projection equipment are used. Every motion picture machine using ribbon type in excess of 22-millimeter (7/8-inch) width and electric arc projection equipment, together with all electrical devices, rheostats, machines, and all such films present in any Group C, I, or H Occupancy, shall be enclosed in a projection room large enough to permit the operator to walk freely on either side and back of the machine.

(b) *Construction.* Every projection room shall be of not less than one-hour fire-resistive construction throughout and the walls and ceiling shall be finished with incombustible material. The ceiling shall be not less than 2.40 meters (8 feet) from the finished floor. The room shall have a floor area of not less than 7.00 square meters (80 square feet) and 3.50 square meters (40 square feet) for each additional machine.

(c) *Exits.* Every projection room shall have at least two doorway separated by not less than one-third the perimeter of the room, each at least 75 centimeters (2 feet, 6 inches) wide and 2.00 meters (6 feet, 7 inches) high. All entrances to a projection room shall be protected by a self-closing fire assembly having a three-fourths hour fire-resistive rating. Such doors shall open outward and lead to proper exits as required in this Code and shall not be equipped with any latch. The maximum width of such door need be no more than 75 centimeters (2 feet, 6 inches).

(d) *Ports and Openings.* Ports in projection room walls shall be of three kinds: projection

ports; observation ports; and combination ports used for both observation and for stereopticon, spot, or floodlight machines.

(1) *Ports Required.* There shall be provided for each motion picture projector not more than one projection port, which shall be limited in area to 774 square centimeters (120 square inches), and not more than one observation port, which shall be limited in area to 1290 square centimeters (200 square inches). There shall be not more than three combination ports, each of which shall not exceed 75 centimeters by 60 centimeters (30 inches by 24 inches). Each port opening shall be completely covered with a pane of glass: Except, that when acetate (safety) film is used projection ports may be increased in size to an area not to exceed 4,644 square centimeters (720 square inches).

(2) *Shutters.* Each port and every other opening in projection room walls, including any fresh-air inlets but excluding exit doors and exhaust ducts, shall be provided with a shutter of not less than No. 10 U.S. gauge sheet metal or its equivalent large enough to overlap at least 25 millimeters (1 inch) on all sides of such opening. Shutters shall be arranged to slide without binding in guides constructed of material equal to the shutters in strength and fire resistance. Each shutter shall be equipped with a 74°C (165°F) fusible link, which when fused by heat will cause closure of the shutter by gravity. Shutters of a size greater than 1,290 square centimeters (200 square inches) shall be equipped with a counter-balance. There shall also be a fusible link located over the upper magazine of each projector, which, upon operating, will close all the shutters. In addition, there shall be provided suitable means for manually closing all shutters simultaneously from any projector head and from a point within the projection room near each exit door. Shutters on openings not in use shall be kept closed: Except, that shutters may be omitted when acetate (safety) film only is used.

(e) *Ventilation*

(1) *Inlet.* A fresh-air inlet from the exterior of the building not less than 928.8 square centimeters (114 square inches) and protected with wire netting shall be installed within 50 millimeters (2 inches) of the floor in every projection room, the source of which shall be remote from other outside vents or flues.

(2) *Outlets.* Ventilation shall be provided by one or more mechanical exhaust systems which shall draw air from each arc lamp and from one or more points near the ceiling. Systems shall exhaust to outdoors either directly or through an incombustible flue used for no other purpose. Exhaust capacity shall be not less than 0.42 cubic meter (15 cubic feet) nor more than 1.40 cubic meters (50 cubic feet) per minute for each are lamp plus 5.60 cubic meters (200 cubic feet) per minute for the room itself. Systems shall be controlled from within the enclosure and have pilot lights to indicate operation. The exhaust system serving the projection room may be extended to cover room associated therewith such as rewind rooms. No dampers shall be installed in such exhaust systems. Ventilation of these rooms shall not be connected in any way ventilating or air conditioning system serving other portions of the building. Exhaust ducts shall be of incombustible material, and shall either be kept 25 millimeters (1

inch) from combustible material or covered with 10 millimeters (1/2 inch) of incombustible heat-insulating material.

(f) *Regulation of Equipment.* All shelves, fixtures, and fixed equipment in a projection room shall be constructed of incombustible materials. All films not in actual use shall be stored in metal cabinets having individual compartments for reels or shall be in generally accepted shipping containers. No solder shall be used in the construction of such metal cabinets.

