

GOVERNMENT OF PUNJAB  
DEPARTMENT OF LOCAL GOVERNMENT  
(Town Planning Wing)

Notification

The 22 November, 2018

No. CTP(LG)/2018/3548 The following Bye-Laws “Punjab Municipal Building Bye-Laws 2018”, which the Governor of Punjab proposes to make in exercise of the powers conferred by sub-section (1) of section 201 of the Punjab Municipal Act, 1911 (Punjab Act No. 3 of 1911) & sub-section (2) of section 399 of the Punjab Municipal Corporation Act, 1976 (Act No. 42 of 1976), and all other powers enabling him in this behalf, are notified.

**CHAPTER – I**

**TITLE AND COMMENCEMENT**

- 1.1 These Bye-Laws may be called the Punjab Municipal Building Bye-Laws, 2018.
- 1.2 These shall come into force on date of its notification. However, in case of the building applications pending for approval on date of its notification, shall have an option for consideration under the provisions of existing building byelaws.
- 1.3 These Bye-Laws shall apply to the building activity in Municipal areas of all Municipal Corporations/Councils /Nagar Panchayats or to such other areas, as the State Government may extend by notification in the official gazette.

**CHAPTER – II**

**DEFINITIONS**

- 2.1 **Abut:** A building is said to abut on a street when the outer face of any of its external walls is on the street, road boundary.
- 2.2 **Access:** A clear approach to a plot or a building.
- 2.3 **Act:** Means the Punjab Municipal Corporation Act, 1976/Punjab Municipal Act, 1911.
- 2.4 **Addition and Alteration/or Re-erection:** A change from one occupancy to another, or a structural change including an addition to the area or change in height or the removal of part of building, or any change to the structure, such as the construction or removal or cutting into of any wall or part of a wall, partition, column, beam, joist, floor including a mezzanine floor or other support, or a change to or closing of any required means of access ingress or egress or a change to fixtures or equipment” as provided in these Bye-laws.
- 2.5 **Advertising Sign:** Any surface or structure or structure with characters, letters or illustrations applied thereto and displayed in any manner whatsoever outdoors for the purpose of advertising or giving information or to attract the public to any place, person, public performance, article, or merchandise, and which surface or structure is attached to, forms part of , or is connected with any building, or is fixed to a tree or to the ground or to any pole, screen, fence or hoarding or displayed in space, or in or over any water body included in the jurisdiction of the Authority.
- 2.6 **Air-conditioning:** The process of treating air so as to control simultaneously its temperature, humidity, purity, distribution and air movement and pressure to meet the requirements of the conditioned space.
- 2.7 **Amenity:** Includes roads, street, open spaces, parks, recreational grounds, play grounds, gardens, water supply, electric supply, street lighting, sewerage, drainage, public works and other utilities, services and conveniences.
- 2.8 **Apartment:** Apartment shall have the same meaning as defined in the Punjab Apartment and Property Regulation Act, 1995.

2.9	Applicant:	Applicant shall mean the person who gives an application to the Competent Authority of his/her intention to erect or re-erect a building and shall include his/her legal representatives.
2.10	Application:	An application made in such form as may be prescribed by the Authority from time to time.
2.11	Approved:	As approved/sanctioned by the Authority under applicable Bye-Laws
2.12	Architect:	A person holding a graduate degree in Bachelor of Architecture from any institute recognized by the Council of Architecture (COA) and has his/her name entered in the register of COA for the time being, with a valid COA Registration number.
2.13	Architect/ Professional on record:	An architect/Competent professional who is brought on record to represent his/her client for a construction project, to act on their behalf regarding building permits and process of construction. He/She may be registered with the Authority for the cause.
2.14	Architectural Control:	Means control of horizontal/vertical projections from the walls of the building and to restrict the height on any site exposed to the view from the street/road. Similarly architectural control sheets shall mean sheets/drawings with directions as mentioned above and signed and retained by competent authority
2.15	Area:	In relation to a building means the superficies of a horizontal section thereof made at the plinth level inclusive of the external walls and of such portions of the party walls as belong to the building.
2.16	Authority:	The Authority which has been created by a statute and which, for the purpose of administering the Bye-laws/Part, may authorize a committee or an official or an agency to act on its behalf; hereinafter called the 'Authority'. Authority can be any Urban Local Body or any other authority as notified by the State Government as the case may be.
2.17	Balcony:	A horizontal projection, cantilevered or otherwise including a parapet, handrail, balustrade, to serve as a passage or sit out place.
2.18	Barsati:	A habitable room/rooms on the roof of the building with or without toilet/kitchen.
2.19	Basement or Cellar:	The lower storey of a building, below or partly below the ground level, with one or more than one levels.
2.20	Bressummer:	Shall mean the beam of a girder that carries load of wall or slab.
2.21	Building:	A structure constructed with any materials whatsoever for any purpose, whether used for human habitation or not, and includes:- <ul style="list-style-type: none"> <li>i) Foundation, plinth, walls, floors, roofs, chimneys, plumbing and building services, fixed platforms etc.</li> <li>ii) Verandahs, balconies, cornices, projections etc.</li> <li>iii) Parts of a building or anything affixed thereto;</li> <li>iv) Any wall enclosing or intended to enclose any land or space, sign and outdoor display structures; etc.,</li> <li>v) Tanks constructed or fixed for storage of chemicals or chemicals in liquid form and for storage of water, effluent, swimming pool, ponds etc.</li> <li>vi) All types of buildings as defined in (a) to (q) below, except tents, shamianas and tarpaulin shelters erected temporarily for temporary purposes and ceremonial occasions, shall be considered to be "buildings".</li> </ul>
2.22	Addition to the building:	Means the addition to the cubic contents or to the floor area of the building.

2.23 Categories  
of building:

Shall mean a building in one of the following categories:

- i) Residential building (plotted and group housing)
- ii) Commercial building
- iii) Industrial or warehouse building
- iv) Public building / Institutional building
- v) Mixed land use building
- vi) Nursing home / Hospital building
- vii) Marriage palace building
- viii) Multiplex building

***Types of Buildings based on use of premises or activity :***

- a. “Commercial Building” - Shall mean a building other than industrial building used or constructed or adopted to be used wholly or partially for shops, private offices, banks, hotels, restaurants/banquet halls, beauty parlors, boutiques, video parlors, cinemas and auditoriums or any other such building used for similar purpose engaged in trade and commerce, but shall not include nursing homes, hospitals, marriage palaces and multiplexes.
- b. “Educational Building” - Includes a building exclusively used for a school or college, recognized by the appropriate Board or University, or any other Competent Authority involving assembly for instruction, education or recreation incidental to educational use, and including a building for such other uses as research institution. It shall also include quarters for essential staff required to reside in the premises, and building used as a hostel captive to an educational institution whether situated in its campus or outside.
- c. “Hazardous Building”- Includes a building or part thereof used for-
  - i. Storage, handling, manufacture or processing of radioactive substances or highly combustible or explosive materials or of products which are liable to burn with extreme rapidity and/or producing poisonous fumes or explosive emanations.
  - ii. Storage, handling, manufacture or processing of which involves highly corrosive, toxic or noxious alkalis, acids, or other liquids, gases or chemicals producing flame, fumes and explosive mixtures etc. or which result in division of matter into fine particles capable of spontaneous ignition.
- d. “Industrial Building” - Includes a building or part thereof wherein products or material are fabricated, assembled or processed, such as assembly plants, laboratories, power plants, refineries, gas plants, mills, dairies and factories etc.
- e. “Mixed Land Use Building” - A building partly used for non-residential activities and partly for residential purpose.
- f. “Residential Building” - Includes a building in which sleeping and living accommodation is provided for normal residential purposes, with cooking facilities and includes one or more family dwellings, apartment houses, flats, and private garages of such buildings.
- g. “Storage Building”- A building or part thereof used primarily for storage or shelter of goods, wares, merchandise and includes a building used as a warehouse, cold storage, freight depot, transit shed, store house, public garage, hanger, truck terminal, grain elevator, barn and stables
- h. “Wholesale Establishment”- An establishment wholly or partly engaged in wholesale trade and manufacture, wholesale outlets, including related storage facilities, warehouses and establishments engaged in truck transport, including truck transport booking agencies.

***Types of buildings based on design and height:***

- a. “Detached Building”- Includes a building with walls and roofs independent of any other building and with open spaces on all sides within the same plot.
- b. “Multi-Storeyed Building or High Rise Building”- A building above 4 stories, and/or a building exceeding 15 meters or more in height (without stilt) and 17.5M (including stilt).
- c. “Semi-detached Building”- A building detached on three sides with open space as specified within the same plot.

***Types of buildings based on other features:***

- a. “Special Building”- Includes all buildings like assembly, industrial, buildings used for wholesale establishments, hotels, hostels, hazardous, mixed occupancies with any of the aforesaid occupancies and centrally air conditioned buildings having total built up area exceeding 500 sq m.
- b. “Multi Level Car parking”- A building partly below ground level having two or more basements or above ground level, primarily to be used for parking of cars, scooters or any other type of light motorized vehicle.

***Types of buildings based on safety due to use/ maintenance level:***

- a. “Slum” – A compact area of at least 300 population or about 60-70 households of poorly built congested tenements, in unhygienic environment usually with inadequate infrastructure and lacking in proper sanitary and drinking water facilities. These are generally declared or notified as slums under relevant legislation by competent authority.
- b. “Unsafe Building”- Includes a building which:
  - i. Is structurally unsafe, Is dangerous to human life or
  - ii. Is insanitary, or
  - iii. Is not provided with adequate means of ingress or egress or
  - iv. Constitutes a fire hazard or
  - v. In relation to its existing use, constitutes a hazard to safety or health or public welfare by maintenance, dilapidation or abandonment.

Note: All unsafe buildings/structure will require to be restored by repairs, demolition or dealt with as directed by the Authority. The relevant provisions of the Municipal Acts shall apply for procedure to be followed by the Authority in taking action against such buildings.

2.24 Building Height:

The vertical distance measured

- i) In the case of flat roofs from the average level of the front road and continuance to the highest point of the building.
- ii) In case of pitched roofs upto the point where the external surface of the outer wall intersects the finished surface of the sloping roof and
- iii) In the case of gables roof facing the road midpoint between the eaves level and the ridge.

Architectural features serving no other function except that of decoration shall be excluded for the purpose of measuring heights. The height of the building shall be taken upto the terrace level for the purpose of fire safety requirement.

2.25 Minimum Ceiling Height of Rooms:

Means every habitable room in any building shall be at least 9’-0” in height in every part, from the floor to the underside of the roof slab or ceiling. Where the building is to be air – conditioned, the minimum ceiling height shall be 8’-0” in every part.

2.26	Height of Mezzanine:	<p>A mezzanine or internal balcony shall not be permitted unless the height of the room is at least 5.2 meters or 17 feet (total clear height of the room) and such mezzanine floor or balconies do not cover more than 1/3<sup>rd</sup> of the room area and accessible only from lower floor.</p> <p>The height of such mezzanine floor or internal balcony shall not be less than 2.30 meters/7 feet and it shall not be lower than 2.30 meters/7 feet above the floor area level.</p>
2.27	Building Envelope:	The horizontal spatial limits up to which a building may be permitted to be/is constructed on a plot.
2.28	Building line:	The line upto which the plinth of building other than compound wall on or adjoining a street or an extension of a street or on a future street may lawfully extend and includes the lines prescribed, if any, in any scheme and/or development plan or these building byelaws. The building line may change from time to time as decided by the Authority.
2.29	Cabin:	A non-residential enclosure constructed of non-load bearing partitions.
2.30	Canopy:	<p>Shall mean a cantilevered projection from the face of the wall over an entry to the building at the lintel or slab level provided that :</p> <ol style="list-style-type: none"> <li>a. It shall not project beyond the plot line.</li> <li>b. It shall not exceed 7.00 square meters or 75 square foot in area.</li> <li>c. It shall not be lower than 2.30 meters/7feet 6inches when measured from the ground.</li> <li>d. It shall not extend more than 1.8 meters or 6 feet beyond the building line.</li> <li>e. There shall be no structure on it and the top shall remain open to sky.</li> </ol>
2.31	Carpet Area	The covered area of the usable rooms of a dwelling unit/at any floor (excluding the area of the walls).
2.32	Chhaja or Sun Shade:	Shall mean a slopping or horizontal structural overhang, usually provided over openings of external walls to provide protection from sun / rain only up to 18” in width.
2.33	Chimney:	A construction by means of which a flue is formed for the purpose of carrying products of combustion to the open air and includes a chimneystack and flue pipe.
2.34	Construction:	Any erection of a structure or a building, including any addition or extension thereto either vertically or horizontally, but does not include, any reconstruction , repair and renovation of an existing structure or building, or, construction, maintenance and cleansing of drains and drainage works and of public latrines, urinals and similar conveniences, or, the construction and maintenance of works meant for providing supply of water for public, or, the construction or maintenance, extension, management for supply and distribution of electricity to the public; or provision for similar facilities for publicity.
2.35	Compound/ Compromise:	Means an act to settle amicably or adjust by agreement or to agree for consideration, but not to prosecute for an offence of violations of building construction or building bye – laws or to construct without permission of the competent authority or changing the prescribed use of land.
2.36	Conversion:	Means the change from one occupancy to other occupancy, change of occupancy of premises, in character, form or function to a use, requiring additional permission from the competent authority.
2.37	Conversion of land use:	The change or conversion from the existing land use of any specific property or part of property to any other conforming/permissible land use, if allowed by the competent authority, on the request of a bona fide landowner who submits his/her request for the change of existing land use, immediately before the submission of building application.

2.38	Cornice:	Means a sloping or horizontal structural overhang usually provided over openings or external walls to provide protection from sun and rain.
2.39	Courtyard:	A space permanently open to sky, enclosed fully or partially by buildings and may be at ground level or any other level within or adjacent to a building.
2.40	Covered area:	<p>The ground area covered by the building immediately above the plinth level but does not include the space/area covered by :</p> <ol style="list-style-type: none"> <li>a. Compound wall, gate, canopy, uncovered or cantilevered staircase which is open at least on three sides and also open to sky, area covered by chhaja up to 18” for all kinds of buildings except commercial buildings, cantilevered porch portico, slide – swing and the extensions alike.</li> <li>b. Garden, rockery, well and well structures, plant, nursery, water pool, swimming pool (if uncovered), platform around a tree, tank, fountain, bench, chabutra with open top and unenclosed on sides by walls.</li> <li>c. Drainage, culvert, conduit, catch – pit, gully pit, chamber, gutter and the like.</li> <li>d. Cantilevered roof projection up to 3’ – 0” projected from the finished level of the wall to the extent of maximum 50 % of the circumference of the covered area at each floor.</li> <li>e. Cantilevered projection is allowed in commercial buildings up to 3’ – 0” and does not form part of covered area.</li> <li>f. The porch / portico of garage shall be allowed in the side set – back area provided the width of the side set – back area is not less than 9 ft. &amp; shall cover only 1/3rd of the total depth of the plot, and shall have the clear height of 8’ – 3”. However, it shall be counted as covered area.</li> <li>g. The ramp provided for Persons with Disabilities may not be counted towards FAR and ground coverage.</li> </ol>
2.41	Damp Proof Course:	A course consisting of some appropriate water proofing material provided to prevent penetration of dampness or moisture to any part of the structure from within or outside including tar felting, bitumen or any other aqua proof material.
2.42	Density:	<p>The density expressed in terms of the number of persons/dwelling units per acre.</p> <p>Note:- Where such densities are expressed exclusive of community facilities and provision of open spaces and major roads (excluding incidental open spaces), these will be net residential densities. Where these densities are expressed taking into consideration the required open space provision and community facilities and major roads, these would be gross residential densities at neighbourhood level, sector level or town level, as the case may be. The provision of open spaces and community facilities will depend on the size of the residential community. Incidental open spaces are mainly open spaces required to be left around and in between two buildings to provide lighting and ventilation.</p>
2.43	Development:	‘Development’ with grammatical variations means the carrying out of building, engineering, mining or other operations, in, or over, or under land or water, on the making of any material change, in any building or land, or in the use of any building, land, and includes re-development and layout and subdivision of any land and ‘to develop’ shall be constructed accordingly.
2.44	Drain:	A conduit or channel for the carriage of storm water, sewage, waste water or other waterborne wastes in a building drainage system.

