

BMA Bye-Law (2001)

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Announced on 31 July 31 2001				

Remarks

In this text,

- Characters in blue mean supplementary comments added by Mr. Hasegawa (JICA expert),
- Characters in red mean important words, and
- Year of BE (Buddhist Era) has been converted to year of AD.

Abbreviation in this text

BMA	Bangkok Metropolitan Administration	バンコク都
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WHEREAS it is appropriate to amend the Bye-law of BMA (Bangkok Metropolitan Administration) relating to the building control.

By virtue of the provisions of Article No. 9 and No. 10 of the Building Control Act 1979 amended by the Building Control Act (No. 2) 1992 - the statute comprised of some provisions relating to the discrimination/restriction of the personal right and liberty - coupled with the provisions of Article No. 29, 31, 35, 48, 49 and 50 of the Constitution of Kingdom of Thailand, it is enacted to be imposed only by virtue of the provision of law. Pursuant to the provision of Article No. 97 of the Public Administration of Bangkok Metropolitan Authority 1985 coupled with the consent of the BMA Council, this Bye-laws is then enacted, as followings:

Clause 1 This Bye-law shall be known as the Bye-law of BMA relating to the Building Control 2001.

Clause 2 This Bye-law shall be effective from the date following the date of publication in the Government Gazette.

Clause 3 The followings shall be repealed:

- (1) BMA Bye-law relating to the Building Construction Control 1979;
- (2) BMA Bye-law relating to the Car Parking Building 1978.

For any other municipal laws, bye-laws, regulations, rules, announcements or otherwise instructions relating to any matter readily adopted and set forth in this Bye-law or being contrary to this Bye-law, the provisions of this Bye-law shall be governed or prevail.

Clause 4 BMA Governor is hereby authorized and directed to enforce all the provisions of this Bye-law and shall have the powers to adopt and enforce (supplemental) regulations, rules, announcements or instructions in order to implement the application of this Bye-law.

CHAPTER 1 DEFINITIONS

Clause 5 In this Bye-law,

- (1) “**Gravel**” means a natural-borne stone bigger than 3 mm.
- (2) “**Construction**” means to erected or build up the whole new building; whether it is erected to replace the former one or not.
- (3) “**Drainage**” means to make wastewater to flow or to drain away into the wastewater basin or drainage source.
- (4) “**Right of Way**” means the total width of way between the landlines on both sides including the width of traffic surface, footpath, vacancy for planting, canal and others.
- (5) “**Warehouse**” means a building or any component thereof used for merchandises or things storage for the commercial or industrial purpose or for carrying out the business of transportation but excluding the storage house.
- (6) “**Width of Stair or Stair Width**” means a distance measured along the length of a stair tread or the normal line of travel of the stair.
- (7) “**Height of Building or Building Height**” means the height of the building vertically measured from the road level up to the highest-pitched building component or to the top of building.
- (8) “**Concrete**” means composite materials comprised of mixtures of cement, fine aggregates e.g. sand etc., coarse aggregates e.g. crushed stone or gravel etc. and water, and also means a strength concrete, high strength concrete and extra-high strength concrete.

- (9) “**Reinforced Concrete**” means concrete containing metal bars, rods, wires, (or other slender members) embedded (under tension) in the concrete in such a manner that the metal and the concrete act together in more resisting force.
- (10) “**Pre-stressed Concrete**” means the concrete composed of pre-stressed concrete wire embedded under tension in the concrete so that the internal stresses are introduced of such magnitude and distribution sufficiently to eliminate the tensile stresses resulting from the service loads counteracted.
- (11) “**Principal Structure**” means building components being column, beam, joist, slab or steel structure comprised of a span of 15 m or more, which it shall, by its nature, be deemed as the essential members to the stability of the said building.
- (12) “**Ends of Slope**” means a starting or ending point of any slope with an inclination less than 2 per cent.
- (13) “**Flight of Stair or Stair Flight**” means a vertical distance of stair comprised of the whole continuous series of steps.
- (14) “**Basement**” means any floor of building story below grade more than 1.20 m.
- (15) “**Slope of Bridge or Bridge Slope**” means the level-changing bridge or public way; or the traffic way particularly adjoining to the level-changing bridge or public way or any part thereof comprised of the inclination or grade of 2 % or more.
- (16) “**Renovation**” means a repair or alteration in various building components to maintain the former conditions.
- (17) “**Foundation**” means a building component serving to transmit the building load to the earth ground.
- (18) “**Modification**” means an alteration, addition, enlargement, reduction or expansion in the characteristic, boundary, classification, shape, portion, load, space of building structure or various building components readily constructed to be different from the former conditions and not being the renovation or modification as stipulated in the Ministerial Regulation.
- (19) “**Terrace Roof**” means a space of the highest-pitched building component not covered by roof nor used by any person.
- (20) “**Soil**” means nature substances constituting the earth crust e.g. rock, gravel, sand, clay etc.
- (21) “**Market**” means a building or any component thereof used as a market as defined pursuant to the Public Health Law.
- (22) “**Row Houses**” means two or more buildings constructed and joined to each other in the row and comprised of joint wall - dividing the buildings into a unit – mostly composed of fire proof materials.
- (23) “**Public Road**” means a public way for vehicles to run/pass through.
- (24) “**Sand**” means a fine small piece of rock not bigger than 3 mm.
- (25) “**Way**” means a way or thoroughfare as defined pursuant to the Traffic Law on a ground level or underground or aboveground but excluding the railway.
- (26) “**Car Access/Exit**” means a passageway provided as an access to, and egress from the car park from or to the mouth of the access and exit; or egress from the car park to the mouth of egress or access to the car park from the mouth of access.
- (27) “**Public Water Way**” means a water channel which people are entitled to use as a communication route.
- (28) “**Common Intersection/Junction**” means the location where 2 or more same-level or different-level ways – the width of 6 m or more and the continuous length not less than 200 m – joining another or crossing each other at the same-level location.
- (29) “**Public Drainage Channel**” means a water-flow channel along the public way and public road where is determined for receiving the wastewater drained away from the building.
- (30) “**Private Way**” means the private land where people may use as a communication route and shall be comprised of one or more of the following characteristics:
 - (a) being a communication route not exceeding 500 m. long;
 - (b) being a communication route where the owner expresses his entitlement for conservation and prohibition with or without making a signboard announcement or claiming for or receiving the

remuneration for using it as a communication route or entering into the agreement with the user(s) but excluding the execution of agreement to allow BMA to develop for the utilization.

- (31) “**Public Way**” means the land where people are entitled to use as the communication route - not the private way.
- (32) “**Car Reverse**” means a space or constructions used for the car reverse in order to facilitate a car parking or car ingress/egress.
- (33) “**Car Park**” means a space or structure used as a location to park car for some specific categories or classifications of buildings, and also means the space or constructions used as a car park for rental or car storage.
- (34) “**Garbage Tank**” means an equipment or location used to store the garbage waiting for the removal to the garbage collection tank.
- (35) “**Garbage Collection Tank**” means an equipment or location used to store the garbage waiting for the removal for disposal.
- (36) “**Vacancy**” means a location without roof or covering constructions, which may be arranged for a well, swimming pool, sewage well, garbage collection tank or car park outside the building. It also means the space of constructions or building not higher than 1.20 m. above the grade with no roof or covering constructions above.
- (37) “**Public Place**” means a location where is opened for or people are allowed to enter into or to use as a communication route, whether there shall be a claim for a remuneration or not.
- (38) “**Car Reverse Platform**” means an equipment or machine to be installed inside or outside the building to facilitate a circulation of car or car reverse.
- (39) “**Engineer**” means BMA official appointed by BMA Governor as an engineer.
- (40) “**Inspector**” means BMA official appointed by BMA Governor as an inspector.
- (41) “**Waste Water**” means water from the building, which flow through the sewage treatment system until it is qualified in accordance with the effluent quality standard or is qualified enough to drain away into the wastewater basin.
- (42) “**Sewage**” means every kind of used liquid both with and without solid.
- (43) “**Dead Load**” means the load of various building components including the load of various materials not the building structure but constructed or installed on the various building components forever.
- (44) “**Road Line**” means a boundary of road and footpath as specified to be a public way.
- (45) “**Grease Trap/Interceptor**” means an opening component of drainage channel fixed to be a fat trap.
- (46) “**Town Houses**” means shop houses or row houses using for dwelling coupled with the front and rear vacancies between the fence or land lines and the building of each unit.
- (47) “**Duplex/Twin Houses**” means buildings using for dwelling and constructed as two consecutive connected houses comprised of joint walls dividing the building into a house. There shall be vacancies between the fence or land lines and the front, rear and lateral sides of building of each unit, and a specific entrance of each house separate from each other.
- (48) “**Drawing**” means a diagram using for the building construction, modification, demolition, removal, utilization and change of building utilization and comprised of drawing showing particulars of essential parts, sizes, symbols, materials and various building utilization clearly enough for implementing the construction operation.
- (49) “**Crane**” means a hoist machine comprised of various components e.g. mast/tower and tackle etc., whether or not there shall be a cantilever, used for lifting heavy things.
- (50) “**Mouth of Car Entrance/Exit**” means a part of way for car entrance/exit adjoining to the public way.
- (51) “**Mouth of Car Exit**” means the part of the way for car exit adjoining to the public way.
- (52) “**Mouth of Car Entrance**” means the part of the way for car entrance adjoining to the public way.
- (53) “**Plan**” means a drawing expressing the horizontal building elements.
- (54) “**Wall**” means the vertical constructions to block the external sides or between building units to become a housing unit or separated unit.

- (55) “**Firewall**” means an opaque wall made of fireproof materials with the qualification of well fire endurance not worse than a wall constructed with normal bricks coated both sides with cement not less than 18 cm. thick or 12 cm. thick in case of the reinforced concrete wall. There is no hole/gap for the passage of fire and smoke.
- (56) “**Supervisor**” means a person responsible for management or supervision of building construction, modification, demolition or removal.
- (57) “**Operator**” means a building owner or occupant himself carrying out a construction, modification, demolition or removal of building including a person accepting to do the same with or without remuneration thereof and a sub-contractor.
- (58) “**Designer**” means a person responsible for the calculation, drawing and element stipulations used for a building construction, modification, demolition or removal.
- (59) “**Layout**” means a diagram showing the site plan and boundaries of land and building to be constructed, modified, demolished, removed, utilized or to change the building utilization including the feature and boundaries of public place and building(s) in the adjoining land(s) in brief.
- (60) “**Partition**” means the standing constructions to block and divide the internal building spaces into a room.
- (61) “**Floor**” means a building slab where people can dwell or utilize within the boundary of beam or joist bearing the slab or within the said slab or within the boundary of building walls including veranda/porch or terrace.
- (62) “**Building Area**” means the building area of every floor where people can dwell or utilize within the external edge of beam or within the said floor or within the external edges of building walls including veranda/porch or terrace.
- (63) “**Restaurant**” means a building or any part thereof used for a food or beverage sale coupled with a servicing space inside or outside the building.
- (64) “**Article**” means the Article pursuant to the Building Control Act 1979 and its amendment statute.
- (65) “**Garbage**” means the garbage as defined pursuant to the Public Health Law.
- (66) “**Standpipe System**” means the water pipe and accessories used for fire extinguishing.
- (67) “**Sewage Treatment System**” means a process to make or develop the sewage to be qualified as wastewater including an outflow of wastewater draining away from the building.
- (68) “**Water Supply System**” means a distribution system of water for utilizing and drinking.
- (69) “**Calculation Particulars**” means the elements indicating the method of calculating the strength of materials, load bearing and resisting force of various building components.
- (70) “**Supplementary Calculation Particulars**” means elements relating to the method of calculating engineering works in all fields.
- (71) “**Supplementary Drawing Particulars**” means the detailed descriptions relating to the quality and categories of materials including the operating proceedings or procedures for the building construction, modification, demolition, removal, utilization or change of building utilization in order to be compliance with the drawing.
- (72) “**Demolition**” means a destruction of building-structure components e.g. column, beam, joist or other structure elements as specified by the Ministerial Regulation.
- (73) “**Elevation**” means a drawing showing the vertical elements of building exterior.
- (74) “**Section**” means a drawing showing the vertical (as if it were cut) elements of building interior.
- (75) “**Impact Load**” means the impetus exerted as a result of the collision of materials.
- (76) “**Wind Load**” means the force exerted by wind on a structure.
- (77) “**Factory**” means a building or any component thereof used as a factory pursuant to the Factory Law.
- (78) “**Theatre**” means a building or any component thereof used as a location for the presentation of movies, drama, music or other entertaining shows and coupled with the objective of opening to the public audience on a regular-basic business whether there shall be a remuneration or not.
- (79) “**Hotel**” means a building or any component thereof used as a hotel pursuant to the Hotel Law.