(g) *Sanitary Requirements.* Every projection room shall be provided with unenclosed water closet and lavatory.

SECTION 13. Lathing, Plastering, and Installation of Wallboards. The installation of lath, plaster, and gypsum wallboards shall conform to the fire-resistive rating requirements and the Type of Construction of the building and shall be designed in accordance with the legally accepted principles of engineering.

TITLE 9 - MECHANICAL AND ELECTRICAL REGULATIONS
MECHANICAL REGULATIONS

SECTION 1. Mechanical Code. All mechanical systems equipment, and installations mentioned in this Code shall conform to the provisions of the Mechanical Code of the Philippines, latest edition, adopted and promulgated by the Board of Mechanical Engineering Examiners pursuant to Commonwealth Act Numbered 294, as amended.

ELECTRICAL REGULATIONS

SECTION 2. Electrical Code. All electrical systems and installations mentioned in this Code shall conform to the provisions of the Philippine Electrical Code, latest edition, adopted and promulgated by the Board of Electrical Engineering Examiners pursuant to Republic Act No. 184, otherwise known as the Electrical Engineering Law.

TITLE 10 - SPECIAL SUBJECTS
PHOTOGRAPHIC AND X-RAY FILMS

SECTION 1. Storage and Handling

(a) In the storage and handling of photographic and x-ray nitrocellulose film, automatic sprinklers shall be provided in the following case:

(1) When unexposed and the films exceed the aggregate of 14.00 cubic meters (500 cubic feet), these should be in generally accepted safety shipping containers for films;

(2) Where shelving used for storage of individual packages not in said safety shipping containers and the films exceeds 1.40 cubic meters (50 cubic feet) in capacity; or

(3) Storage not in generally accepted safety shipping containers in any fire section equipped with automatic sprinklers may be permitted up to 14.00 cubic meters (500 cubic feet).

(b) Film negatives in storage or in process of handling shall be kept in heavy manila envelopes not exceeding 12 films to an envelope. Expanding envelopes shall not be used.

(c) Film negatives shall be kept in properly insulated vented cabinets, vented storage vaults or outside storage houses. Not more than 113 kilograms (250 pounds shall be stored in any single cabinet. Where the film stored exceeds 453.5 kilograms (1,000 pounds), it shall be in vented storage vaults or in a detached structure or roof vault. Door openings in vault shall be of four-hour fire-resistive construction and shall be kept close except when in use.

(d) Only incandescent electric lights shall be permitted, protected with substantial wire guards or vapor proof globes, or both. Portable lights on extension cords are prohibited. Smoking shall
be prohibited and conspicuous no smoking sign posted.

(e) No films shall be stored within 60 centimeters (2 feet) seam pipes, chimneys, or other sources of heat.

(f) First aid appliances of types using water or water solutions shall be provided. Discarded films shall be stored and handled in the same manner as other films until removed from the premises.

SECTION 2. Nitrocellulose Motion Picture Film

(a) Nitrate motion picture film shall be stored or handled only in buildings of fire-resistive construction. Every room where nitrate film is stored or handled in quantities greater than 22.5 kilograms (50 pounds), except in motion picture booths or rewinding rooms connected with such booths, shall be equipped with automatic sprinklers.

(b) Buildings used for, or housing, a nitrate picture film laboratory or studio shall have automatic sprinklers. A minimum of one sprinkler for every 6.00 square meters (64 square feet) shall be provided.

SECTION 3. Classes of Film Exempted

(a) The provisions of this Section do not apply to: film for amateur photographic use in original packages of "roll" and "film pack" films in quantities of less than 1.40 cubic meters (50 cubic feet); safety film (cellulose acetate base); dental x-ray film; establishments manufacturing photographic films and their storage incidental thereto; and films stored or being used in standard motion picture booths.

(b) Safety photographic X-ray films (cellulose acetate base) may be identified by the marking on the edge of the film.

SECTION 4. Sprinklers. Unless otherwise provided in this Code, all sprinklers when so required shall be of a type, specifications, and method of installations in accordance with generally accepted practices.

PREFABRICATED CONSTRUCTION

SECTION 5. General

(a) Prefabricated assembly is a structural unit, the integral parts of which have been built up or assembled prior to incorporation in the building.

(b) Special tests based on internationally recognized and accepted engineering practices shall be required on assemblies to determine heir structural appropriateness, durability, soundness, and weather and fire resistance. Materials and their assembly shall comply with the latest generally accepted engineering and architectural specifications and standards.