2.45	Drainage system:	A system or a line of pipes, with their fittings and accessories, such as manholes, inspection chambers, traps, gullies, floor traps, used for drainage of building or yards appurtenant to the buildings within the same cartilage; and includes an open channel for conveying surface water or a system for the removal of any waste water.
2.46	Dwelling:	Means a building or a portion thereof which is designed or used wholly or principally for residential purpose for one family.
2.47	Empanelled Architect:	A person empanelled by the Authority(if required), as per rules under the bye-laws as an authorized person to sanction building plans of residential buildings upto 15 m. in height and for plot sizes upto 500 sqm, forming part of any approved lay-out plan.
2.48	Encroachment:	Means an act to enter into the possession or rights either of permanent or temporary nature on a land or built up property of local body or state / central government.
2.49	Enclosed Staircase:	Means a staircase separated by fire resistant walls and doors from the rest of the building.
2.50	Engineer:	An engineer shall be a graduate in civil engineering from a recognized Indian university, or the valid member of Civil Engineering Division of the Institution of Engineers(India) or the statutory body governing such profession, as and when established.
2.51	Existing Building:	A building or structure existing authorisedly with the approval of the Authority before the commencement of these Bye-Laws.
2.52	Existing Use:	Use of a building or structure existing authorisedly with the approval of the Authority before the commencement of these Bye-Laws.
2.53	Exit:	A passage channel or means of egress from the building, its storey or floor to a street or, other open space of safety; whether horizontal, outside, and vertical exits.
2.54	External air or Open air space:	Means space open to sky.
2.55	External wall:	Shall mean an outer wall or vertical enclosure of any building not being a party wall even though adjoining to wall of another building, and also means a wall abutting on an interior open space of any building but shall not include outer verandah wall.
2.56	Fire Resisting Building:	Means a building in which material, which has, appropriate degree of fire resistance is used.
2.57	Fire Safety Measures:	As per the provisions for fire and life safety, explained/made in the National Building Code of India.
2.58	Fire and/or Emergency Alarm System:	Fire alarm system comprises of components for manually or automatically detecting a fire, initiating an alarm of fire and initiating other actions as appropriate.
2.59	Fire Hazard Industries:	<ul style="list-style-type: none"> <li>i) "Low Fire Hazard Industries" includes engineering industries using/processing or assembling non-combustible materials i.e. lathe machines, steel works, steel components etc.</li> <li>ii) "Moderate Fire Hazard Industries" includes industries using / processing combustible materials but not flammable liquid etc., plastic industries, rubber, and PVC industries, textile, paper, furniture, flour mills etc.</li> <li>iii) "High Fire Hazard Industries" includes industries using/processing flammable liquids, gases, chemicals petroleum products, plastic or thermo setting group etc.</li> </ul>
2.60	Fire Lift:	Means a special lift designed for the use of fire service personnel in the event of fire or other emergency.

- 2.61 Fire Proof Door: Means a door or shutter fitted to a wall opening, and constructed and erected with the requirement to check the transmission of heat and fire for a period.
- 2.62 Fire Pump: Means a machine, driven by external power for transmitting energy to fluids by coupling the pump to a suitable engine or motor, which may have varying outputs/capacity but shall be capable of having a pressure of 3.2 kg/cm<sup>2</sup> at the topmost level of multi-storey or high rise building.
- 2.63 Fire Pump-Booster Fire Pump: Means a mechanical/electrical device that boots up the water pressure at the top level of a multi-storeyed / high-rise building and which is capable of a pressure of 3.2 kg/cm<sup>2</sup> at the nearest point.
- 2.64 Fire Resistance: Fire resistance is a property of an element of building construction and is the measure of its ability to satisfy for a stated period some or all of the following criteria:
- a. resistance to collapse,
  - b. resistance to penetration of flame and hot gases, and
  - c. resistance to temperature rise on the unexposed face up to a maximum of 180°C and/or average temperature of 150°C.
- Fire Resistance Rating** - The time that a material or construction will withstand the standard fire exposure as determined by fire test done in accordance with the standard methods of fire tests of materials/structures.
- 2.65 Fire Separation: Means the distance in meters measured from any other building on the site or from another site, or from the opposite side of a street or other public space to the building.
- 2.66 Fire Service Inlet: Means a connection provided at the base of a building for pumping up water through in built fire-fighting arrangements by fire service pumps in accordance; with the recommendation of the Chief Fire Officer.
- 2.67 Fire Tower: Means an enclosed staircase that can only be approached from the various floors through landings or lobbies separated from both the floor area and the staircase by fire resistant doors and open to the outer air.
- 2.68 Floor: The lower surface in a storey on which one normally walks in a building , and does not include a mezzanine floor. The floor at ground floor with direct access to a street or open space shall be called the ground floor; the floor above it shall be termed as floor-1, with next higher floor being termed as floor-2, and so on upwards.
- 2.69 Floor Area Ratio (FAR): The quotient obtained by dividing the combined covered area(plinth area) of all floors(excepting areas specifically exempted under these bye-laws) by the total area of the plot:
- $$\text{Floor Area Ratio (FAR)} \rightarrow \frac{\text{Total Covered Area on All Floors}}{\text{Plot Area}}$$
- 2.70 Footing : A foundation unit constructed in brickwork, stone masonry or concrete under the base of a wall or column for the purpose of distributing the load over a larger area.
- 2.71 Foundation: A substructure supporting an arrangement of columns or walls in a row or rows transmitting the loads to the soil.
- 2.72 Front Setback: Area parallel to the street and directly abutting the street.  
Structures to be permitted in front setback area. Gate post / security guard room adjoining the main gate in the front setback area, which may be of maximum 50 square feet area & 8' – 6" in height, free from ground coverage and FAR.

- 2.73 Front Air Plane: The plane contained between the ground in front of the building and the straight lines drawn downwards and outwards from the line of intersection of the outer surface of any front wall of the building with the roof perpendicular to that line, and at an angle of 63-1/2 degrees to the horizontal;  
*Note: The 63-1/2 degrees angle has a tangent of 2:1 so that if the ground is the level, the air plane reaches the ground at a distance from the exterior wall equal to half the height of the above level of that ground.*
- 2.74 Gallery: Means an intermediate floor or platform projecting from a wall of an auditorium or a hall providing extra floor area, additional seating accommodation, etc. It shall also include the structure provided for seating in stadium.
- 2.75 Garage Private: Means a building or a portion thereof, designed and used for the parking of private vehicles.
- 2.76 Garage Public: Means a building or portion thereof, designed other than as a private garage, operated for gain, designed and/or used for repairing, servicing, using, selling or storing or parking motor driven or other vehicles.
- 2.78 Ground Floor: Shall mean storey, which has its floor surface nearest to the ground around the building.
- 2.79 Group Housing: Means a building unit constructed or to be constructed with one or more floors having more than two dwelling units having common service facilities.
- 2.80 Habitable Room: Means a room occupied or designed for occupancy by one or more persons for study, living, sleeping, eating, kitchen if it is used as a living room, but not including bathrooms, water-closet compartments, laundries, serving and storage pantries, corridors, cellars, attics and spaces that are not used frequently or during extended longer periods.
- 2.81 Illuminated Exit Signs: A device for indicating the means of escape during normal circumstances and power failure.
- 2.82 Jhamp: A downward, vertical or sloping projection hanging below any horizontal projection like balcony, canopy, verandah, passage etc, to provide protection from direct sun and rain.
- 2.83 Jhot: A strip of land permanently left open for drainage purposes. It is not to be used as an access way or a street and is not to be included as a part of setbacks.
- 2.84 Katra or Chawl: A building so constructed as to be suitable for living in separate tenements each consisting a single room, or of two, but not of more than two rooms and with common sanitary arrangements.
- 2.85 Layout Plan: Means a Plan indicating configuration and sizes of all Use Premises. Each Use Zone may have one or more than one Layout Plan depending upon the extensiveness of the area under the specific Use Zones and vice versa.
- 2.86 Ledge or Tand: A shelf-like projection, supported in any manner whatsoever, except by means of vertical supports within a room itself but not having projection wider than 1 m.
- 2.87 Licensed Architect / Town Planner / Engineer / Supervisor / Plumber: Qualified professionals who have been registered with the Authority as per the Qualification and competence by the body governing such profession and therefore possess the license to provide professional services in Building construction.

- 2.88 Lift: An appliance designed to transport persons or materials between two or more levels in a vertical or substantially vertical direction by means of a guided car or platform. The word ‘elevator’ is also synonymously used for ‘lift’.
- 2.89 Light Plane: The plane lying between the line of intersection of the floor of any room in a building with the outer surface or an exterior wall of the building and the straight lines drawn upwards and outwards from those lines drawn upward and outwards from lines perpendicular thereto and at an angle of  $63\frac{1}{2}^{\circ}$  to the horizontal.  
*Note: For the purpose of the definition of light plane, the outer surface of any verandah abutting on an interior or side open space shall be considered to be the exterior wall of the building.*
- 2.90 Lobby: Means a covered space in which all the adjoining rooms open.
- 2.91 Loft: Means an intermediate floor in between two main floors, constructed for storage purposes and at a height of not less than 6’-9” at door level from the ground floor.
- 2.92 Master Plan: A Master Plan formulated under any relevant Act for any town, approved and notified by the State Government.
- 2.93 MCB/ELCB: Devices for tripping of electrical circuits in event of any fault in the circuit/installation.
- 2.94 Means of Escape: An escape route provided in a building for safe evacuation of occupants.
- 2.95 Mezzanine floor: Means a gallery, balcony, loft or an interior floor not so constructed as to be capable of habitation, use of living, sleeping, erected between the floor. An intermediate floor between two floors of any storey forming an integral part of floor below.
- 2.96 Mumty or Stair Cover: A structure with a covering roof over a staircase and its landing built to enclose only the stairs for the purpose of providing protection from weather and not used for human habitation.
- 2.97 Marriage Palace: A building exclusively used for holding social functions such as marriage and other such related get-togethers/activities.
- 2.98 Mechanical Multilevel Parking System (MMPS) Multilevel Mechanical Parking System will be permissible in all uses, except residential (Plots having area less than 1000 sq. yds), subject to the provision of required clear floor to ceiling height and spaces to be used for installation of MMPS, proper circulation to the satisfaction of the Fire Authorities and in accordance with the requirements/conditions of NBC concerning Fire Safety.  
In case the MMPS is to be installed separately from the main building as per regulations, the same will be counted towards ground coverage but will be free of FAR.
- 2.99 Miniplex: Shall mean a building having maximum two cinema halls each having minimum occupancy of 250 seats.
- 2.100 Multiplex: Shall mean an integrated entertainment and shopping complex/center. It shall necessarily have cinema halls and may have Theatres, Auditorium, Retail Shops, Commercial show rooms, Restaurants and Food plazas, Health club and Fitness center, Clubs, Call centers, Corporate Offices, Convention Hall, Bank, Cyber café, Video Games, Parlors, Pubs, Bowling Allies and Recreational activities and all the areas/building except cinema halls shall fall in the commercial category.
- 2.101 Non Combustible Material: A material which is not liable to burn or add heat to a fire when tested for combustibility in accordance with the latest code of Bureau of Indian Standards Method of Test for combustibility of Building Materials.

2.102	Nursing Home/ Hospital:	<p>(i) Nursing home: Means an establishment where persons suffering from illness, injury or infirmity are usually received or accommodated or both the purposes of observation, Nursing and treatment with no. of beds upto 10, it may include a maternity home.</p> <p>(ii) Hospital: Means an establishment where indoor patients are admitted and various types of clinical or surgical procedures are carried out.</p>
2.103	Occupancy or Use:	The principal occupancy/use for which a building or a part of a building is intended to be used. For the purposes of classification of a building according to occupancy, an occupancy shall be deemed to include the subsidiary occupancies which are contingent upon it.
2.104	Occupancy or Use-Mixed:	Buildings being those in which more than one occupancy/use is present in different portions of the buildings.
2.105	Open Space:	An area forming an integral part of a site left open to the sky.
2.106	Owner:	<p>Is a person/ persons, a company, trust, institute, registered body, state or central government's and it's subordinate departments/undertakings etc. having interest in land and building thereon &amp; in whose name the property(land/building) stands registered in the revenue records.</p> <p>This includes free holders, leaseholders or those holding a sub-lease which both bestows a legal right to occupation and gives rise to liabilities in respect of safety or building condition.</p> <p>In case of lease or sub-lease holders, as far as ownership with respect to the structure is concerned, the structure of a flat or structure on a plot belongs to the allottee/lessee till the allotment/lease subsists.</p>
2.107	Parapet:	A low wall or railing built along the edge of a roof or a floor, not more than 3 ft. in height.
2.108	Parking:	<p>An enclosed or unenclosed covered or open area sufficient in size to park vehicles.</p> <p>Private parking: if such parking is used / provided exclusively for private parking of vehicles.</p> <p>Public parking: if such space is used exclusively for public parking of vehicles, parking spaces shall be served by a driveway connecting them with a street or alley permitting safe and convenient ingress and egress of vehicles.</p> <p>The level of open areas for parking within the site shall be kept at <math>\pm 0</math> level in relation to crown level of the road except for the slopes required for natural drainage of the area subject to the condition that approach ramp would not be permitted in the road portion.</p>
2.109	Partition :	An interior non-load bearing barrier/wall, one storey or part-storey in height.
2.110	Partition Wall Includes :	<ul style="list-style-type: none"> <li>• A wall forming part of a building and being used or constructed to be used in any part of the height or length of such wall for separation of adjoining buildings belonging to different owners or constructed or adopted to be occupied by different persons, or</li> <li>• A wall forming part of a building and standing in any part of the length of such wall, to a greater extent than the projection of the footing on one side or grounds of different owners.</li> </ul>
2.111	Permanent Open Air Space:	<p>Air space permanently open:</p> <ol style="list-style-type: none"> <li>i. If it is a street.</li> <li>ii. If its freedom from encroachment is protected by any law or contract ensuring that the ground below it is either a street or is permanently and irrevocably appropriated as an open space.</li> </ol>
2.112	Permission or Permit:	A valid permission or authorization in writing by the competent authority to carryout development or a work regulated by the Bye-Laws.