- (80) “**Elevator**” means an equipment or machine served to raise or lower passenger(s) or thing(s) between various building floors.
- (81) “**Fire Elevator**” means a lift that the firefighter can control its utilization in case of fire.
- (82) “**Car Elevator**” means a lift used for hoisting a vehicle to move to various building floors.
- (83) “**Riser**” means a vertical distance of each stair step.
- (84) “**Tread**” means a horizontal distance of each stair step.
- (85) “**Durable Materials**” means materials in its normal condition not easily to be changed by water, fire or weather.
- (86) “**Fireproof Materials**” means construction materials which are not fuel.
- (87) “**Entertainment Place**” means a building or any component thereof used as the entertainment place pursuant to the Entertainment Law.
- (88) “**Acceptable Institute**” means a government agent or juristic person with the objective of providing the engineering consultation where there is the Senior Engineer - pursuant to the Engineering Professional Law - who shall be a consultant and sign to certify a inspection result of engineering control work.
- (89) “**Building Components**” means the building elements required to show the particulars relating to a calculation of load bearing and resisting force e.g. slab, beam, column and foundation etc.
- (90) “**Slope**” means the vertical distance or rise comparing to the length dimension of base along the horizontal level or run.
- (91) “**Office**” means a building or any component thereof used as a working place.
- (92) “**Pile**” means a column driven into the soil or founded in the soil for bearing a building load and also means a concrete wall in various shapes founded in the soil for bearing the building load.
- (93) “**Stress**” means the strength divided by the horizontal section area bearing the said load.
- (94) “**Roof**” means a coverage on the top of building component for sunlight or rain protection and also means any structure or otherwise constructions built up to hold such coverage durably and stably.
- (95) “**Shop Houses**” means 2 or more buildings constructed consecutively in the row and comprised of a joint wall to divide the buildings into a housing unit and mostly composed of non-fire-resistive materials.
- (96) “**Hall**” means a building or any component thereof separated to be a specific space particularly for purpose of convention, assembly, party or various exhibitions, but excluding the space for common corridors inside the building e.g. lift hall/lobby, registration-counter lobby, guest lobby etc.
- (97) “**Structural Steel / Non-symmetric Shaped Steel**” means steel manufactured in a variety of shapes of sections for structural works.
- (98) “**Reinforced Steel**” means the metal rods embedded in the concrete to increase its strength.
- (99) “**Wastewater Basin**” means a public drainage pipeline, ditch/trench, canal, river, sea and public water resources.
- (100) “**Storehouse**” means a building or any component thereof used for storing merchandises or things for the benefit of the building owner with a storage volume not exceeding 2,000 cu. m. For the height measurement to calculate the volume, it shall measure from the ground level of the said floor to the top of the wall.
- (101) “**Large Building**” means a building constructed for using the building area or any component thereof used for dwell or carrying out the single or various activities with the total building in the same building area exceeding 2,000 m² or exceeding 1,000 m² for a building 15 m or more in height. For the measurement of building height, it shall measure from the constructing grade to the floor of terrace roof. For a building with a gable roof or hip roof, it shall measure from the constructing grade to the highest-pitched part of the wall of the top floor.
- (102) “**Extra-large Building**” means a building constructed for using the building area or any component thereof used for dwell or carrying out the single or various activities with the total building area in the same building of 10,000 m² or more.

- (103) “**Car Park Building**” means a building or any component thereof used for car parking of 10 or more parking lots or the are of 300 m² or more for parking lots, travel/car route and car reserve space inside the building.
- (104) “**Car Park Building with Car-Removal Mechanism**” means the constructions or framework or machinery built up or installed for using for car park or storage by the mechanism to park or to store a car including a platform or slab or structure constructed for parking one or more cars. Such platform or slab or structure including a car reverse platform may be non-removal or removable and may also be built up inside or adjoining to the car park building or installed outside the building independently.
- (105) “**Condominium**” means the condominium pursuant to the Condominium Law.
- (106) “**Commercial Building**” means the building used for a commercial or servicing or industrial purpose and using a machine with productive force commensurable not exceeding 5 horsepower.
- (107) “**Specific Building**” means a building requiring an extra stability, durability and security standard for examples, as follows:
- (a) theatre, bleacher, convention hall, library, art gallery, national museum, or religious place;
 - (b) shipyard, dry dock or port for the vessel exceeding 100 gross tonnage;
 - (c) building or constructions exceeding 15 m. in height or bridge or building; or one span of roof structure exceeding 10 m. or the structural element which may be dangerous/harmful to the public;
 - (d) building storing combustible materials, explosives, poison/toxic-spread materials or radiation pursuant to the pertinent laws in such respect.
- (108) “**Departmental Store Building**” means a building or any component thereof used for various merchandises display and sale with the space of 300 m² or more by dividing the building components in accordance with the classification of merchandises or the space owner, whether the space division shall partition into a room or not. It also means the exhibition hall.
- (109) “**Public Building**” means a building or any component thereof generally used for the assembly occupancy relating to the government activities, politics, education, social work, religion, entertainment, or commerce e.g. theatre, convention hall, hotel, hospital, educational institute, library, outdoor sport arena, indoor stadium, market, department store, shopping center, entertainment place, airport, tunnel, bridge, car park building, station, port, pier, graveyard, crematorium, religious place etc.
- (110) “**High Rise Building**” means a building – for people to dwell or to use – 23 m or more in height. For the measurement of building height, it shall measure from the constructing grade to the floor of terrace roof. For a building with gable roof or hip roof, it shall measure from the constructing ground level to the top of the wall of top floor.
- (111) “**Exhibition Hall**” means a building or any component thereof being arranged for an exhibition or sale or promotion of merchandises including the temporary constructions for the aforesaid activities.
- (112) “**Dwelling Building**” means a building where people normally dwell both in daytime and nighttime permanently or temporarily.
- (113) “**Co-dwelling Building**” means a building or any component thereof used for many families’ residences by dividing into a separate unit for each family and comprised of bathroom, toilet, passage/corridor, entrance/exit, and up and down passage or separate or joint elevator, and also means a dormitory.
- (114) “**Normal Brick**” means a lump of earth with the thick-bar shape and well baked.

CHAPTER 2
STANDARDS PROCEDURES AND CONDITIONS RELATING TO
- PERMIT GRANTING,
- NOTIFICATION PROCEEDINGS,
- CERTIFICATE, AND
- REPLACEMENT CERTIFICATE ISSUANCES

Clause 6 Any person who will implement a construction, modification, demolition, removal, utilization or change of building utilization; modification or utilization of car par, car reserve and car entrance/exit for other purpose; or application for a extension of permit, a permit-replacement certificate, a replacement certificate or a permit transfer shall submit an application or a letter of notification to BMA Governor in accordance with the provisions in this Section.

The applicant or notifying person shall be a building owner or representative duly authorized by the building owner.

Clause 7 Any building owner who desires to apply for the following permits:

- (1) For a construction, modification, or demolition, shall submit a permit application in accordance with the form stipulated in the Ministerial Regulation together with documents as specified in the said form;
- (2) For a building removal, shall submit a permit application in accordance with the form stipulated in the Ministerial Regulation together with documents as specified in the said form.

The applicant shall submit documents relating to a layout, drawing, supplementary drawing particulars as specified in the form stipulated in the Ministerial Regulation in five sets with each application for a permit. For the permit application for construction, modification or removal of the building classified as a building with control of building utilization pursuant to the Building Control Law, BMA Governor may make an announcement to require the applicant to submit the submittal documents more than five sets but not exceeding seven sets.

For the permit application for a construction, modification or removal of public building or specific/special building or building mostly constructed of durable materials and fireproof materials, the calculation particulars and supplementary calculation particulars shall also be submitted in one set with the application in accordance with Sub-clause (1) and (2) above.

Clause 8 Any building owner who desires a building construction, modification, demolition, or removal without a submission of permit application shall proceed with a notification to BMA Governor, as follows:

- (1) Notifying BMA Governor for his perusal in accordance with the form stipulated by BMA Governor and notifying the information as well as submitting the following documents:
 - (a) the name of a person who is responsible for building design and shall be a person acquiring the Senior Architecture Control Professional License pursuant to the Architecture Professional Law;
 - (b) the name of a person who is responsible for a building drawing and calculation and shall be a person acquiring the Senior Engineering Control Professional License pursuant to the Engineering Professional Law;
 - (c) the name of supervisor who shall be a person acquiring the architecture control professional license pursuant to the Architecture Professional Law and the engineering control professional license pursuant to the Engineering Professional Law;
 - (d) copies of licenses of persons specified in Items (a), (b) and (c);
 - (e) the letter of certification from each person specified in Item (a), (b) and (c) to certify that he is the designer of building, or a person responsible for the building drawing and calculation, or shall be a supervisor where the case may be in accordance with the form stipulated by BMA Governor together

with the certification that the building construction, modification, demolition or removal shall be compliance with the provisions of the Building Control Law, the Ministerial Regulation and BMA Bye-Law issued under the provisions of the Building Control Law;

- (f) the layout, drawing and its supplementary drawing particulars, calculation particulars and its supplementary calculation particulars of the building to be constructed, modified, demolished or removed, coupled with the certification of the person specified in Item (a) and (b) above that he is the designer and person responsible for the said building drawing and calculation;
 - (g) the commencing and complete dates of the operation so applied.
- (2) If the notifying person has completely complied with Sub-clause (1) above together with the payment of fee for the inspection/review of drawing for the building construction or modification, BMA Governor shall then issue a receipt of letter of notification in accordance with the form stipulated by BMA Governor as an evidence of notification for the notifying person within the date of receiving the letter of notification. Then, the notifying person shall implement the building construction, modification, demolition or removal in accordance with the letter of notification from the date of having received the receipt of the letter of notification.

Clause 9 A static or dynamic penetration test for the building construction shall be implemented when BMA Governor has been notified and provided with the submittal documents, as follows:

- (1) two sets of the layout indicating a location for the penetration test;
- (2) two sets of the layout indicating the positions for the penetration test;
- (3) the letter of certification from an engineer responsible for controlling the penetration test.

Clause 10 The layout, drawing, supplementary drawing particulars, calculation particulars and supplementary calculation particulars shall be made in a Thai language except only the number and symbol. The submittal documents shall be a printing materials, photocopies or ink writing or otherwise in accordance with BMA Notification and shall be compliance with the following standards and conditions:

- (1) The scale, size, distance, load/weight and various calculating elements shall be in the metric system;
- (2) The layout shall use a scale not less than 1 for 500 and indicate the feature of location and land lines and building lines applying for a permit for construction, modification, demolition, removal, change of building utilization, modification or utilization of a car park, car reverse and car entrance/exit for other purpose including the location or constructions to be used for a replacement of the former car park, car reverse and car entrance/exit, coupled with the following details:
 - (a) the expression of the external edge of the existing building (if any);
 - (b) the distances from the external edge of the building applying for a permit to the land line of every side;
 - (c) the distances between various existing buildings and building applying for a permit within the land line;
 - (d) the feature and boundary of public place and building(s) in the adjoining land(s) in brief with the compass/direction mark;
 - (e) the expression of the drainage pipeline from building to the public drainage channel or other drainage method together with an indication of the direction of water flow and slope in case of no public drainage channel for the application for the building construction, modification or removal;
 - (f) the expression of the level of the ground floor of the building and its relation to a level of the nearest way or public road and the ground level or grade;
 - (g) the layout for building removal indicating the layout of the existing building location and the layout of new location to where the building to be removed clearly.