(c) Every device or system designed to connect prefabricated assemblies shall be capable of developing the strength of the different members as a homogenous or monolithic structure, except in the case of members forming part of a structural frame as specified in this Code. Anchorages and connections between members and the supporting elements of the structure or walls shall be capable of withstanding all probable external and internal forces or other conditions for a structurally sound construction. In structural design, proper allowances shall be made for any material to be displaced or removed for the installations of pipes, conduits, or others.

(d) Placement of prefabricated assemblies shall be inspected to determined compliance with this Code.

PLASTICS

SECTION 6. General. Approved Plastics. Approved plastic materials shall be those which have a flame-spread rating of 225 or less and a smoke density not greater than that obtained from the burning of untreated wood under similar conditions when tested in accordance with generally recognized and accepted engineering practices for surface burning characteristics of building materials in the way intended for use. The products of combustion shall be no more toxic than the burning of untreated wood under similar conditions.

SECTION 7. Installation

(a) *Structural Requirements.* All plastic materials and their assemblies shall be of adequate strength and durability to withstand the prescribed design loads. Sufficient and substantial technical data shall be submitted to establish stresses, maximum unsupported spans, and such other information as may be deemed necessary for the various thickness and forms used.

(b) *Fastenings.* Fastenings shall be adequate to withstand design loads and internal and external stresses required of the assembly, proper allowances shall be made for expansion and contraction of plastic materials in conjunction with other materials with which it assembled or integrated.

SECTION 8. Glazing of Openings

(a) Doors, sash and framed openings in exterior walls of all building except Types IV and V construction may be glazed or equipped with approved plastic: *Provided*, That:

(1) The wall in which such glazing is installed is so located that openings are not required to be fire-protected.

(2) Except for Type I buildings, the location, size, and spacing of such glazed openings do not exceed the values set by generally recognized and accepted principles of engineering.

(3) Plastics used in glazed openings of Type II buildings shall be of materials appropriate to use according to flame-spread characteristics and the location, size and spacing of the openings do not exceed the values set forth by generally accepted principles of engineering.

SECTION 9. Skylights

(a) *General.* Approved plastics may be used in skylights installed on roofs Types I, II, or III buildings and all buildings equipped with an approved automatic fire-extinguishing system in Groups A, B, C, E, F, J, H-3, an H-4 Occupancies: Except, That:

(1) Approved plastics may be used in any type of construction or occupancy as a fire venting system when approved by the Building Official.

(2) Plastics may be used in approved skylights in Type I one-hour constructions which are located 30 centimeters (12 inches) or more above the lower plane of the ceiling. The walls of the skylight well shall be no less fire-resistive than the adjacent ceiling.

(3) Where a fire-resistive ceiling is not required in one-Storey buildings, approved plastics may be used in skylights.

(b) *Installation Requirements*

(1) Except in Group A Occupancies, no skylight shall be installed within 3.00 meters (10 feet) of a property line.

(2) The edges of dome-type skylights shall be properly flashed.

(3) Plastic skylights shall be separated from each other by at least 2.50 meters (feet, 4 inches) Laterally and 3.00 meters (10 feet) along the slope of the roof.

(c) *Allowable Areas.* The area of individual plastic skylights shall not exceed 10.00 square meters (107 square feet). The total aggregate area of plastics used in skylights, monitors, and sawtooth glazing shall not exceed 20 per cent of the floor area of the room or occupancy sheltered.

(d) *Curb Requirements.* Plastic skylights in roofs having a slope of less than 1 in 3 shall have a 10 centimeter (4-inch) high curb. The curb may be omitted where a wire screen not smaller the No. 12 U.S. gauge with 25-millimeter (1-inch) mesh is provided immediately below the skylight. The screen shall be substantially mounted below the skylight.

SECTION 10. Light-Transmitting Panels in Monitors and Sawtooth Roofs

(a) *General.* Where a fire-resistive rating is not required for the roof structure, and in all buildings provided with an approved automatic fire-extinguishing system, approved plastics may be used with or without sash as the light-transmitting medium in monitors and sawtooth roofs: Except, That plastics used in monitors or sawtooth roofs of Type II buildings shall be of materials appropriate to use according to flame-spread characteristics.

(b) *Allowable Areas.* The area of individual plastic glazing used in monitors and sawtooth glazing shall not exceed 15.00 square meters (150 square feet). The total aggregate area of plastics used in skylights, monitors, and sawtooth glazing shall not exceed 20 per cent of the
floor area of the room or occupancy sheltered.