2.113	Plinth:	The portion of a structure between the surface of the surrounding ground and surface of the floor, immediately above the ground.
2.114	Plinth Area:	The built up covered area measured at the floor level of the basement or of any storey.
2.115	Plinth Level:	Means the level of the ground floor of a building with respect to the adjoining ground.
2.116	Plinth Height:	Means the height of the ground floor level above the street/road level measured from the level of the centre of the abutting/adjoining street/road.
2.117	Plot/Site:	A parcel or piece of land occupied or intended for occupancy by one building together with its accessory buildings including the open spaces, having frontage upon a public street / streets or upon a private street / streets and enclosed by definite boundaries.
2.118	Plotted Development:	Type of development layout wherein a stretch of developed land is divided into regular sized plots for uniformed controlled building volumes.
2.119	Porch:	Means a covered surface supported on pillars or otherwise for the purpose of a pedestrian or vehicular approach to a building
2.120	Prohibited area:	Means any area specified or declared to be a prohibited area under section 20A of the AMASR Act, 2010.
2.121	Protected monument:	Means an ancient monument which is declared to be of national importance by or under the AMASR Act, 2010.
2.122	Public Sewer:	Means a sewer laid by the government or a local body.
2.123	Rear Air Plane:	The plane contained between the ground behind the building and the straight line drawn downwards and outwards from the line of intersection of the outer surface of any rear wall of the building with the roof perpendicular to that line and at an angle 63-1/2 degree to the horizontal.
2.124	Regulated area:	Means any area specified or declared under section 20B under the AMASR Act, 2010.
2.125	Retention Activity:	An activity or use which is allowed to continue, notwithstanding its non-conforming nature in relation to the use permitted in the adjoining or surrounding area.
2.126	Road/Street:	Any highway, street, lane, pathway, alley, stairway, passageway, carriageway, footway, square, place or bridge whether a thorough-fare, or over which the public have a right of passage or access or have passed and have access uninterruptedly for specified period, whether existing or proposed in any scheme and includes all bends, channels, ditches, storm water drains, culverts sidewalks, traffic islands, roadside trees and hedges, retaining walls fences, barriers and railing within the street lines.
2.127	Road/Street level or Grade:	The officially established elevation or level or grade of the centerline of street upon which a plot fronts, and if there is no officially established level or grade, the existing level or grade of the street and its mid-point.
2.128	Road/Street Line:	The line defining the side limits of a road/street.
2.129	Road Width or Width of Road/Street:	The whole extent of space within the boundaries of a road when applied to a new road/street as laid down in the city survey or development plan or prescribed road lines by any act of law and measured at right angles to the course or intended course of direction of such road.
2.130	Row Housing:	A row of houses with only front, rear and interior open spaces.
2.131	Room Height:	The vertical distance measured from the finished floor surface to the finished ceiling surface. Where a finished ceiling is not provided, the underside of the joists or beams or tie beams shall determine the upper point of measurement for determining the head room/height.
2.132	Service Road:	A road/lane provided at the front, rear or side of a plot for service purpose.

2.133	Set-back Line:	A line usually parallel to the plot boundaries or center line of a road and laid down in each case by the authority in the bye-laws or as per recommendations of Master/Zonal Plan, beyond which nothing can be constructed towards the plot boundaries excepting with the permission of the authority.
2.134	Settlement:	A human settlement, whether urban or rural in character. It includes habited villages, towns, townships, cities and the areas notified under the control of the Authority.
2.135	Site Corner:	A site at the junction of and fronting on two or more intersecting roads or streets.
2.136	Site Depth:	The mean horizontal distance between the front and rear site boundaries.
2.137	Site, Interior or Tandem:	A site, access to which is by a passage from a street whether such passage forms part of the site or not.
2.138	Site Plan:	A detailed plan showing the proposed placement of structures, parking areas, open space, landscaping and other development features, on a parcel of land, as required by specific sections of the bye-laws.
2.139	Site with Double Frontage:	A site having frontage on two streets other than corner plot.
2.140	Spiral Staircase:	A staircase forming continuous winding curve round a central point or axis provided in a open space having tread with or without risers.
2.141	Storey:	The portion of a building included between the surface of any floor and the surface of the floor next above it, or if there be no floor above it, then the space between any floor and the ceiling next above it.
2.142	To abut:	To be positioned juxtaposed to a road, lane, open space, park, building etc.
2.143	To Erect:	In relation to a building means: <ul style="list-style-type: none"> <li>i) To erect a new building on any site whether previously built upon or not;</li> <li>ii) To re-erect any building of which portions above the plinth level have been pulled down, burnt or destroyed.</li> </ul>
2.144	Town Planner:	Graduate or Post-graduate degree in Town and country/Urban planning with valid Associate membership of the Institute of Town Planners, India.
2.145	Unauthorized construction:	Means the erection or re-erection, addition or alterations which is not approved or sanctioned by the competent authority.
2.146	Underground/Overhead Tank:	An installation constructed or placed for storage of water.
2.147	Ventilation:	Means supply of outside air into, or the removal of inside air from an enclosed space, the circulation of air in each and every habitable room of the building including toilets and kitchen. <ul style="list-style-type: none"> <li><b>a. Natural Ventilation</b> - Supply of outside air into a building through window or other openings due to wind outside and convection effects arising from temperature or vapour pressure differences (or both) between inside and outside of the building.</li> <li><b>b. Positive Ventilation</b> - the supply of outside air by means of a mechanical device, such as a fan.</li> <li><b>c. Mechanical Ventilation</b> - Supply of outside air either by positive ventilation or by infiltration by reduction of pressure inside due to exhaust of air, or by a combination of positive ventilation and exhaust of air.</li> </ul>
2.148	Verandah:	A covered area with at least one side open to the outside with the exception of 3 ft. high parapet on the upper floors to be provided on the open side.
2.149	Water Closet (W.C) :	A water flushed plumbing fixture designed to receive human excrement directly from the user of the fixture. The term is used sometimes to designate the room or compartment in which the fixture is placed.

- 2.150 Window: An opening to the outside other than a door, which provides all or part of the required natural light or ventilation or both to an interior space and not used as a means of egress/ingress.
- 2.151 Zonal Plan: A plan detailing out the proposals of Master Plan and acting as a link between Master Plan and the Layout Plan. It may contain a site plan and land use plan with approximate location and extent of land uses such as public & semi public buildings/works, utilities, roads, housing, recreation, industry, business, markets, schools, hospitals open spaces etc. It may also specify standards of population density and various components of development of the zone.

NOTE:- Words and expressions not defined in this bye – laws shall have the same meaning or the senses as are contained in the Punjab Municipal Act, 1911/ Punjab Municipal Corporation Act, 1976.

## CHAPTER – III

### **JURISDICTION/APPLICABILITY & BUILDING DOCUMENTATION PROCEDURES**

#### **3.1 Jurisdiction of Building Bye Laws**

The Building Bye-Laws shall apply to the building activity in Municipal areas of all Municipal Corporations/Councils / Nagar Panchayats or to such other areas, as the State Government may extend by notification in the official gazette.

#### **3.2 Applicability of Building Bye Laws**

These building byelaws shall be applicable to all building activities and read in conjunction with the master plan/development plan/regional plan/any other statutory plan in force, if any, and notifications, if any, with regard to the same and as amended from time to time.

#### **3.3 Development and part construction**

Except hereinafter or otherwise provided, these Bye-Laws shall apply to all development, redevelopment, erection and/or re-erection of a building etc. as well as to the design, construction of, or reconstruction and additions and alterations to a building.

#### **3.4 In case of Part construction**

Where the whole or part of a building is demolished or altered or reconstructed, except where otherwise specifically stipulated, these Building Bye-Laws shall apply only to the extent of the work involved.

#### **3.5 Change of use / occupancy**

Where use of a building is changed, except where otherwise specifically stipulated, these Building Bye-Laws shall apply to all parts of the building affected by the change.

#### **3.6 Reconstruction**

The reconstruction in whole or part of a building which has ceased to operate due to fire, natural collapse or demolition having been declared unsafe, or which is likely to be demolished by or under an order of the Authority as the case may be and for which the necessary certificate has been given by the Authority.

#### **3.7 Existing approved building**

Nothing in these Bye-Laws shall require the removal, alteration or abandonment, nor prevent continuance of the lawfully established use or occupancy of an existing approved building unless, in the opinion of the Authority such a building is unsafe or constitutes a hazard to the safety of adjacent property or to the occupants of the building itself.

#### **3.8 Development**

##### **3.8.1 Development Permission:**

No person shall carry out any development or redevelopment including sub-division on any plot or land (not forming part of any approved layout plan or scheme) or cause to be done without obtaining approval from the Authority for the layout plan.

##### **3.8.2 Building Permit:**

No person shall erect, re-erect or make addition/ alterations in any building or cause the same to be done without, first obtaining a separate building permit for each such building from the Authority.

##### **3.8.3 Pre-Code Building Permit:**

Where any building permit which has been issued by the Authority before the commencement of the Building Bye-Laws and where construction is in progress and has not been completed within the specified period from the date of such permit, the said permission shall be deemed to

be sanctioned under these Bye-Laws and shall only be eligible for revalidation thereunder. Accordingly, where the validity of sanction has expired and construction has not commenced, construction shall be governed by the provisions of these Building Bye-Laws.

### **3.9 Procedure for obtaining building permit**

#### **3.9.1 Notice:**

Every person who intends to erect, re-erect or make alternation in any place in a building or demolish any building shall give notice in writing to the Authority of his intention in the prescribed form, Form A& B and such notice shall be accompanied by plans and statements in sufficient copies. The plans may be ordinary prints on ferro-paper or any other type, one set of which shall be laminated. One set of such plans shall be released and the rest retained in the office of the Authority for record after the issue of permit or refusal as the case may be.

#### **3.9.2 Copies of Plans and Statements:**

Normally 4 copies of plan and statement shall be made available along with the notice. In case of building permissions where the clearance is required from Local Fire Officer, the number of copies of the plans and statements accompanying the notice shall be 6. In case of sites requiring the clearance of lessor, extra copies of the plan shall be made available.

#### **3.9.3 Information Accompanying Notice:**

The notice shall be accompanied by the location plan, site plan, subdivision / layout plan, building plan, services plan, specifications and certificate of supervision, ownership title and other documents as prescribed by the Authority.

#### **3.9.4 Documents:**

Application for building permit shall be accompanied by the following documents:

Ownership Documents-lease-deed/sale-deed etc. duly accompanied by an annexed site plan; giving the physical description of the plot/property. In such cases where lease- deed has not been executed, no objection certificate from the Authority/lessor. Also an affidavit/undertaking for handing over of the land required for road widening, if required so.

In case of any deviation from the terms and conditions stipulated in the lease deed/ownership document, necessary clearance from the Authority shall be obtained.

Documents required to be attached shall be as follows:

- i. No objection certificate from the Authority regarding land use as per Master/Zonal Plan, if required.
- ii. No objection certificate from the Chief Inspector of Factories in case of Industrial Buildings; as well as from the Pollution Control Board, wherever required.
- iii. No objection certificate from Chief Controller of Explosives, Nagpur and Chief Fire Officer, in case of hazardous buildings.
- iv. Indemnity Bond in case of proposal for the construction of a basement as given in SCHEDULE-VI.
- v. No objection certificate/Approval from the Local Fire Officer, in case of building defined under clause 2.23- i to viii (Except Residential Plotted) shall be required.
- vi. The notice shall also be accompanied by an attested copy of Property tax receipt/NOC from the Property tax Department of the local body concerned.
- vii. No objection certificate from the Civil Aviation Department wherever required.

- viii. Undertaking from the Architect on non-judicial stamp paper of the amount prescribed by the Authority.
- ix. In case the site falls in the built-up area declared as slum under any Act NOC from the Competent Authority, from slum clearance and land use points of view.
- x. In case the application is for a Farmhouse, Motel, approval/NOC from the Competent Authority from land acquisition point of view.
- xi. In case of the leasehold plots, clearance from the lessor with regard to the lease conditions shall be obtained wherever required.
- xii. For individual plot, wherever required, approval of the site from the Competent Authority, if not the part of already approved layout plan.
- xiii. Any other information/document, which the Authority may require in case of listed buildings or otherwise.

**Other documents to be submitted in special cases shall be as follows:**

- xiv. For projects proposed within the Prohibited and Regulated areas as defined by AMASR Act 2010, permission /NOC from Competent Authority (NMA) shall have to be obtained as per Rules 2011 framed under the Act by submission of required documents as per rules.
- xv. Additional documents required for conservation of Heritage sites including Heritage Buildings, Heritage/Precincts and Natural Features Areas (wherever required) – as per Chapter 13.

**3.9.4A:-** Based on the technical and support capacity, the ULB shall adopt online process of applications for building approvals along with digital formats of documents and drawings for faster and transparent process of building approvals.

**3.9.5 Size of Drawing Sheets and Colouring of Plans**

The size of drawing sheets shall be any of those specified in Table 3.1.

**Drawing Sheet Sizes**

Sr. No.	Designation	Trimmed Size, (mm.)
1	A0	841 x 1189
2	A1	594 x 841
3	A2	420 x 594
4	A3	297 x 420
5	A4	210 x 297
6	A5	148 x 210

**3.9.6 Colouring Notations for Plans:**

The plans shall be coloured as specified in Table 3.2 Further, prints of plans shall be on one side of paper only.

**3.9.7 Dimensions:**

All dimensions shall be indicated in metric as well as foot-inch units.

**Colouring of Plans**

S.n	Item	Site Plan			Building Plan		
		White Plan	Blue Print	Ammonia	White	Blue Print	Ammonia
a	b	c	d	e	f	g	h
1	Plot Lines	Thick	Thick	Thick	Thick	Thick	Thick
2	Existing street	Green	Green	Green	—	—	—
3	Future street, if any	Green	Green	Green	—	—	—
4	Permissible building lines	Thick dotted	Thick dotted	Thick dotted	—	—	—
5	Open spaces	No colour	No colour	No colour	No colour	No colour	No colour

6	Existing work	Black	White	Blue	Black	White	Blue
7	Work proposed to be	Yellow	Yellow	Yellow		Yellow	Yellow
8	Proposed work (see Note 1)	Red filled in	Red	Red	Red	Red	Red
9	Drainage and	Red dotted	Red dotted	Red dotted	Red	Red	Red
10	Water supply work	Black dotted	Black dotted	Black dotted	Black dotted	Black dotted	Black dotted

*Notes:*

1. *For entirely new construction this need not be done; for extension of an existing work this shall apply.*
2. *For land development, subdivision, layout, suitable colouring notations shall be used which shall be indexed.*

### **3.10 All Plans**

#### **3.10.1**

- i) **Key Plan:** A key plan drawn to a scale of not less than 1: 10,000 shall be submitted along with notice showing boundary and location of the site with respect of neighborhood land marks, in area where there is no approved layout plans.
- ii) **Site Plan:** The site plan to be sent along with the application for permit shall be drawn to a scale of 1: 100 for plots upto 500 Sq.m in size and on a scale of 1:500 for plots above 500 Sq.m in size. The plan shall show as below:
  - a) The boundaries of the site and any contiguous land belonging to the owner thereof.
  - b) The position of the site in relation to neighboring street.
  - c) The names of the streets on which the building is proposed to be situated, if any.
  - d) All existing buildings standing on, over or under the site.
  - e) The position of the building and of all other buildings, if any, which the applicant intends to erect upon his contiguous land referred to in (a) in relation to.
    - i) The boundaries of the site and in case where the site has been partitioned, the boundaries of the portion; owned by the applicant and also of the portions owned by others.
    - ii) All adjacent streets / buildings (with number of storeys and height) and premises within a distance of 12m. of the site and of the contiguous land, if any, referred to in (a); and
    - iii) If there is no street within a distance of 12 m. of the site, the nearest existing street.
  - f) The means of access from the street to the building, and to all other buildings, if any which the applicant intends to erect upon his contiguous land, referred to in (a).
  - g) Space to be left about the building to secure a free circulation of air, admission of light and access.
  - h) The width of the street, if any, in front, at the sides or rear of building.
  - i) The direction of north point relative to the plan of the buildings.
  - j) Any existing physical features such as well, drains, trees, over head electric supply lines etc.
  - k) The ground area of the whole property and the breakup of covered area on each floor with the calculation for percentage covered in each floor in terms of the total area of the plot as required under the Bye-Laws governing the coverage of the area.
  - l) Parking plans indicating the parking spaces wherever required.