The layout of building described in Article No. 4 except building, house, dwelling, shed, shop, raft, warehouse, office and other constructions where a person can dwell or use shall clarify the detailed elements in accordance with Items (a), (b), (c), (d), (e), (f) or (g) as may require for the building characteristic so applied.

- (3) The drawing shall use a scale not less than 1 for 100 and indicate various features i.e. various floor plan, at-least-two-side elevations, crosswise and lengthwise sections, layout of joists supporting slabs of various floors and layout of foundation of the building applying for a permit for construction, modification, demolition, removal, change of building utilization or modification or utilization of car park, car reverse and car entrance/exit for other purpose, coupled with the following details:
- (a) the drawing shall be provided with detailed features/elements of essential components, sizes, symbols, materials and various building utilization clearly enough for consideration in accordance with the Ministerial Regulation, BMA Bye-Law or Notification of Minister of Interior Ministry issued pursuant to the provisions of the Building Control Law;
 - (b) the drawing for building construction shall indicate various components of building to be constructed clearly;
 - (c) the drawing for building modification shall indicate existing building components and new modifying components thereof clearly;
 - (d) the drawing for building demolition shall indicate procedure, proceeding including safety thereof;
 - (e) the drawing for building removal shall indicate procedure, proceeding, stability and durability including safety thereof;

For the building comprised of the crosswise section or lengthwise section the width, length or height of which is exceeding 70 ms, the drawing may use a scale of smaller than 1 for 100 but not smaller than 1 for 250.

- (f) a drawing for change of building utilization shall indicate the existing utilizing components and new-changing-utilization components clearly;
- (g) a drawing for modification or utilization of car park, car reverse and car entrance/exit for other purpose shall indicate the existing building components and new replacement components clearly; or indicate various components of building to be constructed clearly in case of construction of building used for car park, car reverse and car entrance/exit to replace the former one.

The drawing of building described in Article No. 4 except building, house, dwelling, shed, shop, raft, warehouse, office and other constructions where a person can reside or use shall indicate detailed elements in accordance with Items (a), (b), (c), (d), (e), (f) or (g) as may require for the building characteristic so applied.

- (4) The supplementary drawing particulars shall indicate details relating to quality and type of materials including operating procedures or proceedings for building construction, modification, demolition, removal, change of building utilization, or modification or utilization of car park, car reverse and car entrance/exit for other purpose;
- (5) The calculation particulars shall be based on engineering element by calculating the material load and resisting force of various building components;
- (6) The supplementary calculation particulars shall be based on various engineering elements by calculating the requirement of equipment and systems of building.

Clause 11 The person responsible for design or person responsible for design and calculation shall affix his signature together with a printed-letter handwriting on every page of layout, drawing, supplementary drawing particulars, calculation particulars and supplementary calculation particulars and shall specify the office or residence together with the stipulation of qualification of the said competent person in every set of layout, drawing, supplementary drawing particulars, calculation particulars and supplementary calculation particulars. Or, it may use a printing material and photocopies with the signatures and printed-letter-handwriting name(s) of the person responsible for design or the person responsible for design and calculation together with the stipulation of the aforesaid details instead.

In case of the person responsible for design or person responsible for design and calculation is the person acquiring a license to be either the architecture control professional or engineering control professional

pursuant to the Architecture Professional Law or Engineering Professional Law respectively, the license number shall be specified.

Clause 12 When BMA Governor has received the application in accordance with Clause No. 7, the layout, drawing, supplementary drawing particulars, calculation particulars and supplementary calculation particulars (if any) shall be put into his consideration. When it is correctly compliance with the provisions of the Building Control Law, the Ministerial Regulations and BMA Bye-law issued pursuant to the Building Control Law, BMA Governor shall then issue a permit in accordance of the form stipulated in the Ministerial Regulation.

In case of an application for removing the building to the location where is in the jurisdiction of other local officer and BMA Governor has reviewed as described in the first paragraph and accepted the correctness, a permit shall be issued in accordance with the form stipulated in the Ministerial Regulation. The four sets of duplicate copies of documents reviewed and sealed together with one set of the calculation particulars and supplementary calculation particulars (if any) shall be sent to the local officer of the new location to where the building shall be relocated.

In case of BMA Governor having received documents granting the permit for building removal and duplicate copies including related submittal documents from the local officer, BMA Governor shall put into his consideration as described in the first paragraph and then accept the correctness, a permit shall be issued in accordance with the form stipulated in the Ministerial Regulation.

Clause 13 When a grantee of permit for construction, modification or removal of building – classified as a building with control of building utilization pursuant to the Building Control Law – or a notifying person in accordance with Clause No. 8 has completed the said building construction or modification or removal, the building owner or occupant shall submit a letter of request for a certificate to BMA Governor in accordance with the form stipulated by BMA Governor together with the documents specified in the said form.

When BMA Governor has received the letter as described in the first paragraph and reviewed that the building construction, modification or removal was correctly in compliance with the permit granted or the letter of notification received where the case may be, BMA Governor shall then issue a certificate in accordance with the form stipulated in the Ministerial Regulation.

Clause 14 If an owner or occupant of building not classified as a building with control of building utilization desires to utilize the building for business classified as being under control of building utilization or the owner or occupant of building classified as the building with the control of its utilization desires to change the building utilization to another business where the case may be, the building owner shall file an application with BMA Governor for changing the building utilization in accordance with the form stipulated in the Ministerial Regulation together with documents as specified in the said form or notify in writing to BMA Governor pursuant to the provision of Article No. 39 bis in accordance with the form stipulated by BMA Governor together with documents as specified in the said form where the case may be.

When BMA Governor has received the letter of request or letter of notification as described in the first paragraph and then reviewed and accepted the correctness, a permit shall be issued in accordance with the form stipulated in the Ministerial Regulation or a receipt of letter of notification is to be issued in accordance with the form stipulated by BMA Governor where the case may be.

Clause 15 For an application for a certificate of a partial use of building classified as a building with control of building utilization, it shall be complied with the followings:

Before the building completion, the building owner who desires to apply for a partial building utilization shall file BMA Governor with an application or notify his requirement in writing to BMA Governor and propose a plan of part-to-part building utilization together with the application or letter of notification according to the form stipulated by BMA Governor. Detailed clarification of partial utilization in accordance with the proposed plan shall be described clearly in the drawing and supplementary drawing particulars so applied. It shall be deemed as additional required details other than the details required to clarify in accordance with the objective of application submitted and be in the form stipulated in the Ministerial Regulation or the form stipulated by BMA Governor where the case may be. Each building component so applied itself shall properly be completed, especially various systems to be provided pursuant to the law e.g. fire prevention system, electricity system, water-supply system, drainage system, garbage and refuse disposal system, public utility system, sewage treatment system, car park, car reverse and car entrance/exit etc. In addition, it shall indicate security measure for the user(s) of each building component so applied for utilization too. When BMA Governor has accepted the correctness, a permit for the partial utilization so applied shall be issued in accordance with the form stipulated in the Ministerial Regulation or as notified pursuant to the provision of Article No. 39 bis in accordance with the form stipulated by BMA Governor.

For the building beforehand acquired a permit or notified pursuant to the provision of Article No. 39 bis, the building owner who desires the partial building utilization shall submit an application as described in the second paragraph.

When the construction of each building component has been completed, the permit grantee or notifying person shall file an application for a certificate with BMA Governor in accordance with the form stipulated by BMA Governor.

When BMA Governor has reviewed and accepted the correctness, a certificate of the partial utilization of the said building component shall be issued in accordance with the form stipulated in the Ministerial Regulation.

Clause 16 If the building owner or occupant - being required to provide a space or constructions used as a car park, car reverse and car entrance/exit pursuant to the Building Control Law - desires to modify or utilize the said car park, car reverse and car entrance/exit for other purpose and to build up a space or constructions to be use as the car park, car reverse and car entrance/exit to replace the former one pursuant to the Building Control Law, the building owner or occupant shall file with BMA Governor a permit application in accordance with the form stipulated in the Ministerial Regulation together with documents specified in the said form.

The second and third paragraph of Clause No. 7 shall be applied to the permit granting described in the first paragraph particularly the submittal documents relating to the layout, drawing, supplementary drawing particulars, calculation particulars or supplementary calculation particulars *mutatis mutandis*.

When BMA Governor has received the application as described in the first paragraph, the proceedings shall be compliance with the first paragraph of Clause No.12. When BMA Governor has accepted the correctness, a permit is to be issued by BMA Governor according to a form stipulated in the Ministerial Regulation.

Clause 17 The determination of the limitation of a permit for building construction or modification or receipt of letter of notification pursuant to Article No. 39 bis shall be proportionate to the size of the building area for construction or modification, as follows:

(1) the building with the total area less than 10,000 m², the limitation of permit shall be not exceeding one year;

- (2) the building with the total area of 10,000 m² but not more than 50,000 m², the limitation of permit shall be not exceeding two years; and
- (3) the building with the total area more than 50,000 m², the limitation of permit shall be not exceeding three years.

In case of the building construction or modification not completed within the permit limitation, an extension of permit limitation shall be in line with the procedures specified in Clause No. 18.

Clause 18 Any person who desires to extend the limitation of permit or receipt of letter of notification pursuant to the provision of Article 39 bis shall, before the expiry of the permit or receipt of letter of notification, submit an application for the extension in accordance with the form stipulated in the Ministerial Regulation provided that the criteria and conditions for the extension shall be compliance with those stipulated by BMA.

Clause 19 In case of a loss or destroy or defect of permit or certificate in the important essence thereof, the permit or certificate grantee shall, within 15 days after having acknowledged receipt of the loss or destroy or defect, submit to BMA Governor an application for issuing a replacement permit or replacement certificate in accordance with the form stipulated in the Ministerial Regulation together with documents specified in the said form.

When BMA Governor has received the application described in the first paragraph and then reviewed and if accepted the correctness, BMA Governor shall issue a replacement permit or replacement certificate to the applicant.

The replacement permit or replacement certificate where the case may be, the red seal with the word of “Replacement Certificate” shall be affixed thereto coupled with the issuing date of the replacement and the affixation of BMA Governor’s signature.

In case of a receipt of letter of notification pursuant to the provision of Article 39 bis, the proceedings shall be complied with the foregoing procedures.

Clause 20 Any permit grantee who desires to transfer the permit for building construction, modification, demolition, removal or change of building utilization or receipt of letter of notification pursuant to the provision of Article No. 39 bis to another person shall file with BMA Governor an application in accordance with the form stipulated in the Ministerial Regulation together with submittal documents, as follows:

- (1) For the permit or receipt of letter of notification that the building construction, modification, demolition, removal or change of building utilization not implemented, it requires for the attachment of the submittal documents as described in the form specified in the Ministerial Regulation;
- (2) For the permit or receipt of letter of notification being under construction, the applicant shall submitted the attachment of the submittal documents as described in the form specified in the Ministerial Regulation and the documents relating to the property transfer of building components completed pursuant to the pertinent law. In case of the under-construction building comprised of components different from the layout, drawing and supplementary drawing particulars acquiring a permit or receipt of letter of notification including the procedures or conditions specified by BMA Governor in the permit or receipt of letter of notification, a letter of verification shall be issued by the transferee that the transferee agrees to be responsible for the alteration of wrongly constructed component(s) to be in line with the drawing and conditions specified in the permit or receipt of letter of notification.

When BMA Governor has reviewed and accepted the correctness, BMA Governor shall issue a notifying letter of approval of transfer of permit or letter of notification to the transferring applicant by affixing the

red seal with the word of “Transferred” together with a stipulation of name of the transferee and transfer-approval date therein.