(c) *Area Separations.* The areas of such plastic panels shall be separated from each other by a section incombustible materials or by a section of the roofing material of the structure not less than 1.50 meters (5 feet) in length. The lower edge of the plastic material shall be at least 15 centimeters (6 inches) above the surface of the adjoining roof surface.

SECTION 11. Plastic Light Diffusers in Ceilings

(a) *General.* Ceiling light diffusers having an area greater than 10 per cent of any 10.00 square meters (100 square feet) of room area shall be approved plastics conforming to the requirements specified in this Code.

(b) *Installation.* Plastic light diffusers shall be installed in such a manner that they will not readily become detached when subjected to room temperature of 149°C (300°F) for 25 minutes, except, for plastic light diffusers which are installed in the first floor areas of Group C Occupancies having egress directly to the exterior of the building; and plastic light diffusers which are located between an approved automatic fire-extinguishing system and the areas to be protected other than public corridors or Groups A, B, C, D, E, G, H, and I Occupancies if tests in accordance with generally accepted and recognized principles of engineering have established that such installations will not interfere with the efficient operation of such automatic fire-extinguishing systems.

SECTION 12. Partitions Where partitions are not required to be of fire-resistive or

incombustible construction, approved plastics conforming to the requirements specified in this Code may be used.

SECTION 13. Exterior Veneer

(a) *General.* Exterior veneer may be of approved plastic materials and shall conform to the provisions of this Section.

(b) *Height.* Plastic veneer may be attached to exterior walls above the first Storey of buildings located outside of highly restrictive Fire Zones: Provided, further, That the height of veneer is not in excess of 10.50 meters (35 feet) above the adjacent grade elevation.

(c) *Area.* Section of plastic veneer shall not exceed 15.00 square meters (150 square feet) in area: Except, That in less restrictive Fire Zones the area may be increased by 50 per cent.

(d) *Separation.* Sections of plastic veneer shall be separated by a minimum of 1.20 meters (4 feet) vertically and 60 centimeters (2 feet) horizontally.

SECTION 14. Awnings and Canopies

(a) Plastics of materials appropriate to use according to flame-spread characteristics may be utilized in awnings and canopies, and all such awnings and canopies shall be constructed in accordance with provisions governing projections and appendages specified in this Code.

(b) Approved plastics may be used in awnings where untreated canvas is permitted.

(c) Approved plastics may be used in lieu of plain glass in greenhouse in less restrictive Fire Zones.

SHEET METAL SPRAY BOOTHS

SECTION 15. General

(a) *General.* Paint spray booths shall be constructed of steel of not less than No. 18 U.S. gauge in thickness and shall be designed in accordance with this Code.

(b) *Area.* The area of a paint spray booth shall not exceed 150 square meters (1,500 square feet) nor 10 per cent of the basic area permitted for the major use of the building according to the occupancy group.

(c) *Floor Construction.* The floor shall be constructed of incombustible material.

(d) *Interior Surface.* Paint spray booths shall be designed to permit the free passage of exhaust air from all parts of the interior and all interior surfaces shall be smooth and continuous without outstanding edges.

SECTION 16. Fire Protection

(a) Every spray booth having an open front elevation larger than 0.90 meter (9 square feet) and which is not equipped with doors, shall have a fire curtain or metal deflector not less than 10 centimeters (4 inches) deep installed that upper outer edge of the booth opening.

SECTION 17. Light

(a) Paint spray booths shall be illuminated through hammered wire or heat-treated glass panels. The glass panels shall be located in such a manner as to reduce the hazard of ignition caused by paint spray deposit.

SECTION 18. Ventilation

(a) *General.* Mechanical ventilation shall be provided direct to the exterior of the building. The mechanical exhaust system shall be designed to move the air through any portion of the paint spray area at the rate of not less than 30.00 linear meters (100 linear feet) per minute. The blades of exhaust fan shall be constructed of nonferous materials and shall be mounted in such a manner as to prevent contact with the exhaust duct. The motor shall not be mounted in the spray booth or the duct system and belts shall be enclosed where they enter the booth or duct system.

(b) *Exhaust Ducts.* Exhaust ducts shall be constructed of steel having a thickness not less than the values set by generally recognized and accepted principles of engineering. The discharge paint for ducts in a paint spray booth shall be not less than 1.80 meters (6 feet) from adjoining combustible construction nor less than 7.50 meters (25 feet) from adjoining exterior wall openings: Except, that the discharge point for exhaust ducts is not regulated in a water-wash
spray booth.