- m) Such other particulars as may be prescribed by the Authority; and
- n) Building number or plot number of the property on which the building is intended to be erected.

**3.10.2 Requirement in respect of building sites**

**a) Damp Sites**

Wherever the dampness of a site or the nature of the soil renders such precautions necessary, the ground surface of the site between the walls of any building erected thereon shall be rendered damp-proof to the satisfaction of the Authority.

**b) Corner Site**

When the site front on two streets, the frontage would be on the street having the larger width. In cases, where the two streets are of same width, then the larger depth of the site will decide the frontage and open spaces. In such case the location of a garage (on a corner plot) if provided within the open spaces shall be located diagonally opposite the point of intersection.

**c) Minimum Size of Site**

The minimum size of sites for the construction of different types of building or different use groups, shall be in accordance with provisions of the Master Plan and any land development Rules and Regulations of the Authority.

**d) Distance from Electric Line**

The distance in accordance with the current electricity rules and its amendments from time to time is to be provided between the building and overhead electric supply line.

**Table 3.3 Clearances from Electric Supply Lines**

Type of Supply Line	Vertical clearance	Horizontal clearance
a) Low and medium voltage lines and service lines	2.50 m.	1.20 m.
b) High voltage lines upto and including 11,000 volts	3.70 m.	1.20 m.
c) High voltage lines upto above 11,000 volts and upto and including 33,000 volts	3.70 m.	2.00 m.
d) Extra high voltage lines additional 33,000 volts	3.70m. Plus 0.3 m. for every additional 33,000 V or part thereof.	2.0m. Plus 0.3 m. for every additional 33,000 V or part thereof.

**3.10.3 Layout Plan:**

The layout plan shall be formulated as per the norms of Master Plan and shall be approved as per the procedure followed by the Authority, under the provisions of relevant Act.

**3.10.4 Landscape Plan:**

Landscape plan is to be to the scale of 1:100 for plot upto 500 sq.m in size and for plots above 500 sq.m., the scale shall be 1:500, indicating the circulation and parking spaces, pathways (hard surface), greenery and plantation (soft area) etc.

**3.10.5 Building Plan:**

The plans of the building, elevations and sections accompanying the notice with dimensions shall be drawn to a scale of 1:50 for plots measuring upto 250 sq.m., for plots measuring above 250 sq.m. to a scale of 1:100, and for plots measuring 2000 sq.m. and above to a scale of 1:200 with details on a scale of 1:100 and shall:

- a) Include floor plans of all floors together with the covered area clearly indicating the size and spacing of all frame members and sizes of rooms

and the position and width of staircases, ramps and other exit ways, lift ways, lift machine room and lift pit details.

- b) Show the use or occupancy of all parts of the building.
- c) Show exact location of essential services, for example W.C., Sink, Bath etc.
- d) Include sectional drawing showing clearly the sizes of the footings, thickness of basement wall, wall construction, size and spacing of framing members, floor slabs and roof slabs with their materials. The section shall indicate the heights of building and rooms and also the heights of the parapet and drainage and the slope of the roof. At least one section shall be taken through the staircase, kitchen and toilet, bath and W.C.
- e) Show all elevations.
- f) Indicate details of service privy, if any.
- g) Give dimensions of the projected portions beyond the permissible building line.
- h) Include terrace plan indicating the drainage and the slope of the roof.
- i) Give indications of the north point relative to the plan.
- j) Details of parking spaces provided.
- k) Give indication of all doors, windows and other openings including ventilators with sizes in proper schedule.
- l) Such other particulars as may be required to explain the proposal clearly and as prescribed by the Authority.

*Notes: – The requirement of 1:100 is permitted to be flexible for specific details needed for further illustration; and also for drawings for these in electronic form.*

### **3.10.6 Building Plans for Multi-Storeyed/Special Buildings:**

For multi-storeyed buildings, which are above 4 storeyed and buildings above 15 m. in height and for special buildings like Industrial, Storage and Hazardous occupancies etc. as defined under clause 2.23(a to h) the following additional information shall be furnished/ indicated in the building plans in addition to the item (a) to (l) of Building Bye-Laws 3.10.5.

- a) Access to fire appliances/vehicles with details of vehicular turning circle/and clear motorable access way around the building.
- b) Size (width) of main and alternate staircase along with balcony approach, corridor, ventilated lobby approach.
- c) Location and details of lift enclosures.
- d) Location and size of fire lift.
- e) Smoke stop lobby/door where provided.
- f) Refuse chutes & chamber, services duct (sanitation, electric & telecommunication)
- g) Vehicular parking spaces.
- h) Refuge area if any.
- i) Details of building services-air conditioning system with position of dampers, mechanical ventilation system, electrical services, boilers, gas pipes etc.
- j) Details of exits including provision of ramps, etc. for hospitals and special risks.
- k) Location of generator, transformer and switchgear room.
- l) Smoke exhaust system if any.
- m) Details of fire alarm system network.
- n) Location of centralized control, connecting all fire alarm systems, built-in fire protection arrangements and public address system, etc.

- o) Location and dimension of static water storage tank and pump room.
- p) Location and details of fixed fire protection installations such as sprinklers, wet risers, hose reels, drenchers, CO2 installation etc.
- q) Location and details of first aid firefighting equipment/installation.
- r) The proper signs/symbols and abbreviation of all fire fighting systems shall be shown as per the relevant B.I.S. Codes.

### **3.10.7 Services Plan and Water Supply Provisions**

- i) Plans, elevations and sections of private water supply, sewage disposal system and details of building services, where required by the Authority, shall be made available to a scale not less than 1: 100.
- ii) For residential plots more than 2000 sq.m. and non-residential plots more than 1 hectare in size, the following provisions shall be made:
- iii) Separate conveying system to be provided for sewerage and sullage to facilitate reuse of sullage water for gardening and washing purposes. This may require suitable storage facilities that are to be indicated on the building plans
- iv) For recharging ground water, rainwater-harvesting provisions are to be provided within the plot, which are to be indicated on the building plans.

**3.10.8** Besides the normal drawings, which are submitted for the sanction of any building, a proper landscape plan, a circulation plan indicating vehicular and pedestrian movement and parking and an urban design scheme where necessary, shall be submitted for sanction by the Authority

**3.10.9** Specifications: General specification of the proposed construction giving type and grade of material proposed to be used in the form given in Form-B duly signed by the engaged Competent Professional for building plan design may be shown accompanying the notice as the case may be.

### **3.11 Signing of plans**

#### **3.11.1 Signing the Building Plans:**

All plans before submission to the Authority shall be signed by the owner(s) and by-

- a. A person holding a graduate degree in Bachelor of Architecture from any institute recognized by the Council of Architecture (COA) and has his/her name entered in the register of COA for the time being, with a valid COA Registration number, under the Architect's Act 1972; Or
- b. An Civil Engineer who is Associate / Fellow Member of the Institute of Engineers (India) (In case of plot upto 500 Sqm. Only) Engineering.

#### **3.11.2 Layout Plans:**

All layout plans before submission to the Authority shall be signed by the owner(s) and by one of the following:

- a. Architect holding a valid registration with the Council of Architecture for Layout Plans of plots measuring upto 1 Ha. in size.
- b. Town Planner holding valid registration with the Institute of Town Planners, India for plots measuring beyond 1 Ha.

### **3.12 Notice for alteration**

When the notice is only for an alteration of the building only such plans and statement as may be necessary, shall accompany the notice.

**3.12.1** No notice and building permit, is necessary for the following alterations, which do not otherwise violate any provisions regarding general building requirements, structural stability and fire safety requirements of these Bye-Laws;

- a) Plastering and patch repairs;

- b) Re-roofing or renewals of roof including roof of intermediate floors at the same height;
- c) Flooring and re-flooring;
- d) Opening and closing of windows, ventilators and doors not opening towards other's properties and / or public road/property;
- e) Replacing fallen bricks, stones, pillars, beams etc.
- f) Construction or re-construction of sunshade not more than 75cms. in width within one's land and not overhanging over a public street;
- g) Construction or re-construction of parapet not more than 1.5 m. in height and also construction or re-construction of boundary wall as permissible under these Bye-Laws;
- h) White-washing, painting, etc. including erection of false ceiling in any floor at the permissible clear height provided the false ceiling in no way can be put to use as a loft etc;
- i) Reconstruction of portions of buildings damaged by storm, rains, fire, earthquake or any other natural calamity to the same extent and specification as existed prior to the damage provided the use conforms to provisions of Master Plan/Zonal Plan;
- j) Erection or re-erection of internal partitions provided the same are within the purview of the Bye-Laws.

### **3.13 Building permit fees**

Building fees/tax for covered area in buildings; additions/alterations/revised plan; revalidation of plans; plan submission fee; for NOC/occupancy; for use of city infrastructure during the construction and other charges shall be as fixed by the Government/ Municipal Corporation/Council/ Nagar Panchayat from time to time.

### **3.14 Sanction**

#### **3.14.1**

#### **a) Planning Permission/Norms with respect to the Provisions of Master Plan/ Development Plan:**

The Owner, if she/he so desires, may apply to the Authority in a format (Form A and B) for planning permission/Norms through his engaged Competent Professional for building plan design (as per clause 3.11.1), submitting (i) Title documents; (ii) Development Code/Zoning Regulations of Master Plan/ Development Plan and (iii) Building Bye-Laws, which she / he intends to follow.

The Owner/engaged Competent professional (as per clause 3.11.1) shall indicate the Development Code interpretation of Master Plan/Development Plan and may support this through schematic drawings/sketches.

The Authority shall verify the title document and scrutinize the interpretation of Development Code / Zoning Regulations and accord planning permission within 30 days of submission of the application to the Owner/ engaged Competent Professional as per clause 3.11.1. Procedure may however, be prescribed by the Authority in this behalf.

#### **b) Self-Certification of Building Plans for Residential plotted, Commercial and Industrial buildings of Plot size up to 500 Sq.m. and height upto 15 mts / upto 17.5 mts with stilts of 2.5mts:**

Architects empanelled with the concerned Municipal authority shall be authorized to issue building Plans in case of self certification as per procedure in sub- section c).

#### **a) Procedure for Self-Certification :**

- 1) Deemed building permit shall be applicable only in such cases where, a Competent Professional for building plan design as per clause 3.11.1(a), has planned the building on an individual plot and has certified that the

building plans are within applicable building bye laws and Master Plan Regulations.

This shall be applicable for **Residential plotted, Commercial and Industrial buildings of Plot size up to 500 Sq.m. and height upto 15 mts / upto 17.5 mts with stilts of 2.5mts** to be processed for instant sanction, if it is certified by an empanelled architect, registered on a panel, maintained by the Local Body/Authority, that the plans have been prepared within the framework of provisions of the Master Plan and applicable Building Bye Laws / Regulations and the construction shall be carried out in accordance with Master Plan and BBL provisions.

Proof check certification of design and detailed construction specification shall be mandatory. Drawings submitted shall be working drawings and no changes shall be permissible at site during construction.

- 2) The following documents / information will be submitted by the “Empanelled Architect” along with application:
  - (i) Proof of empanelment under the Self Certification Scheme with the concerned Municipal Authority.
  - (ii) Proof of appointment as “Empanelled Architect” by the plot owner for certification of the Building Plan under the Self Certification Scheme and supervision of the construction.
  - (iii) Building plan scrutiny / processing fee and other fees / taxes etc.
  - (iv) 4 (four) sets of the Building Plan and other documents / information as required under the Building Byelaws.
  - (v) A copy of the Building Permit issued by the “Empanelled Architect” to the owner.
- 3) Concerned CMC or EO of the Municipal Authority on verification that the “Empanelled Architect” is registered & empanelled for the purpose of the Self Certification Scheme with the concerned Municipal Authority and requisite fee has been deposited shall return a copy of the Building Plan duly stamped indicating the receipt number etc.
- 4) The owner shall display at site the name of the “Empanelled Architect” along with Building Application number etc.
- 5) The “Empanelled Architect” shall furnish progress certificates at the stage of excavation, DPC, roof level and completion. However after submitting the DPC report, the applicant shall have to wait for a period of fifteen days prior to going ahead with further construction.
- 6) If after submission of application during the construction of building, the appointment of the “Empanelled Architect” is annulled, then:
  - (a) The owner shall intimate the Competent Authority through registered post within seven days of annulment and also about the appointment of new “Empanelled Architect”.
  - (b) The “Empanelled Architect” shall intimate the Competent Authority through registered post within seven days of annulment and regarding the construction raised so far to be as per the Building Plan deemed sanctioned on the certification of the “Empanelled Architect”.
  - (c) The newly appointed “Empanelled Architect”, shall intimate the Competent Authority within seven days of his appointment that the construction already raised is as per the Building Plan deemed sanctioned on the certification of the “Empanelled Architect”.
- 7) If the “Empanelled Architect” submits a wrong report while certifying Building Plan or if any additional construction or violation is reported to exist at site or conceals any fact or falsely justifies or misstates regarding completion of building, he will be held responsible for such omission /

commission and can be penalized, as deemed fit by the Municipal Authority after giving an opportunity of being heard, under intimation to the Government.

- 8) The unauthorized construction will either be demolished by the owner or by the concerned Authority at the risk and cost of the owner, if the same is neither sanctionable nor compoundable.
- 9) The applicants who do not wish to opt for Self Certification can continue to get approval of the Commissioner / Executive Officer of the concerned Municipal Authority under the provisions of the Acts.

#### **3.14.2 Grant of Permit or Refusal**

- a) The Authority shall either sanction or refuse sanction to the plans and specifications or may sanction them with such modification or directions as it may deem necessary and thereupon shall communicate its decision to the person giving the notice in the prescribed form given in **Annexure-I** and **Annexure-II**.
- b) The building plans for buildings identified in clause 2.23(i to viii, except residential plotted) shall be subject to the scrutiny of the Local Fire Officer and building permit shall be given by the Authority only after the clearance from the Local Fire Officer is obtained.
- c) In case where the building scheme requires the clearance of an Urban Art Commission, if constituted for the city then the Authority shall issue the building permit only after getting the clearance from the Urban Art Commission.
- d) The Building Application is required to be decided within 30 days, in case of Residential (Plotted), and within 60 days, in case of other categories, of the receipt of valid notice under 3.9.1 of the Bye-Laws along with complete information / documents. The time limit of 30 or 60 days, as the case may be, shall commence from the date when the requisite information has been furnished and valid application stands completed.

If no communication is received from the Authority within prescribed time limit as above, the applicant shall give a further notice of 15 days intimating the Authority in this regard. If the Authority still fails to intimate in writing to the person who has submitted such notice, the Building Plan shall be deemed to have been sanctioned subject to the conditions mentioned in these Bye-Laws. Nothing shall be construed to authorize any person to do anything in contravention or against the terms of the lease or title of the land or against any regulations, Bye-Laws or ordinance operating at the time of execution of the work at site.

- e) Once the plan has been scrutinized and objections have been pointed out, the Owner who has given the notice under Section 3.9.1 shall modify the plan to comply with the objections raised and resubmit the modified plans. The Authority shall scrutinize the resubmitted plans and if, there are still some objections that shall be intimated to the applicant for compliance. Only thereafter the plans shall be sanctioned. It is further clarified that:
  - i) The above provision of deemed sanction shall be applicable only in those cases where construction is to be carried on plot forming part of an approved layout plan of the Authority.
  - ii) No notice under Section 3.9.1 shall be valid unless the information required by the Authority under these Bye-Laws or any further information which may be required has been furnished to the satisfaction of the Authority.
  - iii) The Owner/ engaged Competent Professional for building plan design (as per clause 3.11.1) and others shall be fully responsible for any violation of Master Plan/Zonal Plan/ Building Bye-Laws, architectural controls, lease

deed conditions etc. In case of any default they shall be liable for action. Any construction so raised shall be deemed to be unauthorized and shall be liable for action.