Clause 21 A permit application, permit or replacement certificate shall be in the form stipulated in the Ministerial Regulation issued under the Building Control Law.

A letter of notification and form for receipt of letter of notification shall be in the form stipulated by BMA Governor.

CHAPTER 3 CLASSIFICATIONS OF BUILDINGS

Clause 22 For a building not constructed mostly with durable materials or fireproof materials, a kitchen shall be separated as a specific component outside the building. If a kitchen is incorporated into the building, it shall be required to have a floor and wall made of durable materials that are fireproof materials. If a partition or ceiling thereof is not made of durable materials that are fireproof materials, it shall require to be sheathed with fireproof materials.

Clause 23 A building mostly not constructed with durable materials or fireproof materials shall be constructed not exceeding 2 stories.

Clause 24 The principal structure, stairway and wall of building of 3 or more stories, theatre, convention hall, factory, hotel, hospital, library, department store, market, large building, entertainment place pursuant to the Entertainment Law, airport or tunnel shall be made of durable materials that are fireproof materials.

Clause 25 A fireplace for a commercial or industrial purpose shall be comprised of fireplace wall made of fireproof materials and installed inside the building where the slab, wall, roof structure, roofing materials/roof covering, ceiling and its accessories (if any) are made of fireproof materials. For the smoke occurred, it is required to provide a dirt, smell or toxic-gas disposal system before its exhaust ventilation to the atmosphere.

Clause 26 A duplex or twin houses shall provide the stairway, wall and principal structure composed of durable materials or fireproof materials mostly.

Clause 27 A residential dormitory shall provide a living room with a size of not less than 3 ms wide and space thereof not less than 12 m². Its stairway, wall and principal structure shall be composed of durable materials or fireproof materials mostly.

Clause 28 The consecutively constructed shop houses or row houses or town houses shall provide the firewall for each interval of not more than 5 units and the firewall shall be constructed consecutively from the lowest floor level up to the terrace roof floor level. In case of a roof, it shall provide the firewall higher than the roof not less than 30 cm. along the inclination of roof.

Clause 29 Roofing materials or roof covering shall be made of fireproof materials except the building – located more than 20 ms far away from the other building or the public way – which it may use non-fire-resistive materials.

Clause 30 A elevator car or the elevator lobby shall be not less than 1.5 m. in width and be made of fireproof materials.

Clause 31 The town houses shall provide the fence in front and at the rear of the house and the dividing line between each unit of row houses.

Clause 32 The building under control of the law relating to the provision of facilities for handicap shall provide the facilities for the disabled people relating to the building access, ramp, door, stairway, elevator, bath room - toilet and car parking to be compliance with the pertinent law in such respect.

Clause 33 A bridge for vehicles shall have a runway not less than 3.5 m. in width and footpath on both sides not less than 0.5 m in width for each. The inclination thereof shall be not exceeding 10 per 100 and equipped with a stable and durable handrail along through the whole length of both sides of bridge.

Clause 34 A signboard or constructions for affixing or installing a signboard at the building shall be deemed as a building component thereof and shall not shield off the ventilation passage, windows, doors or fire escape route.

Clause 35 A signboard affixed to the wall of building adjoining to the public way can project outward but not encroach on the public place. The lowest part of signboard shall be not less than 3.25 m. from a footpath level and not higher than the building height.

Clause 36 The height of signboard directly installed into the earth ground shall not be exceeding a distance measured from the signboard installation location to the middle point of public road provided that it shall be not higher than 30 m. and not longer than 32 m. and not less than 4 m. far away from the land line of the other owner.

Clause 37 All things erected for fixing or installing the signboard shall be made of fireproof materials.

CHAPTER 4 STAIRWAY AND FIRE STAIR

Clause 38 For a dwelling building, if it requires a stairway, it shall provide at least one stairway; a width of stair not less than 90 cm., each flight of stair not higher than 3 m.; a riser not higher than 20 cm., and a tread width – after the deduction of the overlapping part of stair step – not less than 22 cm. The width and length of the landing platform of the stairway shall be not less than the width of stair.

If a stairway is higher than 3 m., it shall provide one intermediate platform for every stair flight of 3 m. or lesser in height and its width and length shall be not less than the width of stairway. A vertical distance from a stair step or landing platform to the lowest building component higher above shall be not less than 1.90 m. in height.

Clause 39 For a theater, convention hall, factory, hotel, hospital, library, department store, market, entertainment place pursuant to the Entertainment Law, airport, mass-transportation station, constructions or modifying constructions of more than one story, it shall, in addition to a normal stairway, provide at least another one specific fire escape route and a corridor access to the said fire escape route without any obstruction thereof.

For a public building comprised of one or more basements, it shall, in addition to a normal stairway, provide at least another one specific fire escape route.

Clause 40 A building with at least two basements shall, in addition to a normal stairway, provide at least another one specific fire escape route.

Clause 41 The fire stair shall be made of fireproof materials and durable materials and its width shall be not less than 90 cm. but not more than 150 cm.; its riser not higher than 20 cm.; its tread not less than 22 cm. in width; the width of the intermediate platform not less than the width of the fire stair; and its handrail of 90 cm. in height. It is prohibited to construct the fire stair in a shape of spiral staircase.

The width of landing platform of fire stair shall be not less than the width of the fire stair and another side shall be not less than 1.50 m. in width.

In case of using a ramp for fire escape route in stead of the fire stair, the inclination of the said fire-escape ramp shall be not exceeding 12 per cent.

Clause 42 The fire stair inside a building not a high rise building shall be not less than 90 cm. in width and surrounded with the opaque wall made of a fireproof materials and durable materials except a ventilation outlet and fire stair door. Each floor shall provide the ventilation outlet opening to the exterior of building with the total area of not less than 1.40 m² provided that it shall provide a sufficient lighting both in a daytime and nighttime.

For the fire stair inside the extra-large building where an opening for the ventilation outlet as described in the first paragraph can not be made, it shall be equipped with the pressurization system inside the fire staircase. The pressurizing rate shall be not less than 38.6 Pascal Cubic upon the operation of pressurization system, which it shall automatically operate in case of fire. The fire stair down or up to the ground of such building shall be in a position easily to access to the exterior of such building.

Clause 43 For the row houses or town houses of not more than 4 stories or not higher 15 m. from the road level, the fire escape stair may be in a vertical position but it shall provide the 60-cm-wide landing platform for each floor - and a distance of each stair step not more than 40 cm. Such fire escape stair shall be installed in the vacancy of walkway at the rear of the building provided that a last step thereof shall be not higher than 3.50 m. from the grade/ground level.

Clause 44 A position for installing the fire stair except the building described in Clause No. 43, shall provide a distance not exceeding 10 m. from the fire stair door to the door of the last room at the dead-end corridor.

A distance along the corridor to the fire stair door shall not be exceeding 60 m.

In case of the fire stair inside the building, it shall be installed from the top floor or roof terrace to the ground floor and to the second floor in case of the fire escape stair outside the building.

Clause 45 The fire stair door shall be made of fireproof materials - not less than 80 cm. in width and not less 1.90 m. in height - and have fire-door rating of not less than one hour and be opened by pushing out to the fire staircase only. For the fire stair door of the roof terrace, ground floor and evacuating floor for the fire escape to the exterior of building, it shall be opened by pushing out from the fire staircase and equipped with an automatic-door-closure mechanism. The fire door or evacuating route to the fire stair shall not be comprised of a doorstep or threshold or doorsill.

Clause 46 It shall provide the iridescent sign or lighting electric sign with emergency reservation system indicating the escape route to the fire stair to be installed at regular spans along the corridor in front of escape route to the fire stair and escape route from the fire stair to the exterior of the building or to the

refuge floor comprised of the continuous fire escape route. Such sign shall indicate a statement of “Fire Exit” with a letter size not less than 15 cm. in height or lightening symbol meaning “Fire Exit” clearly.

CHAPTER 5 BUILDING LINES AND VARIOUS DISTANCES

Clause 47 The town houses not adjoining to the side of public way shall have the front road not less than 6 m. in width for a common use.

Clause 48 The town houses comprised of one lateral side adjacent to the other person’s land line shall have the vacancy not less than 2 m. in width from the sides of two houses to the other person’s land line except the town houses constructed to replace the former building and comprised of the area not more the area of former building and not higher than 12 m.

Clause 49 The building height shall be not exceeding than twice of the horizontal distance by measuring from any point thereof perpendicular to the opposite side of public road nearest to the said building.

In case of a building located adjoining to the side of or not more than 100 m. far away from the public road not less than 80 m. in width and comprised of the entrance/exit way from the building to the said public road, the building height shall be calculated from the width of the widest public road as a basic.

Clause 50 For the construction or modification of building near the public road less than 6 m. in width, its building line shall be shorten at least 3 ms far away from the middle of the public road. There shall be with no building component thereof encroaching on the said shortening boundary line except the fence or dividing wall not higher than 2 m.

For the construction or modification – near the public road – of the building higher than 2 stories or 8 m., large building, row houses, shop houses, commercial building, factory, public building, warehouse, signboard or constructions for fixing or installing the signboard except the dwelling building not higher than 3 stories or 10 m. with its total area not exceeding 1 000 m², it shall provide the shorten distance, as follows:

- (1) if the public road is not less than 10 m. in width, the building line shall be shorten at least 6 m. far away from the middle of the public road .
- (2) if the public road is 10 m. in width but not more than 20 m., the building line shall be shorten at least 1/10 of the width of public road far away from the line of public road.
- (3) if the public road is wider than 20 ms, the building line shall be shorten at least 2 m. far away from the line of public road.

Clause 51 For the land at the corner of public roads 3 m or more in width but not more than 8 m. coupled with a cusp less than 135 degrees, the fence or boundary dividing wall - with a distance not less than 4m. - shall be sliced diagonally and its diagonal sliced line shall cause the equal angles with the lines of public roads.

It is prohibited to construct the fence, wall or other building component encroaching on the land particularly the diagonally sliced area.

Clause 52 Each building or unit shall provide the vacancy to be specified as follows:

- (1) A dwelling building shall provide the vacancy not less than 30/100 of the land area;

- (2) The row houses, shop houses, commercial building, factory, public building or otherwise buildings not used for dwelling provide the vacancy not less than 10/100 of the land area. However, if the said building is also used for dwelling, the vacancy specified in Sub-clause (1) shall also be provided;
- (3) The row houses or shop houses not higher than 3 stories and not adjoining to the side of public way shall provide of the vacancy in front of the building not less than 6 m. in width or 12 m. in width if higher than 3 stories.

The aforesaid vacancy may jointly be used with the vacancy of other row houses or shop houses.

- (4) The row houses or shop houses shall provide the rear vacancy not less than 3 m. in width in order to be connected with each other without any building component encroaching on the said space. In case of the back-to-back buildings, the rear vacancy not less than 6 m, width shall be provided.
- (5) The row houses or shop houses with their side lines near the other person's land line shall provide the lateral vacancy not less than 2 m. in width between the row houses or shop houses and the other person's land line except the row houses or shop houses constructed to replace the former building with the area not exceeding the area of the former one and not higher than 15 m.
- (6) The commercial building, industrial factory, warehouse, public building, building higher than 2 stories or higher than 8 m. - except a dwelling building not higher than 3 stories and not adjoining to the side of public way – shall provide the front vacancy not less than 6 m. in width.

The building described in the first paragraph higher than 3 stories shall provide the vacancy not less than 12 m. in width.

The vacancies described in the first and second paragraphs shall have the length of the continuous connecting space not less than 1/6 of the length of parameter of external building line, which it may also include the lateral vacancy connecting to the front vacancy. The said vacancy shall be connected to the internal road not less than 6 m. in width using as an egress to the public way. If it is a road passing through under the building, the net height of the underpass shall be not less than 5 m.

The aforesaid vacancies may be used jointly with the vacancies of the other buildings.