GLASS AND GLAZING

SECTION 19. General

(a) This Chapter shall apply to exterior glass and glazing in all occupancies except Groups A, B, and J Occupancies not over three stories in height, and to interior and exterior glass and glazing in all occupancies subject to human impact as specified in this Chapter.

(b) Standards for materials shall conform to this Chapter and to generally recognized and accepted principles of engineering on glass dimensional tolerance, breaking stress levels, and design (safety) factors.

(c) Each light shall bear the manufacturer's label designating the type and thickness of glass. Each light with special performance characteristics such as laminated, heat-strengthened, fully tempered or insulated shall bear the manufacturer's identification showing the special characteristic and thickness by etching or other permanent identification that shall be visible after the glass is glazed.

SECTION 20. Area Limitation. Exterior glass and glazing shall be capable of safety withstanding the loads set forth by generally recognized and accepted principles of engineering on wind pressures for various height zones above ground acting inward or outward. The area of individual lights shall not be more than those set by generally recognized and acceptable principles of engineering on the maximum allowable area of glass according to the wind load multiplied by the appropriate adjustment factor.

SECTION 21. Glazing. Glass firmly supported on all four edges shall be glazed with a minimum laps and edge clearances in accordance with generally accepted and recognized principles of engineering for minimum glazing requirements: *Provided*, That glass edge clearance in fixed openings shall be not less than what is required for wind and earthquake drift. For glass not firmly supported on all four edges, design shall be submitted for approval. Glass supports shall be considered firm when deflection of the support at design load does not exceed 1/175th of the span.

SECTION 22. Windows Louvered. Regular plate, sheet, or patterned glass in jalousies and louvered windows shall not be thinner than nominal 5.6 millimeters (7/32 inch) and no longer than 1.20 meters (4 feet) exposed glass edged shall be smooth.

SECTION 23. Impact

(a) Frameless glass, doors, glass in doors, fixed glass panels, and similar glazed openings which may be subject to accidental human impact shall conform with generally recognized and accepted principles of engineering on impact loads of glass: Except, in the following cases:

(1) Bath tub and shower enclosures shall be constructed from approved shatter-resistant materials, such as: wire reinforced glass not less than 5-6-millimeter (7/32-inch) thickness; fully tempered glass not less than 4.8-millimeter (3/16-inch) thickness; or laminated safety glass of not less than 6.4-millimeter (1/4-inch) thickness.

(2) Glass lights located not less than 45 centimeters (18 inches) above the adjacent finished floor or walking surface.

(3) Glass lights when the least dimension is no greater than 45 centimeters (18 inches).

(4) Glass lights 0.55 square meter (16 square feet) or less in area.

SIGNS

SECTION 24. General No signs or signboards shall be erected in such a manner as to confuse or obstruct the view or interpretation of any official traffic sign signal or device.

No signboards shall be constructed as to unduly obstruct the natural view of the landscape, distract or obstruct the view of the public as to constitute a traffic hazard, or otherwise defile, debase, or offend the aesthetic and cultural values and traditions of the Filipino people.

SECTION 25. Maintenance. All signs, together with all of their supports, braces, guys and

anchors, shall be kept in repair and in proper state of preservation. The display surfaces of all signs shall be kept neatly painted or posted at all times.

SECTION 26. Design and Construction. *General.* Signs and signs structures shall be designed and constructed to resist all wind and seismic forces. All bracing systems shall be designed and constructed to transfer lateral forces to the foundations. For signs on buildings the dead and lateral loads shall be transmitted through the structural frame of the building to the ground in such manner as not to overstress any of the elements thereof. The overturning moment produced from lateral forces shall, in no case, exceed two-thirds of the dead-load resisting moment. Uplift due to overturning shall be adequately resisted by proper anchorage to the ground or to the structural frame of the building. The weight of earth superimposed over footings may be used in determining the dead-load resisting moment. Such earth shall be carefully placed and thoroughly compacted.

SECTION 27. Support

(a) *General.* The supports for all signs or signs structures shall be placed in or upon private property and shall be securely built, constructed, and erected in conformity with the requirements of this Code.

(b) *Materials.* Materials of construction for signs and sign structures shall be of the quality and grade as specified in this Code.