#### **3.14.3 Duration of Sanction/Revalidation:**

Once a building permit is sanctioned, it shall remain valid for three years from the date of sanction for residential, industrial and commercial buildings (4 storeyed) and for a period of four years from the date of sanction for multi-storeyed buildings of 15 m. and above in height. However, the validity period of sanction in case of additions/alterations in both the cases, shall be two years from the date of sanction. The building permit shall be got revalidated in the prescribed form (Annexure-III) before the expiry of this period on year-to-year basis. Revalidation shall be subject to the Master Plan/Zonal Plan regulation and building Bye-laws, as in force, for the area where construction has not started.

#### **3.14.4 Revocation of Permit:**

The Authority shall revoke any building permit issued under the provisions of the Bye-Laws, wherever there has been any false statement, misrepresentation of material facts in the application on which the building permit was based. Or If during construction it is found that the Owner has violated any of the provisions of the Building Bye-Laws or sanctioned plan or compoundable limits.

Fresh sanction of building plans and occupancy certificate shall be taken from the Authority after bringing the building within the framework of Master Plan/ Zonal Plan/ Building Bye-Laws.

#### **3.14.5 Qualification and Competence**

Qualification and competence of all professionals including Architect/ Engineer/ Structural Engineer/ Town Planner/ Landscape Architect/ Urban designer/ Supervisor/ Plumber/ Electrician/ Fire Consultant shall be as given in **Annexure-IV**.

#### **3.14.6 Penal Action**

- a) The Authority reserves the right to take action and to debar/blacklist the Town Planner, Architect, Engineer, Supervisor or Plumber, if found to have deviated from professional conduct or to have made any false statement or on account of misrepresentation of any material facts or default either in authentication of a plan or in supervision of the construction against the building Bye-Laws and the sanctioned building plans.
- b) If the sanctioning Authority finds at any time any violation of the building Bye-Laws or misrepresentation of facts, or construction at variance with the sanction or building Bye-Laws, inclusive of the prescribed documents, the Authority shall revoke the sanction and take appropriate action against such professional and such professional shall not be authorized to submit fresh plans till finalization of the case. Before debarring or blacklisting such professional if found to be indulging in professional misconduct or where she/he has misrepresented any material facts, the Authority shall issue a show cause notice with an opportunity of a personal hearing and shall pass an order to debar her/him for submission and supervision of the construction with full justification for the same. An appeal against this order shall lie with the Authority with whom she/he is registered.
- c) The professional engaged by the applicant, shall carry out periodic inspection of the recognized stages of construction (**as defined in Schedule-VIII**) and shall inform about the violations, if any to the ULB.

The concerned officer of the ULB shall also carry out the periodic site inspections as prescribed in the Building Byelaws.

### **3.14.7 Unauthorized Development**

In case of unauthorized development, the Authority shall take suitable action, which may include demolition of unauthorized works, sealing of premises, prosecution and criminal proceeding against the offender in pursuance of relevant laws in force. The municipal employees who by their act of commission or omission have allowed unauthorized constructions will be liable for similar action.

### **3.15 Procedure during Construction work**

#### **3.15.1**

- a. **Construction to be in Conformity with Bye-Laws – Owners’ liability:** Neither the granting of the permission nor the approval of the drawings and specification, nor inspection by the Authority during erection of the building, shall in any way relieve the Owner of the building from full responsibility for carrying out work in accordance with these Bye-Laws.
- b. **Commencement of work:** The owner, within the validity period (**clause 3.14.3**) of the building plan sanction given, shall start the construction work at the site for which building permit has been granted under the supervision of the Architect / Engineer/ Town Planner as per the competence given in **clause 3.11.1**.

The owner shall have to submit notice (**Form-C**) for the commencement of construction after sanction, also shall be required to submit notices to the Authority as per bye laws for stages of construction.

#### **3.15.2 Documents at Site:**

The person to whom a permit is issued shall, during construction keep, posted in a conspicuous place on the property in respect of which the permit was issued

- a) A copy of the building permit;
- b) A copy of the approved drawings and specifications referred in Bye-Laws of the property in respect of which the permit was issued.
- c) Where tests of any materials are made to ensure conformity with the requirements of the Bye-laws, records of test data shall be kept available for inspection during the construction of the building and for such a period thereafter as required by the Authority.

#### **3.15.3 Checking of Building during Construction**

The Owner through his engaged Competent Professional for building plan design (**as per Clause-3.11.1**) shall give notice to the Authority in the proforma given in **Annexure-V** on completion of the work up to plinth level to enable the Authority to ensure that work conforms to the sanctioned building plans and Building Bye-laws. It will be obligatory on the part of the Authority to inspect the work and submit objections, if any, to the owner and the engaged Professional for building plan design (**as per Clause-3.11.1**) within 15 days from the receipt of such notice in **Annexure-VI** failing which work will deemed to be cleared for further construction. It will be the responsibility of the Owner/Architect/Engineer/Town Planner to ensure further construction of the building in accordance with the sanctioned building plan.

It will also be obligatory on the part of the Authority to carryout periodic inspection as may be determined by the Authority during further construction. A report of each inspection shall be prepared in duplicate by the Authority in the proforma as per **Annexure-VI** and a copy of the same duly signed by the Authority shall be given to the Owner or to his engaged Competent Professional for building plan design.

In case of approval under self certification, the responsibility of periodic inspection and submitting the inspection reports to the authority/ULB shall be of the engaged Architect.

### **3.16 Notice of Completion**

Every Owner shall submit a notice of completion of the building (**prescribed in Form-D**) to the Authority regarding completion of the work described in the building permit. The notice of completion shall be submitted by the Owner through the engaged Competent Professional for building plan design (**as per Clause-3.11.1**) as the case may be who has supervised the construction, in the proforma given in **Form-E** accompanied by three copies of completion plan (as in case of sanctioned plan including one cloth mounted copy) and the following documents along with the prescribed fee:

- i) Copy of all inspection reports of the Authority.
- ii) Clearance from Local Fire Officer, whenever required.
- iii) Clearance from Chief Controller of Explosives, Nagpur, wherever required.
- iv) Clearance from Electricity Department regarding provision of transformers / sub-station / ancillary power supply system etc. wherever required.
- v) Structural stability certificate duly signed by the Structural Engineer.
- vi) Certificate of fitness of the lift from concerned Department wherever required.
- vii) Two sets of photographs from all sides duly signed by Owner/ hired Competent Professional for building plan design (**as per Clause-3.11.1**), as the case may be.
- viii) Any other information/document that the Authority may deem fit.
- ix) A certificate by the Owner and engaged Competent Professional for building plan design (**as per Annexure-IV**), for covering up the underground drain, sanitary and water supply work, under their supervision and in accordance with Building Bye-laws and sanctioned building plans stipulated in the Annexure-VII as applicable.
- x) In case of large campus/complex, completion of individual block/building will be issued by the local body in accordance with the construction work completed phase wise in the proforma given in **Annexure-VII**.
- xi) In case, if the completion certificate is refused due to deviation, which cannot be compounded, the completion will be rejected and extension of time will be required accordingly.
- xii) No Objection Certificate for regular water supply and electricity may be issued only after the completion certificate is obtained.

### **3.17 Completion and Permission for Occupation**

#### **3.17.1 General**

The Authority on receipt of the application (**Form-D**) of completion shall inspect the work and communicate the approval or refusal or objection thereto, in the proforma given in Form-F within 30 days of the receipt of valid application along with complete information / documents. The time limit of 30 days shall commence from the date when the requisite information has been furnished and valid application stands completed.

If the Authority fails to communicate in writing to the person who has submitted the Application for completion within the prescribed timeline as above, the applicant shall give a further notice of 15 days intimating the Authority in this regard. If the Authority still fails to intimate in writing to the person who has submitted such notice, the Completion shall be deemed to have been granted subject to the conditions mentioned in these Bye-Laws.

Where the occupancy certificate is refused, the reasons shall be intimated for rejecting in the first instance itself.

### **3.17.2 Procedure**

The procedure to be followed shall be –

The owner/ engaged Professional for building plan design, shall submit the application along with all the documents, completion plans and the processing fees/charge. The Plans shall have to be certified by the Owner/ engaged Professional for building plan design and also by an Architect and a structural engineer, a service engineer with minimum 10 years' experience from a panel of such professionals maintained by the Authority, certifying that the completion plans are in accordance to the sanctioned building plans and in accordance to building bye laws

### **3.17.3 Clearance from Fire Officer**

The work shall also be subject to the inspection of the Local Fire officer, and the occupancy certificate shall be issued by the Authority only after the clearance from Local Fire Officer regarding the completion of work from the fire protection point of view in case of all buildings except Residential (Plotted) and Commercial (Plot size upto 250 sq. yds and 15 meters height).

### **3.18 Occupancy/ Part Completion Certificate**

#### **3.18.1 Phased Project**

In such cases where a project has not been completed at one stretch but constructed in different stages, part occupancy/completion certificate for the building otherwise complete in all respects, may be issued subject to the condition that such a part occupancy/completion certificate would apply to an independent block/building of the sanctioned project. In case of a residential house part occupancy/completion may be issued for an independent floor.

For projects referred to in **clause 3.18.1**, the rest of the construction which forms part of the sanctioned plan/scheme shall be completed in the remaining sanctioned or extended period after revalidation as the case may be. Thus the remaining sanction will not lapse if the part completion certificate is issued. The remaining construction shall be completed in the validity period.

### **3.19 Connection to the municipal sewer / water mains**

- a) Temporary connection for water, electricity or sewer, permitted for the purpose of facilitating the construction, shall not be allowed to continue in the premises without obtaining completion/occupancy certificate.
- b) No connection to the Municipal water mains or to the Municipal sewer line with a building shall be made without the prior permission of the Authority and without obtaining occupancy /completion certificate.
- c) In case the use is changed or unauthorized construction is made, the Authority is authorized to discontinue such services or cause discontinuance of such services.

### **3.20 MONITORING OF EXECUTION OF WORKS AND ERECTION OF BUILDING AS PER SANCTIONED PLAN AND APPROVAL OF REVISED PLAN WHEREVER REQUIRED:**

- (i) To ensure enforcement of building and execution of works as per sanctioned building plans; construction activity shall be monitored from the stage of excavation, construction of foundation, plinth, first storey and each subsequent storey. The local authority shall monitor this activity as per the guidelines mentioned at Schedule – VIII or as amended by the Government from time to time.
- (ii) During the course of construction, in case of changed circumstances at site or otherwise, if substantial deviations from the sanctioned plans are necessitated, the owner shall not proceed further with the construction unless

revised plan is submitted and got approved from the competent authority as per rules.

**3.21 COMPOUNDING OF DEVIATIONS FROM THE SANTIONED PLAN :**

- (a) Residential Buildings:
  - (i) Violation of front set back shall not be compoundable.
  - (ii) Excess coverage above 5 per cent than the permissible shall not be compoundable.
- (b) Commercial and other buildings:
  - (i) Violation of front set back shall not be compoundable.
  - (ii) Excess F.A.R. than the sanctioned / permissible F.A.R. shall not be compoundable.
  - (iii) Decrease in parking area shall not be compoundable.

*Note: Only the minor deviations form the sanctioned plan without involving change of use, may be considered for compromise as per approved compromise schedule to be framed/approved by the competent authority from time to time.*

**CHAPTER – IV**  
**DEVELOPMENT CODES**

**4. DEVELOPMENT CODES**

The provisions contained in Master Plan/Zonal Plan/Development Code or as per the Urban and Regional Development Plan Formulation and Implementation Guidelines, 2014 shall apply and where these are silent on such issues or which require interpretation the norms as decided by the Authority, shall apply. The provisions include but are not limited to the use/ activity of premises, ground coverage, FAR, setbacks, open space, height, density and number of dwelling units and parking standards for Residential premises on plotted development, Group housing, Resettlement colonies, Slums, In-situ upgradation ,Non-residential premises.

The permission of uses/use activities in use premises shall permitted in accordance with provisions of Master Plan/Zonal Plan/ Local Area Plan/ Layout Plan.

The object of these regulations is to provide control for building/buildings within use premises excluding the internal arrangement, which is covered and controlled by Building Bye-Laws.

*Notes: The premises for which building regulations have not been given shall be examined by the Authority on the basis of actual requirements and other relevant factors.*

- i) Wherever there is a need for relaxation in height for achieving urban form, the same may be permitted with the recommendation of the Authority.*
- ii) The provision of minimum setbacks for different sizes of plots for all categories of the plots shall be as per the Master Plan/Development Plan or as per simplified Development Promotion Regulations of the Urban and Regional Development Plans Formulation and Implementation (URDPFI) Guidelines.*

**4.1 Flexible FAR**

**4.1.1 Additional FAR in lieu of Transferable Development Rights (TDR)**

Provision of additional FAR in Group Housing, Hospital, Institutional, and Industrial, Sport and amusement complex, recreational greens and Low Density Sports plot may be considered.

**Additional FAR in lieu of TDR may be allowed with the following provision/ conditions:**

- (i) No construction shall be allowed beyond the limit of maximum permissible ground Coverage.
- (ii) Parking facilities shall be provided within the plot as per the provisions of the building bylaws.
- (iii) No objection certificate from the Airport Authority of India/ Competent Authority shall be obtained for the height of the building.
- (iv) Structure design duly checked and verified by the I.I.T/ N.I.T/ Government Engineering College shall be submitted along with the proposal in case where additional floors are being proposed.
- (v) No objection certificate for Fire Safety and Environmental Clearance shall be obtained from the Competent Authorities.
- (vi) Purchasable FAR shall be applicable only on the basis of assessment of planned and available physical infrastructure.
- (vii) Use of purchasable FAR shall be governed by the terms and conditions of lease deed.
- (viii) In case where purchasable FAR is allowed, the Authority shall permit increase in the height of building as per requirement.
- (ix) Additional proportionate residential units shall be allowed on purchasable FAR for Group Housing.

**Note:**

- i) *Purchasable FAR is an enabling provision. It shall not be allowed to any Allottee as a matter of right.*
- ii) *With the consideration of Traffic density, conditions of approach road, availability of physical infrastructure, distance from the protected area and heritage sites or in the light of planning the Authority may identify the zones/ areas where purchasable FAR shall not be allowed.*
- iii) *In case of mixed land use permitted in any pocket/plot:*
- iv) *Permissible FAR for various uses shall be as applicable for respective use including the purchasable FAR The total FAR in the pocket/plot shall be subject to the overall permissible FAR for the pocket/plot. Purchasable FAR shall be calculated on the basis of the FAR of the individual uses within that pocket/plot.*

**4.1.2 Additional FAR in lieu of TDR in Group Housing, Hospital and other buildings:-**

- i. Group Housing on plot size 1acre and above on Road width 100 feet and above and maximum density upto 90 dwelling units per acre with site coverage 35%, FAR of 1:2.50 is permitted in place of permissible 1:2.00; in new projects falling in new areas. This will not be allowed in already sanctioned projects or on sites where construction has already been started.

*Note: New areas means areas which are largely vacant as identified by the concerned Urban Local Body from time to time by way of resolution.*

- ii. Hospital Buildings on plot sizes 250 Sq. yds. & above and above 1000 sq.yds. with site coverage 50% and 40% respectively, FAR of 1:2.00 and 1:1.75 is permitted in place of permissible 1:1.50 and 1:1.25 respectively subject to .

- iii.
  - The provisions of Punjab Municipal Building Byelaws/Rules such as Height, parking, Setbacks and other relating to safety and security, Environmental / Barrier Free Environment, Rain Water Harvesting etc. shall be strictly complied.
  - Additional F.A.R will be available only under the Govt.’s policy regarding TDR (Transferable Development Rights) issued vide notification no. CTP(LG)-2018-1130 on 25/05/2018.