- (7) The commercial building, industrial factory and public building shall provide the vacancy without any covering thing to be the connected walkway at the rear of the building at least 2 m. in width by clarifying the said location evidently.

The vacancies described in the first paragraph shall not construct building, fence, wall or other constructions nor arrange for the well, swimming pool, garbage tank or garbage collection tank or other things to obstruct the common walkway.

Clause 53 A building adjoining to the side of public way not requiring to provide the vacancies as described in Sub-clause Nos 52 (3) and 52 (6) shall be comprised of the following characteristics:

The building line close to the line of public way shall be longer than 1/8 of the length of parameter of external building line provided that the aforesaid building line close to the public way shall be not more than 20 m. far away from the public way.

In case of row houses or shop houses, the front side of every building unit shall be close to the line of public road and its building line shall be not more than 20 m. far away from the public way.

Clause 54 For the building side close to the private land, its opening, door, window, ventilation outlet or the edge of terrace below the second floor or not higher than 9 m. shall be not less than 2 m. far away from the land line and not less than 3 m. for the third or upper floor or higher than 9 m.

Clause 55 The building not higher than 15 m. shall provide the vacancy around the building except for the dwelling house with the space not exceeding 300 m².

The building higher than 15 m. shall provide at least two-meter vacancies around the building.

The vacancies described the first and second paragraphs cannot be used jointly with the vacancy of another building except that it shall be jointly used with the vacancy of the high rise building or extra-large building.

Clause 56 For a dwelling house with the space not exceeding 300 m², its wall without any opening can be constructed less than one meter far away from the land line. However, if it is less than 0.50 meter, a letter of consent from the owner of the adjoining land at that side shall be obtained.

Clause 57 Between the lateral line of row houses or shop houses constructed for ten units or with the total length of 40 m. - measuring from the center point of the first column to the center point of the last column, it shall provide the vacancies between the lateral lines of the row houses or shop houses not less than 4 m. and be the passage through out the whole depth of the row houses or shop houses in order to be connected with the rear vacancy.

For the row houses or shop houses continuously constructed less than 10 units or with the total length of less than 40 m. - measuring from the center point of the first column to the center point of the last column - but comprised of the vacancies between the lateral lines of the row houses or shop houses less than 4 m. in width, it shall not be deemed as the vacancy between the lateral lines of the row houses or shop houses but it shall be assumed that the said row houses or shop houses are consecutively constructed in the same row.

The vacancies described in the first and second paragraphs cannot construct any building, fence, wall or otherwise constructions nor be arranged for the location of well, swimming pool, garbage tank or garbage collection tank or otherwise to become an obstruction against the common walkway.

Clause 58 The warehouse or storage house with the total building area of every floor of 100 m² but not exceeding 500 m² shall provide the vacancies of at-least-two sides not less than 6 m. far away from the lines of the land used for constructing the building and its length shall be totally not less than a half of the building parameter. For the other sides, it shall be provided with the vacancies not less than 3 m. far away from the land lines and if the vacancies less than 5 m. far away from the lines of the land used for the building construction, the building wall to be constructed shall be a fire wall.

The warehouse or storage house with the total building area of every floor of 500 m² shall provide the vacancies of at-least-two sides not less than 10 m. far away from the line of the land used for constructing the building and its length shall be totally not less than a half of the building parameter. For the other sides, it shall provide the vacancies not less than 5 m. far away from the other landlines.

Clause 59 The factory with the total operating area of every building floor of 100 m² but not exceeding 500 m² shall provide the vacancies of two sides not less than 3 m. far away from the lines of the land used for constructing the building. The walls of the said two sides shall be the opaque walls made of bricks or concrete except the fire door with the size of not exceeding 1.00 X 2.00 m. for every span of not less than 40 m. For the remaining sides, it shall provide the vacancies not less than 6 m.

The factory with the total operating area of every building floor of 500 m² but not exceeding 1,000 m² shall provide the vacancy of every side not less than 6 m. far away from the lines of the land used for constructing the building.

The factory with the total operating area of every building floor exceeding 1,000 m² shall provide the vacancy of every side not less than 10 m. far away from the lines of the land used for constructing the building.

CHAPTER 6
TYPES AND NUMBERS OF
- BATHROOMS, AND
- WATER CLOSET ROOMS

Clause 60 For a building where people can dwell or use, each building shall provide a minimum bathroom and water closet room as stipulated in the following table:

Types or Classifications of Buildings		Water Closet Room		Bath room	Wash bowl
		Toilet	Urinal		
1. For every unit of dwelling building shall provide		1	-	1	1
2. For a shop house or row house used for either commercial or dwelling purpose or town house.	(a) the total space of each housing unit not exceeding 200 m ² shall provide	1	-	-	-
	(b) the total space of each housing unit exceeding 200 m ² , or more than three stories in height shall provide	2	1	1	-
3. For a factory, every 400 m ² operating space shall provide: * For the factor space exceeding 1,200 m ² , it shall be reduced to the half of number stipulated herein.	(a) for men	1	1	1	1
	(b) for women	2	-	1	1
4. For each hotel guest room shall provide		1	-	1	1
5. For each condominium unit shall provide		1	-	1	1
6. For a dormitory, every 50 m ² building area shall provide		1	-	1	1
7. For an assembly hall, theatre and hall, each of 200 m ² building area or every 100 people as stipulated for the building utilization, whichever bigger number shall be a determination basis, shall provide:	(a) for men	1	2	-	1
	(b) for women	2	-	-	1
8. For an educational institute except the kindergarten, every 300 m ² space of classroom or every 50 students shall provide:	(a) for masculine education institute	2	2	-	1
	(b) for feminine education institute	3	-	-	1
	(c) for unisex education institute	for masculine pupil or student	1	1	-
for feminine pupil or student		1	-	-	1
9. For an office, every 300 m ² working space shall provide: * For the working space exceeding 1,200 m ² , it shall be reduced to the half of number stipulated herein.	(a) for men	1	2	-	1
	(b) for women	2	-	-	1
10. For a restaurant, every 200 m ² space for a dining table shall provide: * For the dining-table space exceeding 900 m ² , it shall be reduced to the half of number stipulated herein.	(a) for men	1	2	-	1
	(b) for women	2	-	-	1
11. For a commercial building, every 200 m ² building area shall provide: * For the building area exceeding 1,200 m ² , it shall be reduced to the half of number stipulated herein.	(a) for men	1	2	-	1
	(b) for women	2	-	-	1
12. For a warehouse, every 1,000 m ² area shall provide: * For the area exceeding 3,000 m ² , the owner should provide as appropriate.		1	1	-	1
13. For a nursing home/hospital pursuant to the Hospital Law, every 100 m ² building area shall provide: * For the building area exceeding 300 m ² , it shall be reduced to the half of number stipulated herein.	(a) for men	2	2	-	1
	(b) for women	2	-	-	1
14. For an entertainment place pursuant to the Entertainment Law, every 200 m ² building area shall provide: * For the building area exceeding 400 m ² , it shall be reduced to the half of number stipulated herein.	(a) for men	1	2	-	1
	(b) for women	2	-	-	1

15. For a mass-transportation station, every 200 m ² building area shall provide:	(a) for men	2	4	-	1
	(b) for women	5	-	-	1
16. For a public car park building, every 1,000 m ² building area (or 50 cars) shall provide: * For the dining-table space exceeding 3,000 m ² , it shall be reduced to the half of number stipulated herein.	(a) for men	1	1	-	1
	(b) for women	1	-	-	1
17. For a stadium, every 200 m ² building area or every 100 people whichever bigger number shall be a determination basis shall provide:	(a) for men	1	2	-	1
	(b) for women	2	-	-	1
18. For a market, every 200 m ² building area shall provide:	(a) for men	1	2	-	1
	(b) for women	2	-	-	1
19. For a temporary building, every 200 m ² building area (or 50 people) shall provided		1	-	-	-

The water closet room and bathroom may be gathered into the same room. The number of water closet room and bathroom stipulated the above table shall be a minimum requirement to be provided even if the building area or number of people is less than as stipulated above.

If the building area or number of people is in excess of as stipulated above, it shall provide the additional water closet room and bathroom in accordance with the rate stipulated. If any exceeding amount is less than the half as stipulated above, it shall be ignored but if a half or more, it shall be regarded as a full amount.

For any type or classification of buildings not stipulated in this table, the characteristic of the building utilization shall be considered and compared by using the number of water closet room, bathroom and washbowl in the above table as a determination basis.

Clause 61 The separate water closet room and bathroom shall have the size of space of each room not less than 0.9 m² and not less than 0.9 m in width. If the water closet room and bathroom are gathered into the same room, the internal room space shall be not less than 1.50 m².

The water closet room and bathroom shall provide a ventilation outlet not less than 10 per cent of the room area or sufficient ventilation fan. The vertical line from the ground level to the top of partition or lowest ceiling shall be not less than 2 m.

Clause 62 The water closet room shall be the toilet odorless and cleaning sewage by water.

CHAPTER 7
- LIGHTING,
- VENTILATION,
- DRAINAGE AND GARBAGE AND
- SEWAGE DISPOLSAL SYSTEMS

Clause 63 A lighting within various building components, a density of lighting shall be specified in the following table:

No.	LOCATION (TYPES OF UTILIZATION)	LIGHTING DENSITY UNIT (LUX)
1.	A car park and car park building	100
2.	A corridor within a common dwelling building	100
3.	A guest room in the hotel or common dwelling building	100
4.	A bathroom and water closet room of a common dwelling building, hotel, school and office.	100
5.	A theatre (surrounding area of audience seat when there is no show)	100
6.	A corridor within a hotel, office, hospital, school or factory	200
7.	A mass transportation station (passenger accommodation area)	200
8.	A factory	200
9.	A department store	200
10.	A market	200
11.	A bathroom or water closet room of a theatre, hospital, mass-transportation station, department store and market	200
12.	A library or classroom	300
13.	A conference room	300
14.	Velocity of working place of office building	300

The other place not stipulated in this table shall use the nearest lighting density by comparing the similar characteristic of the place and lighting density as specified in the table.

Clause 64 A ventilation inside the building shall be provided with a natural or mechanic ventilation.

The mechanic ventilation shall apply to any room in the building characteristic whatsoever by providing a mechanism - circulating air vent - to work at all time when the room is occupied/utilized in order to cause the ventilation rate as stipulated in the following table:

No.	LOCATION (TYPES OF UTILIZATION)	The ventilation rate not less than number of times of the volume of the room per one hour
1.	A bathroom or water closet room of the dwelling or office	2
2.	A bathroom or water closet room of the public building	4
3.	A underground car park	4
4.	A factor	4
5.	A theatre, commercial building or department store	4
6.	A food and drink shop	7
7.	An office	7
8.	A guest room in a hotel or condominium	7
9.	A kitchen of dwelling	12
10.	A kitchen of food and drink shop	24
11.	A passenger lift or fire-fighter lift	30

For the kitchen of the food and drink shop, if the appropriate ventilation covering the source causing a favor, smoke or gas to be exhausted is provided, the ventilation rate of other component of the said kitchen may be less than the rate stipulated in the table provided that it shall not be less than 12 times of the volume of the room in one hour.

The other place not stipulated in this table shall use the ventilation rate by comparing the similar characteristic of the place as specified in the table.

Clause 65 The position of inlet vent shall be far away from the air-pollution resource or outlet vent not less than 5 m. and not less than 1.5 m in height from the grade.

Clause 66 A vent inlet and outlet by mechanism and air conditioning by machine shall not cause any annoyance or nuisance to the neighborhood.