(c) *Restrictions and Combustible Materials.* All signs and sign structures erected in highly restrictive Fire Zones shall have structural members of incombustible materials. Ground signs may be constructed of any material meeting the requirements of this Code. Combination signs, roof signs, walls signs, projecting signs, and signs on marquees shall be constructed of incombustible materials. No combustible materials other than approved plastics shall be used in the construction of electric signs.

(d) *Nonstructural Trim.* Nonstructural trim and portable display surface may be of wood, metal, approved plastics, or any combination thereof.

(e) *Anchorage.* Member supporting unbraced signs shall be so proportioned that the bearing loads imposed on the soil in either direction, horizontal or vertical, shall not exceed the safe values. Braced ground signs shall be anchored to resist the specified wind or seismic load in any direction. Anchors and supports shall be designed for safe bearing loads on the soil and for an effective resistance to pull-out amounting to a force twenty five percent (25) greater than the required resistance to overturning. Anchors and supports shall penetrate to a sufficient depth below ground. Portable ground signs supported by frames or posts rigidly attached to the base shall be so proportioned that the weight and size of the base will be adequate to resist the wind pressure. Signs attached to masonry, concrete, or steel shall be safely and securely fastened thereto by means of metal anchors, bolts, or approved expansion screws of sufficient size and anchorage to support safely the loads applied. No wooden blocks or plugs or anchors with wood used in connection with screws or nails shall be considered proper anchorage, except in the case of signs attached to wood framing. No anchor or support of any sign shall be connected to, or supported by, an

unbraced parapet wall, unless such wall is designed in accordance with the requirements for parapet walls.

(f) *Display Surfaces.* Display surfaces in all types of signs may be made of metal, glass, or approved plastics.

SECTION 28. Projection and Clearance

(a) *Clearance from High Voltage Power Lines.* Signs shall be located not less than 1.80 meters (6 feet) horizontally or 3.60 meters (12 feet) vertically from overhead electrical conductors which are energized in excess of 750 volts. The term *"overhead conductor"* as used in this Section means any electrical conductor, either bare or insulated, installed above the ground except such conductors as are enclosed in an iron pipes or other material covering of equal strength.

(b) *Clearance from Fire Escapes, Exits, or Standpipes.* No sign or signs structure shall be erected in such a manner that any portion of its surface or supports will interfere in any way with the free use of any fire escape, exit, or standpipe.

(c) *Obstruction of Openings.* No sign shall obstruct any opening to such an extent that light or ventilation is reduced to a point below that required by this Code. Signs erected within 1.50 meters (5 feet) of an exterior wall in which there are openings within the area of the sign shall be constructed of incombustible material or approved plastics.

(d) *Projection Over Alleys.* No sign or sign structures shall project into any public alley below a height of 4.25 meters (14 feet) above grade nor project more than 30 centimeters (12 inches) where the sign structure is located 4.25 meters (14 feet) to 4.85 meters (16 feet) above grade. The sign or sign structure may project not more than 0.90 meter (3 feet) into the public alley where the sign or sign structure is located more than 4.85 meters (16 feet) above graded.

TITLE 11. GENERAL PENAL PROVISIONS

Section 1. Penalty. Any violation of the provisions of this Article shall be punished by a fine of not less than One Thousand (P 1,000.00) Pesos but not more than Two Thousand Five Hundred Pesos (P 2,500.00) or imprisonment of not less than one (1) month but not more than six (6) months, or both such fine and imprisonment, at the discretion of the Court.

Payment of a fine or service of imprisonment as herein provided shall not relieve the offender from complying with the provisions of the code.

If the violation is committed by any juridical entity, the President, General Manager or any other person entrusted with the administration thereof at the time of the commission of the violation shall be held responsible or liable thereof.

TITLE 12- FINAL PROVISIONS

Section 1. Separability Clause. If for any reason any provision or section or part of this Code is declared not valid by a court of competent jurisdiction or suspended or revoked by the Sangguniang Panlalawigan, such judgment shall not affect or impair the remaining provisions, section or parts thereof which shall remain or continue to be in full force and effect.

Section 2. Applicability Clause. All other matters relating the imposition in this Code shall be governed by pertinent provisions of existing laws and other ordinances.

Section 3. Repealing Clause. All ordinances, rules and regulations or parts thereof, in conflict with, or inconsistent with any provisions of this Code, are hereby repealed, amended or modified accordingly.

Section 4. Effectivity. This Code shall take effect on _____