**4.2 Parking standard**

Parking space shall be provided for different types of development as given below or as per norms given in Master Plan/Development Plan:

- 4.2.1** The following Table 4.1 may be referred to for deciding the parking norms for different use zone/activities, only minimum required value of ECS and NOT a range should be specified in the development plan. It can be changed in subsequent plan depending upon need based upon local vehicle ownership, mass transportation and consequent parking needs.

**Parking Standards:-**

S.No.	Land use	Parking Standards		Remark
1	Residential			
	Residential -Plotted Housing	Upto 100 sq. m	2 no of two wheeler parking space	-----
		Above 100 to 150 Sq.m	1 ECS	
Above 150 to 200 Sq.m	2 ECS			

		Above 200 to 300 Sq.m	3 ECS	
		Above 300 to 500 Sq.m	3 ECS	
		Above 500 to 1000 Sq.m	3 ECS	
		Above 1000 Sq.m	3 ECS	
	Residential -Group Housing	Unit area upto 120 sq. m	1.5 ECS / DU	* 1ECS = 26.5 sq.yds. (22.17 sq.mts) for open parking, 32.5 sq.yds. (27.18 sq.mts) for ground floor covered parking and 38.5 sq.yds. (32.20 sq.mts) for basement. **Unit area = total covered area on all floors in a block including common areas i.e. lifts, stairs, corridor etc. ÷ (divided by) total number of dwelling units in the block.
		Unit area above 120 sq. m upto 300 sq. m	2.0 ECS / DU	
		Unit area above 300 sq. m	3.0 ECS / DU	
		Additional 10% guest parking shall also be provided		
2	Independent Floors	Unit area upto 120 sq. m	1.5 ECS / DU	* 1ECS = 26.5 sq.yds. (22.17 sq.mts) for open parking, 32.5 sq.yds. (27.18 sq.mts) for ground floor covered parking and 38.5 sq.yds. (32.20 sq.mts) for basement. **Unit area = total covered area on all floors in a block including common areas i.e. lifts, stairs, corridor etc. ÷ (divided by) total number of dwelling units in the block.
		Unit area above 120 sq. m upto 300 sq. m	2.0 ECS / DU	
		Unit area above 300 sq. m	3.0 ECS / DU	
3	Commercial	1 ECS for every 60 square yards (50 square meters) of covered area. <i>Note: Multi Level Mechanical covered Parking will also be permissible subject to fulfillment of structural requirements within the permissible norms.</i>		-----
	Hotel/Motel	2 ECS / 100 sqm of the total covered area		
	Miniplex/	3.0 ECS per 100 square meters of the covered area in respect of miniplex or cinema component and 2 ECS per 100 square meters of the balance covered area.		

	Multiplex	3.0 ECS per 100 square meters of the covered area in respect of multiplex or cinema component plus 30 percent of the total covered area of that component i.e (Multiplex or cinema component) and 2 ECS per 100 square meters of the balance covered area.	
	Club/ Guest House / Lodging & Boarding / Service Apartments	2 ECS / 100 sqm of the total covered area	
	Dhaba	30% of plot area	
4	Public-Semi Public/Institutional and Educational Buildings		
	General Public/Semi-public buildings	2 ECS / 100 sqm of floor area	-----
	Government offices-integrated office complex buildings	2 ECS / 100 sqm of floor area	-
	Educational(Nursery School)	2 ECS / 100 sqm of floor area	-
	Educational(Primary School)	2 ECS / 100 sqm of floor area	-
	Educational(Higher Secondary School)	2 ECS / 100 sqm of floor area	-
	Educational(College)	2 ECS / 100 sqm of floor area	-
	Education and Research Centre (large campus i.e. above 8 Ha./ 19.75 acres)	2 ECS / 100 sqm of floor area	-
5	Industry Buildings		
	Wholesale Trade/ Ware House/ Integrated Freight complex (Standalone)	2 ECS / 100 sqm of floor area	--
	General Industry- Industry Plotted	1 ECS / 100 sqm of floor area	--
	Informational Technology- Industry Plotted	2 ECS / 100 sqm of floor area	--
	General industry flatted	2 ECS / 100 sqm of floor area	--
	Informational Technology flatted	2 ECS / 100 sqm of floor area	--
6	Mixed Land use	Parking @ 2.0 ECS / 100 sqm built up area shall be provided within the premises.	Where this is not available, cost of development of parking shall be payable by the plot allottee / owner to the local body concerned for Multi-level parking to be provided as an option. This condition shall apply even if residential premises are used only for professional activity.

### **4.3 Multi storeyed parking**

Special permission shall be sought for development of buildings specifically for parking. Permission shall be granted based on width of road, requirement for parking space, FAR available and other parameters as specified by the competent authority. Minimum Area of plot: 2000 Sq.m.

Minimum number of car parking spaces: 50

Development of such parking lots may be undertaken by offering tradable FAR to the developer in lieu of development of parking lots which may be surrendered to competent authority on completion.

### **4.4 Specific premises**

#### **4.4.1 Residential Use Zone**

The residential areas are developed either as

- a) Plotted development or
- b) Group housing/flatted development.

The density pattern i.e. (high density, high medium density, low medium density or low density) are followed for working out the pattern of development with respect to:

- i) Size of the plot
- ii) Number of dwelling units on each plot
- iii) Setbacks
- iv) FAR
- v) Number of storeys/ height of the building

The municipal and social infrastructure as per the norms and standards specified in the Master Plan shall be provided. The various sites/plots required for social and municipal infrastructure are to be indicated in the layout plans. The development norms for different use/activities and on different sizes of plots are applied for sanctioning of the plans. These are based on development control rules applicable to the city/town.

#### **4.4.2 Buildings within the Residential Use Zone**

Buildings for various uses/activities within the residential use zone forming part of the residential layout plan are to be constructed with the norms of the coverage, FAR, height and others as applicable to that size of a residential plot.

#### **4.4.3 Residential Premises – Plotted Housing**

The layout plans for residential scheme shall be formulated keeping in view:

- i) that there should be sufficient daylight and fresh air in the habitable areas within the buildings, when constructed.
- ii) that there would be protection against noise, dust and local hazards
- iii) that there should be sufficient open space for various family needs and in accordance with the provisions of bye-laws.
- iv) that the circulation and access is easy and is safe from accident point of view
- v) that, as far as possible, the plots are of regular shape and size and
- vi) these are logically arranged in a systematic manner so as to give a regular pattern of development in the form of row houses, detached and semi-detached houses and if necessary the regular bungalow type plots.

**Note:**

1. *In the already developed plots the pattern of development should conform to the existing regulations.*
2. *Single basement is permissible, provisions of Clause-4.14 shall be followed.*
3. *Basement, if constructed, may be used for incidental use such as parking, servicing and household storage. It is not to be used as a dwelling unit.*
4. *The area of the basement should not be more than the ground coverage.*
5. *Parking as per the prescribed norms should be provided within the plot.*

#### 4.4.4 RESIDENTIAL PLOTTED DEVELOPMENT:-

The proportion up to which a site may be covered with building including ancillary building along with F.A.R. control shall be in accordance with the following slabs, the remaining portion being left open in the form of minimum front set back, and open spaces around the building and space at rear, sides or internal courtyard:

Plot Area (Square Meter)	Site Coverage	Minimum Setback			Permissible Height	Permissible FAR
		Front	Rear	Side		
Upto 100	90%	1.54 M	Optional As per Clause 4.13(ii)	1/5th of the height of the building or 2.0 m whichever is more	15.00 M	1:2.00
Above 100 to 150	90%	1.8 M				1:1.90
Above 150 to 200	70%	2.16 M				1:1.75
Above 200 to 300	65%	3.0 M	3.0 M	1:1.65		
Above 300 to 500	60%	4.6 M	3.0 M	1:1.50		
Above 500 to 1000	50%	6.17 M	3.0 M	1:1.50		
Above 1000	40%	6.17 M	3.0 M	1:1.25		

#### NOTES :-

- (i) Height permissible shall be excluding parapet, water tank and Mumti only.
- (ii) Minimum clear height for habitable room shall be 9'-0"/2.75 m in every part of the room.
- (iii) Open balcony / projection not exceeding 3 ft. in depth at the 1<sup>st</sup> or higher floor levels shall not be included in the covered area.
- (iv) The minimum area of a habitable room shall not be less than 100 sq. feet and one side not less than 8 ft. and maximum area of a habitable room shall not be more than 500 sq. feet and one side more than 30'-0".
- (v) The arrangement of habitable rooms and other components of a residential dwelling unit shall be based on sound principles of planning and design of a residential building.
- (vi) Construction of more than one dwelling unit on each floor shall be allowed, provided the site coverage, FAR and height restrictions are adhered to.
- (vii) No opening is allowed on party wall of properties.
- (viii) Minimum width of staircase in any case shall be 2'-6".
- (ix) Minimum ventilation should be 20% of the floor area.
- (x) The front set back is exempted in core area. The core area shall mean the innermost or the most intimate inner part of the old city having a gross density of 250 persons per acre or more, and shall include all such adjacent/other areas which are thickly and totally built up areas and which have assumed same and similar character and notified as such by the competent authority, but shall not include any areas which are covered under any planned scheme.
- (xi) At least 5% of the space to be left open in or around the building shall be used for plantation.
- (xii) Professionals, consultants, doctors, advocates, Architects/Building Designers and Supervisor can use up to 25% of covered area for offering professional consultancy only on 30 feet wide road, on charges as prescribed from time to time.
- (xiii) To facilitate parking & movement of the vehicle, two gates will be permitted

along the accessible road in the front boundary wall of the residential building. In the residential houses the gate of the standard design and width will be permitted along the side boundary wall abutting on the accessible street/ road.

- (xiv) Car parking / porch covered with a fiberglass roof will be permitted in the front courtyard of the residential house. The stilts shall be permitted for parking purposes as per norms, subject to condition that the total height achieved is within the permissible height.
- (xv) In case of plots abutting on two streets other than corner plots, minimum front set back on both the roads shall be compulsory and permissible coverage shall be compensated in the form of FAR.
- (xvi) Construction of access ramps within the street/ road portion shall not be allowed. This will be applicable to all categories of buildings.
- (xvii) Clubbing of plots under single ownership for purpose of constructing one unit with provision of rain water harvesting system & provision of underground water storage tanks to ensure proper water pressure for supply to upper floors will be permissible.

#### 4.5 INDEPENDENT FLOORS:-

Parameter	Permissible Limits	
Minimum Approach Road	12m	
Maximum Ground Coverage	For first 250 sq.mt.	65
	For the next 100 sq. m	60
	For the next 100 sq. m	50
	Above 450 sq.mt.	40
Maximum Floor Area Ratio	For first 250 sq.mt.	1:2.6
	For the next 100 sq. m	1:2.4
	For the next 100 sq. m	1:2.0
	Above 450 sq.mt.	1:1.6
Maximum No. of Floors	Stilt +4 Floors	
Maximum Height of Building	15 m	
	Note: Excluding mumty, parapet, lift room and architectural features. The stilts shall be compulsory and shall be counted towards height of the building.	
Setbacks around buildings	Front & Rear setback	1/4th of the height of the building or 2 m whichever is more
	Side setback , if left at any point of the building,	1/5th of the height of the building or 1.5 m whichever is more
Parking	Dwelling Unit (DU) Size	Equivalent Car Space required (ECS) per DU
	Unit Area upto 120 sq.m.	1.5
	Unit Area above 120 sq.m upto 300 sq.m.	2.0
	Unit Area Above 300 sq.m.	3.0

#### Notes

- a) The plots proposed for Independent floors shall be in row housing and earmarked for independent floors in the Layout Plan or Zoning Plan.
- b) No individual plot in any block which is not earmarked in the Layout Plan or Zoning Plan for independent floors shall be allowed to be constructed as an independent floor unless the building is detached having minimum plot area 800 square meters.
- c) The parking required in case of independent floors shall compulsory be under stilts. However, in case of an independent plot having minimum area of 800 square meters used

for independent floors, the parking under stilts shall be optional, provided that the promoter provides parking as per norms within the plot.

- d) In case of independent floor, common staircase or common elevator is permissible maximum for two plots subjected to the conditions the minimum clear width of staircases for buildings shall be 1250 mm.

**4.6 GROUP HOUSING, MULTI-STOREYED BUILDING & APARTMENTS :-  
SCHEDULE – VII (GROUP HOUSING)**

Minimum Road Width	60 feet (18m) and above		
Minimum Plot size	2000 Sq.m		
Net Residential Density in Dwelling Units per Acre	As per Master Plan/ Instructions of Govt.		
Ground Coverage in %age	Maximum 35%		
Maximum FAR	1:2.00		
Maximum Height	No Restriction subject to Air Safety Regulations, Traffic Circulation, Fire safety Norms. Fire preparedness and Equipments of ULBs.		
Minimum Setbacks along the boundary of site	Minimum setbacks may be governed by the following table:		
	Height (m)	Setback (m)	<b>NOTES:</b> (i) Upto a height of 24 m with one setback, the open spaces at the ground level shall not be less than 6 m. (ii) For heights between 24 m & 37.5 m with one setback, the open spaces at the ground level, shall not be less than 9 m (iii) For heights above 37.5 m with two setbacks, the open spaces at the ground level shall not be less than 12 m (iv) The deficiency in the open spaces shall be made good to satisfy the above table through the setbacks at the upper levels; these setbacks shall not be accessible from individual flats / rooms at these levels
	10	3	
	15	5	
	18	6	
	21	7	
	24	8	
	27	9	
	30	10	
	35	11	
	40	12	
	45	13	
	50	14	
55 & above	16		
Parking	Unit area upto 120 sq. m	1.5 ECS / DU	* 1ECS = 26.5 sq.yds. (22.17 sq.mts) for open parking, 32.5 sq.yds. (27.18 sq.mts) for ground floor covered parking and 38.5 sq.yds. (32.20 sq.mts)
	Unit area above 120 sq. m upto	2.0 ECS / DU	

	300 sq. m		for basement.
	Unit area above 300 sq. m	3.0 ECS / DU	**Unit area = total covered area on all floors in a block including common areas i.e. lifts, stairs, corridor etc. ÷ (divided by) total number of dwelling units in the block.
	Additional 10% guest parking shall also be provided		
Other Uses	<ul style="list-style-type: none"> <li>➤ The provision of organized community open space / parks shall be compulsory and shall be minimum 15% of the total plot area.</li> <li>➤ Convenience shopping will be permissible within the site @ One single storied shop of maximum area 350 square feet (32.5 sq. mts) for every 25 dwelling units and shall open only on the internal roads within the site.</li> </ul>		

#### 4.7 COMMERCIAL:

##### 4.7.1 Site coverage, Parking, Height and F.A.R.:

- (i) The commercial building activity shall be regulated in accordance with the provisions, regarding site coverage, parking, height and F.A.R. as per **Schedule-I**.
- (ii) In case of commercial sites located in the Town planning and Building schemes or in any planned scheme/colony, coverage, regulations and zoning shall be in accordance with the schedule of Clauses of the sanctioned scheme.
- (iii) In case of commercial sites located in the schemes of Improvement Trusts, Urban Estates, Industrial Focal points or scheme prepared under any other Act and stands transferred to the local bodies, the coverage shall be regulated by zoning regulations and Architectural / Building control sheets applicable to that sanctioned scheme.