Clause 67 The ventilation inside the building provided with an air-conditioning system shall be comprised of the following characteristics:

- (1) The inlet vent into the air conditioning area or air exhausting through the outlet vent from the same shall not be less than the rate in accordance with the following table:

No.	LOCATION	Cu. m. / hrs / m2
1.	A department store	2
2.	A factory	2
3.	An Office	2
4.	A massage place	2
5.	A business floor of bank	2
6.	A guest room of hotel or condominium	2
7.	An operation room	2
8.	A barber shop	3
9.	An indoor stadium	4
10.	A theatre (audience set area)	4
11.	A classroom	4
12.	A fitness center	5
13.	A beauty saloon	5
14.	An assembly room	6
15.	A bathroom and water closet room	10
16.	A food and drink shop (dining room)	10
17.	A night club or bar or dancing hall	10
18.	A kitchen	30
19.	A hospital	
	ward	2
	operation room or labor room (LR)	8
	I.C.U., C.C.U., and emergency room (ER)	5

For the kitchen of the food and drink shop, if the appropriate ventilation covering the source causing a favor, smoke or gas to be exhausted is provided, the ventilation rate of other component of the said kitchen may be less than the rate stipulated in the table provided that it shall not be less than 15 cu. m. per m2 and per one hour.

The other place not stipulated in this table shall use the ventilation rate by comparing the similar characteristic of the place as specified in the table.

- (2) The cooling medium bodily harmful or easily combustible is prohibited to use with the air-conditioning system using the cooling medium directly;
- (3) For the air-conditioning system by water, it is prohibited to directly join the water pipe for the air-conditioning system with the water distributing pipe;
- (4) The air duct of the air-conditioning system shall be comprised of the following characteristics:
- (a) The air duct, covering material and internal material shall be non-combustible and not be a component producing smoke in case of fire;
 - (b) Any component of the air duct installed through the firewall or fireproof building slab shall install a self-closing sealed fire stop valve with the automatic operation system when the temperature is exceeding 74 Celsius degree and the fire stop valve shall contain the fire resistant rate not less than one and half hour;
 - (c) The common walkway, stairway, stairwell, elevator shaft of the building shall be prohibited to use as a component of air-flow pipe or air-return pipe except the vacant area between the ceiling and the upper slab or roof comprised of the ceiling with the fire resistant rate not less than 1 hour;
- (5) The air circulation of air-conditioning system shall be comprised of the following characteristics:
- (a) A manual switch of fan of air-circulation system shall be installed in a suitable place and reachable to turn off immediately in case of fire.

- (b) For the air-conditioning system with an air-circulating at the rate of 50 m³ or more per minute, a smoke detector or fire detection system with an efficiency not less than the smoke detector, which it is able to force its switch to cease its operating system automatically.

Clause 68 A high rise building and extra-large building comprised of vertical openings or series of openings of 2 or more floors and not surrounded by walls shall provide a smoke control system and smoke exhaust system operating automatically in case of fire.

Clause 69 A building constructed or modified shall provide sufficient and appropriate rainwater drainage.

The rainwater drainage from the building may be discharged to the wastewater basin directly.

In case of providing a drain for the drainage to the wastewater basin, it shall be laid to a gradient not less than 1 per 200. If it is a sealed drain, its internal diameter shall not be less than 10 cm. and shall be comprised of a chamber for the drainage inspection placed at every junction (turning corner) and every interval not more 12 m. If the internal diameter of sealed drain is 60 cm or more, such inspection chamber shall be placed at every junction and every interval not more than 24 m. In case of other classifications of drain, its internal width of the uppermost-edge shall not be less than 10 cm. and shall be comprised of the wastewater inspection chamber located at the place where the official easily access for the inspection.

Clause 70 The following building classifications and characteristics shall provide a drainage and sewage treatment system efficiently and adequately for the treatment of sewage from the building to become a wastewater qualified in accordance with the standard stipulated in the Ministerial Regulation issued pursuant to the Building Control Act before draining away to the wastewater basin:

(1) The Class A building

- (a) A condominium pursuant to the Condominium Act comprised of the total bedrooms of every floor in the same building or many buildings amounting to 500 or more bedrooms;
- (b) A hotel pursuant to the Hotel Act comprised of the total guest rooms of every floor in the same building or many buildings amounting to 200 or more guest rooms;
- (c) A governmental hospital or nursing home (hospital) pursuant to the Hospital Act comprised of the total beds for patients spending over night of every floor in the same building or many buildings amounting to 30 or more beds;
- (d) An educational institute comprised of the total area of every floor in the same building or many buildings amounting to 25,000 m² or more;
- (e) An office building of the government, governmental enterprise international organization or private enterprise comprised of the total area of every floor in the same building or many buildings amounting to 55,000 m² or more;
- (f) A department store or shopping center comprised of the total area of every floor in the same building or many buildings amounting to 25,000 m² or more;
- (g) A market comprised of the total area of every floor in the same building or many buildings amounting to 2,500 m² or more;
- (h) A restaurant or food shop comprised of the total area of every floor in the same building or many buildings amounting to 2,500 m² or more.

(2) The Class B building

- (a) A condominium pursuant to the Condominium Act comprised of the total bedrooms of every floor in the same building or many buildings amounting to 100 but less than 500 bedrooms;
- (b) A hotel pursuant to the Hotel Act comprised of the total guest rooms of every floor in the same building or many buildings amounting to 60 but not less than 200 guest rooms;
- (c) A dormitory pursuant to the Dormitory Act comprised of the total rooms of every floor in the same building or many buildings amounting to 250 or more guest rooms;

- (d) An entertainment place pursuant to the Entertainment Act comprised of the total area of every floor in the same building or many buildings amounting to 5,000 m²;
 - (e) A governmental hospital or nursing home (hospital) pursuant to the Hospital Act comprised of the total beds for patients spending over night of every floor in the same building or many buildings amounting to 10 but less than 30 beds;
 - (f) An educational institute comprised of the total area of every floor in the same building or many buildings amounting to 5,000 but less than 25,000 m²;
 - (g) An office building of the government, governmental enterprise international organization or private enterprise comprised of the total area of every floor in the same building or many buildings amounting to 10,000 but less than 55,000 m²;
 - (h) A department store or shopping center comprised of the total area of every floor in the same building or many buildings amounting to 5,000 but less than 25,000 m²;
 - (i) A market comprised of the total area of every floor in the same building or many buildings amounting to 1,500 but less than 2,500 m²;
 - (j) A restaurant or food shop comprised of the total area of every floor in the same building or many buildings amounting to 500 but less than 2,500 m²;
 - (k) A co-dwelling building comprised of the total area of every floor in the same building or many buildings amounting to more than 10,000 m².
- (3) The Class C building
- (a) A condominium pursuant to the Condominium Act comprised of the total bedrooms of every floor in the same building or many buildings amounting to less than 100 bedrooms;
 - (b) A hotel pursuant to the Hotel Act comprised of the total guest rooms of every floor in the same building or many buildings amounting to less than 60 guest rooms;
 - (c) A dormitory pursuant to the Dormitory Act comprised of the total rooms of every floor in the same building or many buildings amounting to 50 but less than 250 guest rooms;
 - (d) An entertainment place pursuant to the Entertainment Act comprised of the total area of every floor in the same building or many buildings amounting to 1,000 but less than 5,000 m²;
 - (e) The premises constructed in the land of the person – permit grantee for land development pursuant to the Land Development Act – amounting to 10 but not more than 100 housing units;
 - (f) An office building of the government, governmental enterprise international organization or private enterprise comprised of the total area of every floor in the same building or many buildings amounting to 5,000 but less than 10,000 m²;
 - (g) A department store or shopping center comprised of the total area of every floor in the same building or many buildings amounting to 1,000 but less than 5,000 m²;
 - (h) A market comprised of the total area of every floor in the same building or many buildings amounting to 1,000 but less than 1,500 m²;
 - (i) A restaurant or food shop comprised of the total area of every floor in the same building or many buildings amounting to 250 but less than 500 m²;
 - (j) A co-dwelling building comprised of the total area of every floor in the same building or many buildings amounting to 2,000 but less than 10,000 m².
- (4) The Class D building
- (a) A dormitory pursuant to the Dormitory Act comprised of the total rooms of every floor in the same building or many buildings amounting to 10 but less than 50 guest rooms;
 - (b) An entertainment place pursuant to the Entertainment Law comprised of the total area of every floor in the same building or many buildings amounting to less than 1,000 m²;
 - (c) A governmental hospital or nursing home (hospital) pursuant to the Hospital Act comprised of the total beds for patients spending over night of every floor in the same building or many buildings amounting to less than 10 beds;
 - (d) An educational institute comprised of the total area of every floor in the same building or many buildings amounting to less than 5,000 m²;

- (e) An office building of the government, governmental enterprise international organization or private enterprise comprised of the total area of every floor in the same building or many buildings amounting to less than 5,000 m²;
- (f) A department store or shopping center comprised of the total area of every floor in the same building or many buildings amounting to less than 1,000 m²;
- (g) A market comprised of the total area of every floor in the same building or many buildings amounting to 500 but not exceeding 1,000 m²;
- (h) A restaurant or food shop comprised of the total area of every floor in the same building or many buildings amounting to less than 250 m²;
- (i) A co-dwelling building comprised of the total area of every floor in the same building or many buildings amounting to less than 2,000 m².
- (j) A dwelling building classified a single house and comprised of the total area exceeding 1,000 m².

Clause 71 For the construction or modification of the dwelling building classified as a single house not more than 1,000 m², row houses, shop houses, town houses or duplex and temporary building, it shall provide a sewage treatment plan of each unit, which shall be comprised of the followings:

- (1) A grease trap being qualified for trapping grease and being able to open for cleaning;
- (2) A septic tank or sump pit being sealed and waterproof in order to separate solid from the liquid and to store for the sedimentation;
- (3) A filter bed or connecting chamber being qualified to be a basin of sewage passed from the septic tank and then convey the sewage through the brick or stone or otherwise in order to become a wastewater.

The grease trap, septic tank and filter bed in accordance with the first paragraph shall have a proportional size suitable for the utilization of the dwellers in the said building in order to acquire the Effluent Quality Standards as stipulated for the Class D building.

In case of the aforesaid method not being used, the other method may be used as a sewage treatment in order to acquire the Effluent Quality Standards in accordance with the standard basic as stipulated for the Class D building in Clause No. 70 or may use the standard stipulated by BMA.

Clause 72 The building classified as market, hotel, restaurant, hospital or nursing home, co-dwelling building comprised of 20 or more rooms and the building with the total building area 2,000 m² or more - not row houses or shop houses - shall provide the garbage and refuse collection tank comprised of the following characteristics:

- (1) The wall shall made of durable materials and fireproof materials;
- (2) The internal surface shall be flat and waterproof;
- (3) There shall be a smell and rain protection;
- (4) There shall be a dewatering system from the garbage and refuse. In case of the building comprised of the sewage treatment system, the dewatering system shall become a component of the sewage treatment system;
- (5) The ventilation and the protection of water infiltration shall be provided;
- (6) The capacity volume shall not be less than 3 time of the volume of daily garbage;
- (7) The location to facilitating the removal shall be provided and far away from the cooking and food storage room not less than 4 m. However, if the capacity volume of the garbage and sewage collection tank is more than 3 cu. m., the distance therefrom shall not be less than 10 m.

Clause 73 The calculation of garbage volume from the building shall be based on the rate of the utilization, as follows:

- (1) For the utilization for dwelling, the garbage volume shall not be less than 2.4 liters per person each day;

- (2) For the utilization for commercial or other purposes, the garbage volume shall not be less than 0.4 liter per one m² building area each day.

Clause 74 Unless BMA stipulated otherwise, the garbage chute shall be comprised of the following characteristics:

- (1) It shall be made by the fireproof materials and its internal surface shall be smooth to facilitate the cleaning and not causing any garbage left in;
- (2) The door or passage for the garbage chute shall be made of the fireproof materials and firmly shut in order to protect the reverse blow of the garbage and the garbage to be left in;
- (3) The ventilation shall be provided in order to protect the smell;
- (4) At the bottom end of the garbage chute, the sealed door shall be installed in order to protect the smell and be high enough to facilitate the collection of the garbage truck;
- (5) Its location shall facilitate the garbage truck to enter for the collection of garbage.