##### 4.7.2 BASEMENT:

The construction of basement in commercial buildings shall be governed in accordance with detailed provisions contained in these Bye-laws(**Clause -4.14**)

##### 4.7.3 STAIRCASE/EXIT REQUIREMENTS :

- I. The minimum width of staircase in a commercial building shall be 1.5 m (say 5 foot).
- II. The minimum tread, height of riser, minimum head-room and all aspects of exit requirements for corridors, doors, staircases, ramps, etc. in respect of widths, travel distance, for all categories of buildings shall be as per provisions made in the clause 12.18 of Part-3 and Part-4 'Fire and Life Safety' of the National Building Code of India.

#### SCHEDULE – I (COMMERCIAL BUILDINGS)

Plot Size (in square yards/Sq. m)	Site Coverage	F.A.R	Setbacks			Height of Building	Parking
			Total	Front	Rear / Side		
			For 70 foot 6 inches (21.5 m) high Building:				
Up to 50/41.82	80%	1:1.50	20%	20%	----	No Restriction	1 ECS for every 60 square yards
Above 50/41.82	75%	1:1.50	25%	15%	10%	subject to Air Safety, Fire	(50 square yards)

Up to 125/104.5 5						Safety requirement Circulation, Fire Preparedness and Equipments of ULBs.	meters) of covered area. Note: Multi Level Mechanical covered Parking will also be permissible subject to fulfillment of structural requirements within the permissible norms.																		
Above 125/104.5 5 Up to 250/209	65%	1:1.75	35%	15%	20%																				
Above 250/209 Up to 500/418.2 1	60%	1:2.00	40%	15%	25%																				
Above 500/418.2 1	50%	1:3.00	50%	20%	30%																				
<p>Note:- In Core City Areas, 100% Site coverage &amp; in other areas 80% Site coverage with FAR 1:1.50 shall be allowed for plots up to 50 square yards.</p> <p>Also, single depth properties up to plot area 125 square yards(In Core City Areas) can be considered for erection / re – erection of single depth shop / showroom with 100% coverage and F.A.R. 1:1.50 by the Authority.</p>			<p><b><u>For Buildings above 70 foot 6 inches height</u></b> – Front setback shall be as per above table or as per the following table, whichever is more and the rear / side setbacks shall be as per the following table:</p> <table border="1"> <thead> <tr> <th>Height (m)</th> <th>Setbacks (m)</th> </tr> </thead> <tbody> <tr><td>21</td><td>7</td></tr> <tr><td>24</td><td>8</td></tr> <tr><td>27</td><td>9</td></tr> <tr><td>30</td><td>10</td></tr> <tr><td>35</td><td>11</td></tr> <tr><td>40</td><td>12</td></tr> <tr><td>45</td><td>13</td></tr> <tr><td>50</td><td>14</td></tr> <tr><td>55 &amp; above</td><td>16</td></tr> </tbody> </table> <p><b><u>NOTES:</u></b></p> <p>(i) Up to a height of 24 m with one setback, the open spaces at the ground level shall not be less than 6 m.</p> <p>(ii) For heights between 24 m &amp; 37.5 m with one setback, the open spaces at the ground level, shall not be less than 9 m</p> <p>(iii) For heights above 37.5 m with two setbacks, the open spaces at the ground level shall not be less than 12 m.</p> <p>(iv) The deficiency in the open spaces shall be made good to satisfy the above table through the setbacks at the upper levels; these setbacks shall not be accessible from individual flats / rooms at these levels</p>			Height (m)	Setbacks (m)	21	7	24	8	27	9	30	10	35	11	40	12	45	13	50	14	55 & above	16
Height (m)	Setbacks (m)																								
21	7																								
24	8																								
27	9																								
30	10																								
35	11																								
40	12																								
45	13																								
50	14																								
55 & above	16																								

*NOTE: Parking on stilts shall not be counted towards F.A.R. and Maximum permissible height shall be 8'-6"/2.62 M.*

#### 4.8 MINIPLEX:-

S. No	Parameter	Permissible Limits	
i.	Minimum Approach Road	Plot size 2000 sqm	60'-0"
ii.	Minimum Frontage	24 m	
	Maximum Ground Coverage	40 % of Net Plot Area	
iii.	Maximum Floor Area Ratio	Minimum approach road width 18 m (60'-0")	1:2.0
		Minimum approach road width 24 m (80'-0")	1:3.0
iv.	Maximum Height of Building	No Restriction subject to clearance from Airport Authority and fulfillment of norms such as setbacks around building, ground coverage, F.A.R., structural safety and fire safety norms.	
v.	Parking	3.0 ECS per 100 square meters of the covered area in respect of Miniplex or cinema component and 2 ECS per 100 square meters of the balance covered area.	

#### Notes

- The F.A.R above 1:1.75 , will be chargeable on pro-rata basis.*
- In case any provision not specified /covered under these building rules then the physical and development norms as prescribed in the Miniplex policy or cinema act 1952 or as amended from time to time shall be applicable.*

#### 4.9 MULTIPLEX:-

4.9.1 The Multiplex building shall be in accordance with the **Schedule-V** & the relevant provisions contained in other chapters.

4.9.2 Multiplex building shall also be allowed on cinema sites approved under “The Punjab Cinemas (Regulation) Act, 1952.”

4.9.3 PROVISIONS OF BASEMENT: The construction of basement shall be permissible for requisite parking and that area of the basement shall be used for parking purposes only except the area used for Air-conditioning plant and Lift room, which in no case shall exceed 10% of the area.

4.9.4 The provisions contained in “The persons with Disability Equal Opportunities protection of Rights & Full participation Act, 1996”, so far as this relates to planning, designing and construction of public buildings, guidelines and space, standards for Barrier Free Environment for Disabled & Elderly persons proposed under this Act by CPWD, Ministry of Urban Affairs & Employment India-1998 or as revised from time to time shall also be compiled with.

**SCHEDULE – V (MULTIPLEX)**

Minimum Plot area	4840 square yards. <b>In case of existing cinema sites, plot area will be as per approved cinema site.</b>		
Minimum road Width	80 foot <b>In case of existing cinema sites, road width will be as per existing road width on which the cinema abuts.</b>		
Permissible Site Coverage	40%		
Permissible FAR	1:1.75 <b>In case of existing cinema sites, if road width is less than 80 foot, then FAR will be as follows:-</b>		
	<b>ROAD WIDTH</b>		<b>FAR</b>
	<b>60 foot or more but less than 80 foot/24.69 M</b>		<b>1:1.50</b>
	<b>35 foot or more but less than 60 foot/18.51 M</b>		<b>1:1.25</b>
Height	No Restriction subject to Air Safety Regulations, Traffic Circulation, Fire safety Norms. Fire preparedness and Equipments of ULBs.		
Minimum Cinemas	2 <b>In case of existing cinemas / cinema sites, minimum 1 cinema will be required to be provided.</b>		
Minimum number of seats	150 for each cinema		
Parking Norms	<p>i) 10% of the open area shall be used for landscaping and remaining for parking as per norms.</p> <p>ii) Parking area shall be 2 ECS (Equivalent car space) for every 80 square yards/66.91 sq.m of built up area of the cinema component and 2 ECS for every 120 square yards/100 sq.m of built up area of commercial/other components.</p> <p>iii) 1 ECS (equivalent car space) shall be equivalent to 26.5 square yards/22.16 sq.m for open parking, 32.5 square yards/27.18 sq.m for parking under stilts and 38.5 square yards/32.20 sq.m for parking in the basement.</p> <p>iv) In case, required parking area works out to be less than the area available at all levels then the covered area should be scaled down to the level of available parking as per norms mentioned above at (ii) and (iii).</p>		
Minimum setbacks	Front setback shall be 25% of the plot area or as per the following table, whichever is more and the rear & side setbacks shall be minimum 20 feet or as per the following table, whichever is more:		
	Height (m)	Setback (m)	<b>NOTES:</b>  (i) Up to a height of 24 m with one setback, the open spaces at the ground level shall not be less than 6 m.  (ii) For heights between 24 m & 37.5 m with one setback, the open spaces at the ground level, shall not be less than 9 m.  (iii) For heights above 37.5 m with two setbacks, the open spaces at the ground level shall not be less than 12 m.  (iv) The deficiency in the open spaces shall be made good to satisfy the above table through the setbacks at the upper levels; these setbacks shall not be accessible from individual flats / rooms at these levels.
	10	3	
	15	5	
	18	6	
	21	7	
	24	8	
	27	9	
	30	10	
	35	11	
	40	12	
	45	13	

#### 4.10 HOTEL OR MOTEL:-

Parameter	Permissible Limits	
Minimum Approach Road	Plot size from 1000 sq.yd/ 836.43 sq.m upto 2000 sq.yd/1672.86 Sq.m	12m (40'-0")
	Plot size above 2000 sq.yd/1672.89 Sq.m upto 4000 sq.yd/3345.72 Sq.m	18m (60'-0")
	Plot size above 4000 sq.yd/3345.72 Sq.m	24m (80'-0")
	Note: In rural areas outside Master Plans, the Hotel activity upto one acre area shall be permissible on link roads having minimum width of 22'-0" (4 karam) / 6.79 M. However, the developer has to widen the road to minimum 40 feet/12.34 M or as specified in the Master Plan whichever is more, by leaving proportionate area from his own land.	
Maximum Ground Coverage	40% of Net Plot Area	
Maximum Floor Area Ratio	Plot size from 1000 sq.yd/ 836.43 sq.m upto 2000 sq.yd/1672.86 Sq.m	1:2.00
	Plot size above 2000 sq.yd/1672.89 Sq.m upto 4000 sq.yd/3345.72 Sq.m	1:2.50
	Plot size above 4000 sq.yd/3345.72 Sq.m	1:3.00
Maximum Height of Building	No Restriction subject to clearance from Airport Authority and fulfillment of norms such as setbacks around building, ground coverage, F.A.R., structural safety and fire safety norms.	
Parking	2 ECS /100 square meters of the total covered area.	

Note:- 5% of the FAR can be used for commercial purpose within the Hotel building.

#### 4.11 CLUB / COMMUNITY CENTRE:-

Parameter	Permissible Limits	
Minimum Approach Road	Plot size from 1000 sq.m upto 2000 sq.m	18m (60'-0")
	Plot size above 2000 sq.m	24m (80'-0")
Maximum Ground Coverage	40% of Net Plot Area	
Maximum Floor Area Ratio	1:1	
Maximum Height of Building	No Restriction subject to clearance from Airport Authority and fulfillment of norms such as setbacks around building, ground coverage, F.A.R., structural safety and fire safety norms.	
Parking	2 ECS /100 square meters of the total covered area.	

Note:- Community Centre shall only have banquet hall, kitchen, library, office and reading room, except these if any other activity proposed than it shall be considered as club.

#### 4.12 GUEST HOUSE / LODGING & BOARDING / SERVICE APARTMENTS:-

Parameter	Permissible Limits	
Minimum Site area	500 sq.mt.	
Minimum Approach Road	Plot size from 1000 sq.m upto 2000 sq.m	12m (40'-0")
	Plot size above 2000 sq.m	18m (60'-0")
Maximum Ground Coverage	40% of Net Plot Area	
Maximum Floor Area Ratio	Plot size from 1000 sq.m upto 2000 sq.m	1:1.0
	Plot size above 2000 sq.m	1:2.0
Parking	2 ECS /100 square meters of the total covered area.	

**4.13 INDUSTRIAL:** Coverage, F.A.R., Height etc.

- 4.14(a) Set back lines, ground coverage and height of industrial buildings in the government approved schemes/industrial focal points transferred to the local bodies shall be as per approved zoning plans/schedule of clauses.
- 4.14(b) In the non-scheme industrial land use zones ground coverage, F.A.R. and height shall be regulated as following and other components shall be regulated as per the provisions of the factories Act, 1948 and the rules made there under.

*NOTE: Residential components in the industrial plot / premises shall not exceed 15% of the area of the site and shall be within the maximum permissible covered area.*

**4.14 INDUSTRIAL PLOTTED:-**

Parameter	Permissible Limits	
Minimum Approach Road	12m (40'-0")	
Minimum Plot Size	300 Sq.mt.	
Maximum Ground Coverage	65 % of the plot area	
Maximum Floor Area Ratio	1:2.00, 1:2.50 in case of Textile and Knitwear	
Maximum Height of Building	15m	
	Note: Excluding mummy, parapet, lift room and architectural features	
Setbacks around buildings	Front & Rear setback	Optional As per Clause 4.13(ii)
	Side setback , if left at any point of the building,	Optional As per Clause 4.13(ii)
Parking	General Industry	1 ECS per 100 sq.mt.t. of the total covered area.
	Informational Technology	2 ECS per 100 sq.mt.t. of the total covered area.

**4.15 GENERAL INDUSTRY FLATTED:-**

Parameter	Permissible Limits
Minimum Site area	2000 sq.mt.
Minimum Approach Road	16m (60'-0")
Maximum Ground Coverage	40 %
Maximum Floor Area Ratio	1:2.00, 1:2.50 in case of Textile and Knitwear
Parking	2.0 ECS /100 square meters of the total covered area.

**4.16 INFORMATION TECHNOLOGY FLATTED:-**

Parameter	Permissible Limits
Minimum Site area	As per I.T. policy
Minimum Approach Road	18m (60'-0")
Maximum Ground Coverage	40%
Maximum Floor Area Ratio	1:2.50
Parking	2 ECS /100 square meters of the total covered area.

**Other controls for Industrial Buildings**

For industrial plots more than 1000 sq.mt., 10% of the total plot area shall be reserved as amenity open space. When such amenity open space exceeds 1500 sq.m, the excess area could be utilized for construction of buildings for banks, canteen, welfare centre and such other common purposes.

**4.17 WHOLESALE TRADE/ WARE HOUSE/ INTEGRATED FREIGHT COMPLEX (STANDALONE)**

Parameter	Permissible Limits
Minimum Site area	1 Ha.
Minimum Approach Road	24 m (80'-0")
Maximum Ground Coverage	40% of Net Plot Area
Maximum Floor Area Ratio	1:1.50
Maximum Height of Building	No Restriction subject to clearance from Airport Authority and fulfillment of norms such as setbacks around building, ground coverage, F.A.R., structural safety and fire safety norms.
Parking	2 ECS /100 square meters of the total covered area.

Notes :-

- The minimum parking area shall be 2 ECS for every 100 sq m/ 120 sqyds constructed area .
- Relevant provisions of the Master Plan of the town shall be adhered.

**4.18 PUBLIC/ INSTITUTIONAL AND EDUCATIONAL BUILDINGS:-**

- (a) In General Public/Semi-public buildings, the maximum ground coverage shall not exceed 30% of the total area of the site with maximum FAR of 1:2.00.
- (b) In Government offices integrated office complex buildings, the maximum ground coverage shall not exceed 30% of the total area of the site with maximum FAR of 1:2.00.
- (c) In Educational (Nursery School) buildings, the maximum ground coverage shall not exceed 33.33% of the total area of the site with maximum FAR of 1:1.00.
- (d) In Educational (Primary School) buildings, the maximum ground coverage shall not exceed 33% of the total area of the site with maximum FAR of 1:1.20.
- (e) In Educational (Higher Secondary School) buildings, the maximum ground coverage shall not exceed 35% of the total area of the site with maximum FAR of 1:1.50.
- (f) In Educational (College) buildings, the maximum ground coverage shall not exceed 35% of the total area of the site with maximum FAR of 1:1.50.
- (g) Education and Research Centre (large campus i.e. above 8 Ha./ 19.75 acres), the campus will be divided into three parts with regulations as under:-

Academic, including administration	45% of the total land area with Ground coverage up to 30%, FAR up to 1:1.20.
Residential	25% of the total land area. Housing (Plotted or Group Housing) shall be regulated by the applicable planning norms and the bye-laws.
Sports and Cultural Activities	15% of the total land area with Ground coverage up to 10% and FAR up to 1:0.15.
Parks and landscape	15% of the total land area.