CHAPTER 8
TYPES AND PROCEDURES
RELATING TO THE SYSTEM INSTALLATION OF
- WATER SUPPLY,
- ELECTRICITY,
- GAS, AND
- FIRE PREVENTION

Clause 75 A large building except row houses, shop houses and town houses shall be arranged for a water-reserve tank sufficient for a number of dwellers or building consumption.

Clause 76 A high-rise or extra-large building shall be comprised of electricity supply system for lighting and power coupled with the wiring and installation of electrical appliances in accordance with the standard of Metropolis Electricity Authority (MEA).

For the electricity supply system, the main switch shall be installed in the specific compound separate from the compound utilized for other purposes. In case of the installation inside the building, it can be installed in a separate room. Otherwise, it can be installed in a separate specific building.

For the installation of electric transformer or electric generator, the second paragraph shall be applied whereby the main switch, transformer, or generator may be installed in the same compound.

When the electricity use reaches its maximum rating as stipulated in the electricity system plan, the electric voltage at the electric distribution panel shall differ from the electric voltage distributing from the secondary side of the electrical transformer at the rate of not more than 5 per cent.

Clause 77 An installation of common gas utilization system in the building shall be compliance with the pertinent law in such respect.

Clause 78 The following buildings shall be arranged for the procedures relating to the specified fire prevention:

- (1) Row-houses, shop-houses, town houses and duplex;
- (2) A building for the public assembly occupancy e.g. theatre, convent hall, hotel, hospital, educational institute, library, indoor stadium, market, department store, shopping center, entertainment place, airport, car-park building, mass-transportation station, car park, port, restaurant, office, governmental office, religious place, factory and commercial building etc;

- (3) A co-dwelling building with 4 or more units and dormitory;
- (4) A building other than the buildings described in Sub-clause No (1), (2) and (3) above, with 3 or more stories.

Clause 79 The buildings described in Clause No. 78 shall be equipped with the fire extinguisher, as follows:

- (1) Row-houses, shop houses, town houses and duplex not higher than 2 stories shall be equipped with one portable fire extinguisher of specified type and size for each unit;
- (2) The buildings other than the buildings described in Sub-clause No. (1) shall be equipped with one portable fire extinguisher of type and size specified in the table attached hereunder to extinguish the fire caused by the type of materials stored in each floor. One fire extinguisher shall cover the building area not more than 1,000 m² and shall be equipped for each span of not more than 45 ms provided that each floor shall be equipped with at least one fire extinguisher.

For the fire-extinguisher installation described in Sub-clause No (1) and (2) above, the top of the fire extinguisher shall be installed not higher than 1.50 m. from the building floor level. The fire-extinguisher shall be equipped at the position easily to look for, to be able to read the instruction for usage and to be reachable for use and shall be in the workable condition at all times. The types and sizes of fire extinguishers shall be in accordance with the following table:

BUILDING TYPES	EXTINGUISHER TYPES	MIN. CONTENTS
(1) A row house, shop house, town house and duplex of not more 2 stories.	(1) Chemical Foam; (2) Carbon Dioxide; (3) Dried Chemical Powder; (4) Others comprised of equivalent Qualification.	10 litres 3 kgs 3 kgs
(2) The buildings other than the buildings described in Item (1).	(1) Chemical Foam; (2) Carbon Dioxide; (3) Dried Chemical Powder; (4) Others comprised of equivalent Qualification.	10 litres 4 kgs 4 kgs

Clause 80 A large building except row-houses, town houses and shop-houses shall be arranged for standpipe system, delivery hose coupled with an inlet with a quick-connecting hose coupling of 65 mms (2 ½ inches) diameter for extinguishing fire from every building component.

Clause 81 A large building shall be arranged for fireproof materials to block the various pipe shafts between every building floor.

Clause 82 A building of 6 or more stories with the total building area exceeding 2,000 m² or a high rise building or extra-large building shall provide the fire wall or fire door to block out the fire or smoke from the internal area of main building staircase of 2 or more consecutive stories. Such wall and door shall be qualified for fire endurance not less than one hour.

CHAPTER 9

- CAR PARK BUILDING,
- CAR PARK,
- CAR REVERSE, AND
- CAR ENTRANCE/EXIT

PART 1

CAR PARK CAR REVERSE AND CAR ENTRANCE/EXIT

Clause 83 The following classification of buildings shall provide the car park, car reverse and car entrance/exit i.e.:

- (1) Theatre
- (2) Hotel
- (3) Co-dwelling building or condominium comprised of the area of each unit of 60 m² or more.
- (4) Restaurant comprised of the total area for dining table of 150 m² or more.
- (5) Department store building comprised of the area of merchandisable room of 300 m² or more.
- (6) Office comprised of the working room of 300 m² or more.
- (7) Market comprised of the common use area of each unit of 300 m² or more.
- (8) Factory comprised of the common use area of each unit of 300 m² or more.
- (9) Warehouse comprised of the common use area of each unit or any component thereof of 300 m² or more.
- (10) Storage house
- (11) Row House
- (12) Hospital or nursing home comprised of the utilizing area of each unit of 300 m² or more.
- (13) Educational institute comprised of the utilizing area of each unit of 300 m² or more.
- (14) Entertainment place pursuant to the Entertainment Act comprised of the total utilizing area of each unit of 300 m² or more.
- (15) Exhibition Hall comprised of the total utilizing area of each unit of 300 m² or more.
- (16) Extra-large Building except liquid or chemical or other similar materials storage tank, silo and reservoir.
- (17) Hall of hotel as described in Item (2), restaurant in Item (4) extra-large building in Item (16).
- (18) Commercial building comprised of the total utilizing area of the whole building or any component thereof for the commercial purpose of 300 m² or more.

Notwithstanding stipulated in this Clause, the calculation of the area in accordance with Item (4), (5), (6), (7), (8), (9), (10), (12), (13), (15), (17) and (18) shall be based on the total area of every room with the same utilization inside the building but not including area of bath room, toilet, elevator, strong room and document room where no person can utilize.

Clause 84 Any building or any component thereof of either single or many buildings classified as the building with the facilities of car park, car reverse and car entrance/exit in accordance with Clause 83 shall provide number of parking lots as stipulated for each classification of building for such respect, as follows:

- (1) The theatre shall provide one parking lot for every ten audience seats;
- (2) The hotel with not exceeding 100 guestrooms shall provide at least 10 parking lots for first 30 guestrooms and for the excess of 30 guestrooms shall provide one additional parking lot for every five additional guestroom.
The hotel with more than 100 guestrooms shall provide the parking lots at the rate stipulated in the first paragraph for first 100 guestrooms and for the excess of 100 guestrooms shall provide one additional parking lot for every ten additional guestrooms.
- (3) The co-dwelling building or condominium shall provide one parking lot for every one dwelling unit.
- (4) The restaurant shall provide ten parking lots for first 150 m² area of dining table and the excess shall provide one additional parking lot for every 20 m² additional area.
- (5) The department store shall provide one parking lot for every 20 m² building area.
- (6) The office shall provide one parking lot for every 60 m² building area.
- (7) The market shall provide one parking lot for every 120 m² building area.
- (8) The factory shall provide one parking lot for every 240 m² building area.
- (9) The warehouse shall provide one parking lot for every 240 m² building area.
- (10) The storage house shall provide one parking lot for every 120 m² building area.

- (11) The row house shall provide one parking lot for every one housing unit. If the area of one housing unit is exceeding 240 m², it shall provide one parking lot for every 120 m² building area.
- (12) The hospital or nursing home shall provide one parking lot for every 120 m² building area.
- (13) The educational institute shall provide one parking lot for every 240 m² building area.
- (14) The entertainment place pursuant to the Entertainment Act shall provide one parking lot for every 60 m² building area.
- (15) The exhibition hall shall provide one parking lot for every 20 m² building area.
- (16) The extra-large building shall provide one parking lot for every 120 m² building area or shall provide the number of parking lot as stipulated for the classification of building utilized to carry out the activities in the said building provided that the higher number shall be deemed as a mandatory standard except factory and warehouse.
- (17) The hall shall provide one parking lot for every 10 m² building area.
- (18) The commercial building shall provide one parking lot for every 60 m² building area.

Clause 85 A calculation of parking-lot number in accordance with Clause 84 shall be based on the classification of multi-use or classification of building provided that the higher number shall be deemed as a standard. If there is any fraction of parking-lot number of each classification of utilization, the said fraction shall be deemed one parking lot for each classification.

Clause 86 The parking lot shall be in a rectangle shape and comprised of the following characteristics:

- (1) In case of the parking lot perpendicular to car route, its width shall not be less than 2.40 m and its length shall not be less than 5 m.
- (2) In case of the parking lot parallel to the car route or forming an angle with the car route less than 30 degrees, its width shall not be less than 2.40 m. and its length shall not be less than 6 m.
- (3) In case of the parking lot forming an angle of 30 or more degrees, its width shall not be less than 2.40 m. and its length shall not be less than 5.50 m.

The parking lot shall be marked to identify the characteristic and boundary of each parking lot on the said parking lot and shall be comprised the car route directly connecting to the car entrance/exit and car reverse.

Clause 87 If the car park outside the building is located on the different disconnected plots of lands, it shall provide an ingress/egress to or from there or the car park building to the entrance/exit of the said building. The horizontal distance in between shall not be more than 200 m.

Clause 88 The car entrance/exit shall be not less than 6 m. in width except the one-way route which shall not less than 3.50 m. in width.

In case of parking lots forming various angles with the path of car travel, the path of car travel shall not be less than the following standards:

- (1) If case of the parking lots forming the angle less than 30 degree, the path of car travel shall not be less than 3.50 m. in width;
- (2) If case of the parking lots forming the angle of 30 but not more than 60 degree, the path of car travel shall not be less than 5.50 m. in width;
- (3) If case of the parking lots forming the angle more than 60 degree, the path of car travel shall not be less than 6.00 m. in width;

Clause 89 A centerline of the mouth of the car entrance/exit shall not be located at the velocity of the junction/intersection and it shall be far away from the beginning of curve or angled corner of the edge of intersection of public way not less than 20 m.

Clause 90 The car entrance/exit from the car park or car park building comprised of 15 or more parking lots shall be connected to the public way not less than 6 m. in width, which continuously leads to the wider public way.

Clause 91 A centerline of the car entrance/exit shall be located at the velocity of the slope of bridge and it shall be not less than 50 m. far away from the ends of slope provided that the foregoing shall not apply to the following events:

- (1) a bridge and slope of bridge with the inclination less than 2 per 100;
- (2) a bridge with the way parallel to the bridge and the said parallel way is able to make a u-turn under the bridge or egress to other way whereby the car from the said car entrance/exit needs not to run up to the bridge;
- (3) a bridge built up for the purpose of using as an access/exit to and from the private land.

PART 2 CAR PARK BUILDING

Clause 92 The car park building under the jurisdiction of this Bye-Law shall be the car park comprised of 10 or more parking lots or the total area for car park, travel and car reverse inside the building of 300 m² or more.

Clause 93 The whole principal structure of the car park building shall be made of fireproof materials.

Clause 94 The car park building below grade shall provide the ventilation system with the capacity of the total air change inside the said floor within 15 minutes.

Clause 95 The car park building above grade where may be utilized by any person shall provide any of the following ventilation systems:

- (1) If the clear opening component is used for the ventilation, the area of the said clear opening component shall not be less than 20 per cent of the said floor area of the car park building. There shall be the vacancy not less than 3 m. far away from the adjoining land or other building whether or not the building shall belong to the same owner;
- (2) If the ventilation machine is used for the ventilation, it shall provide the ventilation machine with the capacity of the total air change inside the said floor within 15 minutes.

The clear opening component shall provide a buffer railing with durability and stability enough to provide safety for vehicle and person.

Clause 96 The wall of car park building which is less than 3 m. far away from the other person's land line or other building shall be the fireproof wall and it is prohibited to make any hole in the said wall.

Clause 97 If the car park building is adjoined to the side of public way with 3 m or more. in width and has had a shorten distance far away from the public way in accordance with either this Bye-law or the Ministerial Regulation issued under the Building Control Act, it shall be deemed that the public way and/or the shorten distance shall be the vacancy pursuant to Clause No. 95 (1) and the wall adjoining to the side of public way shall be exempted from the compliance with the stipulation in Clause 96.

Clause 98 For the car park building including other type of utilization, a building component dividing the types of building utilization shall be a fireproof wall and shall provide an opening passage for only the door made of fireproof material with the fire endurance not less than the fire wall as well as shall be comprised of a door with a sealed closing mechanism to prevent the smoke and flame.

Clause 99 The up and down ramp between the floors shall be not more than 15 per cent of inclination

Each interval of ramp shall be not higher than 5 m. For the interval of ramp exceeding 5 m., it shall provide a landing space with the length not less 6 m.

The curve or spiral ramp shall be comprised of the internal curve radius not less than 6 m. and the ramp floor shall be not more than 12 per cent of inclination.

The up or down ramp of the car park building at the grade or ground level shall be not less than 6 m. far away from the mouth of car entrance/exit or the mouth of car entrance or car exit.

At least one stairway between floors not less than 90 cm. in width shall be provided for the every 2,000 m² area of the parking floor. If any fractional area is more than 1,000 m², an additional stairway shall be provided. If it requires more than one stairway, each stairway shall be not less than 30 m. far away from each another.

Clause 100 The parking area shall be not more than 5 per cent of inclination.

Clause 101 The drainage system shall be installed in every parking floor and joint with the drainage system at the grade or under grade.

Clause 102 The fire line shall be provided in accordance with the standard stipulated by the Fire Department provided that there shall be at one nuzzle for every-100 parking lot and each nuzzle shall be not more than 65 m. far away from each another as well as at least one nuzzle shall be provided for every parking floor in order to be able to extinguish the fire from every building component.

Clause 103 The car park building with the car-removal mechanism shall provide a travel distance not less than 20 m. from the mouth of car entrance/exit or mouth of car entrance or mouth of car exit to the car park building except that for the car park building with not more than 20 parking lots, the said distance shall be not less than 6 m.

For the car park building with more than 200 parking lots, the said distance shall be not less than 60 m. or area for temporary stopping not less than 10 cars.

Clause 104 For the calculation of the height of car park building with car-removal mechanism, it shall measure from the grade/ground level up to the highest component of the car park building.

In case of the car park building with car-removal mechanism connecting with the other building, it shall measure from the grade/ground level up to the highest component of the car park building.

Clause 105 For the calculation of area of the car park building with car-removal mechanism, it shall measure the area for one parking lot and then combine every parking lot together including other area where the people can utilize.

Clause 106 The car park building may use the elevator to carry the car up or down from various floors of the building which may or may not be comprised of the ramp. In case of no ramp, the number of parking lots shall not be exceeding 90 lots. In case of use the car elevator in stead of the ramp to carry the car to any floor, it shall provide at least one car elevator for 30 parking lots inside the building provided that each car park building shall provide at least two car elevators and such car elevator cannot be used as a passenger lift.

For the calculation of the number of the car elevator in accordance with the aforesaid number of parking lots, any surplus less than a half of 30 lots shall be ignored but any surplus – a half of 30 lots or more – shall be regarded a full amount.

Clause 107 For the car park building higher than 10 stories from the grade/ground level and using the ramp running up and down every floor, it shall provide another car elevator to be able to carry the car up and down every floor.

CHAPTER 10 MATERIAL STRENGTH AND LOADING

Clause 108 The building and various building components shall be durable and stable enough to carry the total building weight and any potential or actual load including other impact load against various building components provided that there shall be not any building components carrying the strength more than those stipulated in the Ministerial Regulation issued under the Building Control Act except that there shall be a certificate to show the result of test of durability and stability of material issued by the acceptable institute.

Clause 109 For the calculation of building structure design, the wind load shall not be ignored. If it is necessary to calculate and there is no certificate from the acceptable institute, the unit of wind load described in the following table shall apply:

THE HEIGHT OF BUILDING OR BUILDING COMPONENTS	THE UNIT OF WIND LOAD AT LEAST KILO-PASCAL (kg / m ²)
(1) The building component not higher than 10 m.	0.5 (50)
(2) The building component higher than 10 m. but not higher 20 m.	0.8 (80)
(3) The building component higher than 20 m. but not higher 40 m.	1.2 (120)
(4) The building component higher than 40 m. but not higher 80 m.	1.6 (160)
(5) The building component higher than 80 m.	2.0 (200)

However, it is permissible to use the loading caused by various building components including the resistance of soil under the foundation in excess of value as stipulated in this Bye-law at the rate of 33.33 per cent provided that the durability and stability of those various building component shall not be lessen if it is calculated on the normal basis without the calculation of wind load.

Clause 110 In the building component design for carrying the dead load and the said dead load being able to cause a vibration to various building components e.g. dead load of the machine, travel, crane etc., the result of the vibration and impact load shall be put into consideration by means of increasing the dead load as appropriate. In case of no certificate indicating the testing result or calculation from the acceptable institute, the increase of dead load described in the following table shall apply:

Types of Building Components and Various Dead Loads	Increase of Dead Load
The structure comprised of column and beam connected together as building structure for carrying the load of elevator or hoist.	100 %
Foundation, pathway, pier for the elevator and hoist equipment/accessories.	40 %
Light machine, various pipe or motor	not less than 20 %
Light machine with piston-cycled engine and electric apparatus.	not less than 20 %

Clause 111 For the following building components:

- (1) The building used for warehouse, theatre, hotel, condominium or nursing home or hospital;
- (2) The building used for commercial, industrial, educational, public health purpose or office or working place with the height more than 3 or more stories and the total area of every floor or any floor in the same building exceeding 1,000 m²;

(3) High rise building, large building, extra-large building, or building or any building component thereof used as a assembly hall,
it shall be constructed with the fireproof material comprised of the characteristics and qualification, as follows:

Types of Constructions and Principal Structures		Minimum Thickness of - Concrete covering Iron Bar, or - Concrete covering Steel	
(1) Reinforced concrete	1.1 Quadrilateral column with the narrow side of 300 mm or more	40 mm	
	1.2 Round column or column with pentagon or polygon and shape almost round column alike which is comprised of diameter of 300 mm or more	40 mm	
	1.3 Beam or concrete structure of wreathed column with the width of 300 mm or more	40 mm	
	1.4 Slab with the thickness less than 115 mm	20 mm	
(2) Pre-stressed concrete	2.1 Pre-tensioning beam	75 mm	
	2.2 Post-tensioning beam	(1) 200 mm in width but with an unrestrained member	115 mm
		(2) 300 mm or more in width but with an unrestrained member	65 mm
		(3) 00 mm in width but with a restrained member	50 mm
		(4) 300 mm or more in width but with a restrained member	45 mm
	2.3 Pre-tensioning slab with the thickness of 115 mm or more	40 mm	
	2.4 Post-tensioning slab with the thickness of 115 mm or more	(1) edge with an unrestrained member	40 mm
(2) edge with a restrained member		20 mm	
(3) Structural steel / Non-symmetric shaped steel	3.1 Steel pile size 150 X 150 mm.	50 mm	
	3.2 Steel pile size 200 X 200 mm.	40 mm	
	3.3 Steel pile size 300 X 300 mm	25 mm	
	3.4 Steel beam	50 mm	

In case of the principal structure having a size in between as stipulated in the table, the minimum thickness of reinforced concrete or pre-stressed concrete shall be calculated on a prorate basis.

In case of the principal structure erected by reinforced concrete or pre-stressed concrete with the size or thickness of reinforced concrete or pre-stressed concrete less than those stipulated in the above table, it shall use other material to additionally cover or be protected by other means in order to enable the column or beam to be qualified for the fire resistance rating not less than 3 hours and joist or slab not less than 2 hours. However, it shall require a certificate relating to the fire resistance rating issued by the acceptable institute to be a submittal document.

In case of the principal structure particularly the column and beam erected by the structural steel without any concrete coverage shall be protected by other means in order to enable the column or beam to be qualified for the fire resistance rating not less than 3 hours except the roof structure - the principal structure – higher than 8 m. above the said floor level. It shall require a certificate relating to the fire resistance rating issued by the acceptable institute to be a submittal document.

The testing method of the fire-resistance rating in accordance with the second and third paragraph shall be compliance with the ASTM E 119 standard.

Clause 112 For the high rise building with building wall made of glass structure that holds the glass with the building including the glass itself, it shall be designed to provide the durability and stability enough to be against the wind load in accordance with Clause No. 119. The used glass shall be classified as a shatterproof glass and shall cause no harm to any person.

CHAPTER 11
- CONSTRUCTION,
- MODIFICATION,
- DEMOLITION, AND
- REMOVAL OF BUILDING

Clause 113 For the building construction, the permit grantee or operator shall provide the temporary opaque fence not less than 2 m. in height and block along the land line particularly the side adjoining to the public place or the land of other owner or occupant except that there shall have the original opaque fence or wall not less than 2 m. in height

During the construction of building higher than 10 m. above the grade/ground level particularly the side having the horizontal line less than a half of the building height by measuring from the external building line to the land line of the public place or the other owner or occupant, the operator shall provide the dust disposal, floor cleaning for every floor, or dust protection, and protection of fallen material being harmful to the personal health, life, body or property, the height of which shall be not less than the building so permitted and which shall be maintain in a good condition through out the construction period as well as the arrangement of the litter discard and construction-minute-dust protection. The permit grantee or operator shall provide dust protection, fallen material protection and the arrangement of the litter discard in accordance with the criteria stipulated by BMA.

The litter discard, scaffold and canvas or material for the fallen material protection shall not encroach upon the adjoining land or land of other person except that the letter of consent from the owner or occupant of the adjoining land is obtained.

For the construction, it is prohibited to cause a noise louder than 75-decibel (a) at the 30-m. distance from the building constructing.

It is prohibited to construct or otherwise act in the construction site, which cause a noise or light disturbing the neighboring dwellers during 22.00 hours to 06.00 hours except that there is the arrangement of the protection and BMA Governor's approval is obtained.

Clause 114 Upon the daily cessation of the operation of crane/derrick or service lift, the operator shall manage to prevent the crane/derrick or service lift to slide, collapse or rotate, which may be harmful/dangerous to the personal health, life, body or property. When the crane/derrick is operating or ceases to operate, the thing or material being lifted is prohibited to encroach upon the public boundary line or the land line of the other owner or occupant except that the letter of approval from the competence official of the said public place or the other owner or occupant of the said land where the case may be shall be obtained.

In case of the letter of approval from the other owner or occupant of the said land being unable to obtain, the operator shall apply to BMA Governor for his approval provided that the engineering control professional shall show the system or method to hold the other owner or occupant including the neighboring dwellers harmless from any danger to life, body or property thereof. In consideration for the said approval, BMA Governor may stipulate other necessary proceeding or condition for the operator to comply with.

Clause 115 For the modification, demolition and removal of building, Clause No. 113 and No. 114 shall apply mutatis mutandis.

TRANSITORY PROVISIONS

Clause 116 The application for the building construction or modification filed before the validity of this Bye-law shall be exempted from the compliance with this Bye-law.

Clause 117 For the building obtaining the construction permit before the validity of this Bye-law, if there is a permit application for the modification, it shall be exempted from the compliance with this Bye-law, which is subject to the following conditions:

- (1) it shall not be an increase of the building height;
- (2) in case of the building from the large size up, it shall not be an increase of the total building area of every floor exceeding 2 per cent of the building area firstly permitted and in case of the building not large size, it shall not be an increase of the total building area of every floor exceeding 5 per cent of the building area firstly permitted;
- (3) it shall not be an increase of area covering the earth ground;
- (4) it shall not be against the Bye-law enforcing at the time when the first permit was obtained.

Announced the 31 day of July 2001

(Illegible Signature)

(Mr. Samak Sunthornvetch)

BMA Governor