- (h) For area per school, school building area, play field area and parking area etc., the provisions made under clause 5.5.1 of the National Building Code of India (Part-3) may be referred. However, the parking area @ 2 ECS for every 120 sq.yds. floor area shall be provided in case of Public/Institutional and Educational buildings.
- (i) No Height Restriction subject to Air Safety, Fire Safety requirement Circulation, Fire Preparedness and Equipments of ULBs.
- (j) The minimum road width required in case of (a) to (d) above, shall be 30 feet or as per master plan(whichever is more).

- (k) The minimum road width required in case of (e) to (g) above, shall be 60 feet or as per master plan(whichever is more).
- (l) Ground coverage, FAR and height restrictions as applicable to institutional and other public building sites located in approved schemes of ITs, Urban Estates and industrial focal points etc. transferred to the Local Bodies shall be in accordance with the approved Zoning Plans & Schedule of Clauses.
- (m) In case of institutional and other public buildings located in Town Planning and Building Schemes, Ground coverage, FAR and height etc. shall be in accordance with the schedule of clauses of the sanctioned scheme.

*NOTE:- Residential component, as subsequent use in the institutional and other public buildings, shall not exceed 10% of the area of the site and shall be within the maximum permissible covered area.*

#### **4.19 Petrol Pumps:**

The following regulations are recommended for locating the petrol pump cum service stations:-

- i) Minimum distance from the road intersections:
  - a) For minor roads having less than 30 m./98'-6" R/W(Right of Way) = 50 m./164'
  - b) For major roads having R/W (Right of Way) 30 m./ 98'-6" or more = 100 m./328'
- ii) The minimum distance of the property line of pump from the center line of the road should not be less than 15 meters/49'-3" on roads having less than 30 m/98'-6" R/W. In case of roads having 30 m./ 98'-6" or more R/W, the R/W of the road should be protected.
- iii) Plot Size and Regulations :
  - a) Only filling stations 30 m. x 17 m./ 98'-6" x 55'-9" and small size 18 m. x 15 m./59' x 49'-3" (for two and three wheelers), with Ground coverage up to 10%, FAR up to 1:0.10 and Height up to 6 m/ say 20 foot. The canopy area shall be equivalent to permissible ground coverage within setback line. Front Setback, minimum 3 m/ say 10 foot.
  - b) Filling-cum-service station minimum size 36 m. x 30 m./ 118' x 98'-6" and maximum 45 m. x 33 m./147'- 6" x 108'-3", with Ground coverage up to 20%, FAR up to 1:0.20 and Height up to 6 m/ say 20 foot. The canopy area shall be equivalent to permissible ground coverage within setback line. Front Setback, minimum 6 m/ say 20 foot.
  - c) Frontage of the plot should not be less than 30 m./ 98'-6".
  - d) Longer side of the plot should be the frontage, if it is abutting on a public road.
  - e) Compressed Natural Gas (CNG) Mother Station size 36 m. x 30 m./ 118' x 98'-6" ,with ground coverage up to 20% and height up to 4.5 m/ say 15 foot (single storey). The building component shall include Control room/office/Dispensing room, store, pantry and W.C.
- iv) New Petrol Pump shall not be located on roads having less than 30 m./ 98'-6" R/W.
- v) Other Regulations:
  - i) Shall be approved by Explosives/Fire Dept.
  - ii) Ground coverage will exclude canopy area.
  - iii) Mezzanine if provided will be counted in FAR
  - iv) Wherever the plot is more than 45 m. x 33 m./147'- 6" x 108'-3" development norms shall be restricted to as applicable to the size i.e. 45 m. x 33 m./147'- 6" x 108'-3".

#### **4.20 SOCIO CULTURAL FACILITIES-MARRIAGE PALACE:**

As per the Notification no.12/8/2012-5HgII/4610 dated 11.08.2018 issued by the Housing and Urban Development department Punjab.

**4.21 NURSING HOME / HOSPITALS:-**

- 4.21.1 The Nursing home/hospital building shall be in accordance with the schedule-IV & the relevant provisions contained in other chapters.
- 4.21.2 Provisions of Basement: The double basement may be allowed, if all other conditions for structural stability, fire safety, light and ventilation are fulfilled and one of the basements shall be used exclusively for parking.
- 4.21.3 PROVISION OF LIFT AND RAMPS: Every building having more than fifteen meters height shall be provided with a minimum of one lift and total number of such lifts shall be calculated on the basis of one lift for every 900 square meter floor area above 4 storey.
  - i. The size of lift shall not be less than 5’x8”
  - ii. Ramp: The width of the ramp for movement of patients and public shall not be less than 4’-6” and gradient shall not be less than 1:8.
- 4.21.4 Water storage Tank: Every such building shall have a water storage capacity of 200 liters per bed with an additional storage of 100 liters per bed where laundry facility is provided.
- 4.21.5 Alternate Power Supply facility: Every such building shall have a provision for an alternate power supply and proper area will be earmarked for installation of a silent generator or any other mode at such place that it will not cause any inconvenience to the patients, public in general and the neighborhood.
- 4.21.6 The provisions contained in “The persons with Disability Equal Opportunities protection of Rights & Full participation Act, 1996”, so far as this relates to planning, designing and construction of public buildings, guidelines and space standards for Barrier Free Environment for Disabled & Elderly persons proposed under this Act by CPWD, Ministry of Urban Affairs & Employment India-1998 or as revised from time to time shall also be compiled with.
- 4.21.7 Adequate arrangements for disposal of hospital waste have to be made as per the Bio Medical Waste (Management and Handling) Rules, 1998 as amended from time to time along with the instructions/guidelines issued by the Punjab Pollution Control Board from time to time.

**Schedule – IV (NURSING HOME/HOSPITAL)**

<b>Min. plot size</b>	<b>Minimum width of the road in front</b>	<b>Height</b>	<b>Site Coverage</b>	<b>F.A.R.</b>	<b>Provision of parking</b>	<b>Minimum front set back.</b>
250 sq.yds /209.10 Sq.m to 1000 sq. yds / 836.43 sq.m	30’-0”/ 3.25 m	As per Schedule-I	50%	1:1.50	i) Parking area is to be provided @ 1.00 ECS for every 80 Sq.yds/ 66.91 sq.m of built up/covered area on all floors. ii) 1 ECS (equivalent car space) shall be equivalent to 26.5 Sq.yds/22.16 sq.m for open parking, 32.5 Sq.yds/ 27.18 sq.m for parking under stilts and 38.5 Sq.yds/32.20 sq.m for parking in the basement. iii) In case, required parking area works out to be less than the area available at all levels then the covered area should be scaled down to the level of	25% of the site.
Above 1000 Sq. Yds/ 836.43 sq.m. to 4000 sq. Yds/ 3345.72 sq.m	60’-0”/ 18.51 m		40%	1:1.25		

					available parking as per norms mentioned at (i) and (ii) above.	
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**4.22 HEIGHT OF BUILDINGS AND SET BACK:**

- i) The height of buildings for residential, group housing, commercial, industrial, institutional and other public purposes shall be regulated as per the permissible height and F.A.R. restrictions indicated for such like buildings in the bye-laws besides the Air funnel height restrictions applicable in the area, if any.
- ii) The width of front set back shall be regulated as per provisions indicated in respect of residential, commercial and industrial buildings and also in accordance with the provisions of ground coverage and F.A.R. restrictions in respect of group housing, institutional and other public buildings. The side set back shall be optional. Where left, it shall not be less than 2 meters or 1/6<sup>th</sup> of the height of the building whichever is more. The width of the rear set back, if left at any point of building, it shall not be less than 3 meters or 1/5<sup>th</sup> of the height of the building whichever is more.
- iii) In regard to i & ii above, the provisions made in the Part 3 and 4 of the National Building Code of India may also be referred, if the provisions are not clear in the bye-laws.

**4.23 PROVISION OF BASEMENT IN BUILDINGS:**

- (i) Basement shall be the storey that is next below or immediate below the ground storey or which may be in any part of the plot within building envelope line and up to maximum coverage not more than coverage on ground floor. The minimum height of the basement for habitable purposes shall not be less than 9'-0" from the floor to the ceiling of the basement and in each part 8' clear height in case of beam structure or frame structure or otherwise and minimum height of the basement for parking purposes shall not be less than 10' from the floor to the ceiling of the basement and in each part 8'-6" clear height in case of beam or frame structure.
- (ii) The roof level of the basement shall not be less than 3'-6" from the adjoining average ground level for adequate light and ventilation, if used for purpose listed at 4.12(iv).
- (iii) Single basement is allowed in all residential, commercial, institutional, industrial and group housing plots. However, on plots having area more than 750 sq. yards more than one storey basement may be allowed, if all other conditions for structural stability are fulfilled and it shall be exclusively used for parking.
- (iv) Basement may be used for commercial purpose, Banquet Hall etc. if it is air conditioned. It shall have minimum either two stair cases for entry and exit or two approach ramps or one stair case and one ramp and total FAR not exceeding more than 1:2.00. In case in commercial buildings FAR is exceeded more than 1:2.00 then single basement shall be compulsory and shall be used for parking purposes only in addition to open space provided for parking on ground level.

- (v) However 10 % of the basement area would be increased to a depth of 14'-0" for the purpose of installation of electric generator or air-conditioning plant or providing a room for lift to the basement storey.
- (vi) Applicant/Building Designer and Supervisor shall submit the certificate regarding its structural safety in relation to underground water table/spring level, etc.
- (vii) Adequate arrangement shall be made so that surface drainage does not enter the basement.
- (viii) Applicant / owner of the building shall install suitable pumps for pumping the waste water into the sewer in place of directly connecting it to the sewer to avoid any risk of the sewerage or sludge heading back into the basement at any time.
- (ix) Basement for storage in residential buildings and parking / services in any building shall not be taken into account for F.A.R.
- (x) Indemnity bond for basement as per schedule III shall be given by the applicant along with notice of building application to indemnify the local authority in case of any loss or damage caused to the adjoining properties on account of construction of basement either at the time of digging of its foundations or during the course of its construction or even thereafter and also against any claim of any concern thereto.
- (xi) In case on the side of the site there is single storey building then 5'-0" side setback is required from the adjoining property.
- (xii) If on the side of the site there is double storey building then 7'-6" side setback is required, and
- (xiii) If on the side of the site there is more than two storey building then 10'-0" side setback is required.
- (xiv) If the applicant / owner does not leave side setback according to the requirements as above and in case of adjoining vacant properties, he/she shall produce NOC from the owners of adjoining properties.
- (xv) The permissible covered area for basement will be the same as the permissible coverage on ground. However, permissible coverage can be increased in the basement to create parking space on the following conditions:
  - (a) The roof level of such part of the basement shall not be raised above the surrounding ground level.
  - (b) Clear ceiling height of such part of the basement shall not be less than 7'-0".
  - (c) Mechanical arrangement shall be made for exhaust.
  - (d) Sufficient additional arrangements shall be made for fire safety to the satisfaction of fire officer.
- (xvi) Ramp in basement for parking purposes shall be of a minimum width of 9'-0" with gradient of 1 in 7. For better acceptability of basement parking, the ramps should be located in the front. The ramp for Basement parking can be provided in the front setback area provided the ramp starts after leaving 16'- 6" from the plot boundary and the same shall form part of parking area calculations.
- (xvii) Parking areas including basement and covered parking shall be exclusive public parking areas maintained by the builder /promoter up to the satisfaction of local authority.

*NOTE:- In case of double basement side space requirement shall be double as detailed in xi, xii and xiii above.*

#### 4.24 Farm houses

##### Development control for farm house

S.n	Size of	Maximum FAR	Maximum Height
1	Above 1.0 Ha and upto 2.0 Ha	1.00 (including mezzanine floor)	Single storeyed maximum height 6 m.
2	2.0 Ha and above	1.50 (including floor)	Single storeyed maximum height 6 m.

##### **Other Controls:**

- i) *Setback in dwelling house should be 15 m. away from any boundary line of the property.*
- ii) *Where a property abuts an urban road, the dwelling house building should be setback from the centre line of that road by 60 m. Where the property abuts a village road, the building setback from the centre line of that road should be 30 m.*
- iii) *No dwelling units should be built within 400 m. of the right of way of any National Highway.*

#### 4.25 Creche / Day Care facilities

As per factories Act, 1948 a Creche/Day care facility has to be provided for any organization/establishment employing more than 15 women for their kids upto the age of 5.

- a) The height of the rooms shall be not less than 3.6 meter from the floor to soffit and there shall not be less than 1.86 sq.m of floor area / child to be accommodated and maintaining adequate ventilation by the circulation of fresh air.
- b) There is a minimum of one toilet and one wash hand basin for every 10 children over the age of two years.
- c) The minimum staffing ratios for care shall be 1:4 children
- d) Monitoring- There is a necessity of minimum two supervisor on continuous duty.

**Chapter Note:** *For projects proposed within the Prohibited and Regulated areas as defined by AMASR Act 2010, the Development regulations of Height, FAR, Coverage and any other controls stipulated in Chapter-3 and Chapter-5 shall be superseded by site specific Heritage Bye-Laws prepared and notified by the Competent Authority (NMA) under the AMASR Act. NOC shall have to be obtained as per the Rules framed under the said Act by submission of required documents as may be necessary vide rules, including “Heritage Impact Assessment” report, if so necessitated by the NMA.*

**CHAPTER- V**  
**GENERAL BUILDING REQUIREMENTS AND SERVICES**

**5.1 General**

This part sets out the standard space requirements of various parts of a building (for all types of buildings – low/ high rise).

**Occupant Load**

S.No.	Types of Occupancy	Occupant load per 100 sqmt of Plinth or covered area
1.	Residential	8.0
2.	Educational	25.0
3.	Institutional	6.60
4.	Assembly with fixed or loose seats and dance floor without seating facilities including dining rooms	166.6 66.6
5.	Mercantile street floor and sales basement upper sale floor	33.3 16.6
6.	Business and industrial	10.0
7.	Storage	3.3
8.	Hazardous	10.0

- \* *The occupant load in dormitory portions of homes for the aged, orphanages or mental hospitals etc. where sleeping accommodation is provided shall be calculated at not less than 13.3 persons per 100 sq.m.*
- \*\* *The plinth or covered area shall include, in addition to the main assembly room or space, any occupied connecting room or space in the same storey or in the storeys above or below where entrance is common to such rooms and space and the area available for use by the occupants of the assembly place. No deduction shall be made in the plinth/covered area for corridors, closets and other sub-divisions; that area shall include all space serving the particular assembly occupancy.*

**5.2 Requirements for Parts of Buildings**

**5.2.1 Plinth**

**5.2.1.1 Main Buildings**

The plinth or any part of a building or outhouse shall be so located with respect to the surrounding ground level that adequate drainage of the site is assured. The height of the plinth shall be not less than 450 mm from the surrounding ground level.

**5.2.1.2**

Interior Courtyards and Covered Parking Every interior courtyard shall be raised at least 150 mm above the determining ground level and shall be satisfactorily drained.

**5.3 Habitable Rooms**

**5.3.1 Height**

The height of all rooms for human habitation shall not be less than 2.75 m measured from the surface of the floor to the lowest point of the ceiling (bottom of slab) provided that the minimum clear headway under any beam shall not be less than 2.4 m. In the case of pitched roof, the average height of rooms shall not be less than 2.75 m. The minimum clear head room under a beam, folded plates or eaves shall be 2.4 m. In the case of air-conditioned rooms, a

height of not less than 2.4 m measured from the surface of the floor to the lowest point of air-conditioning duct or the false ceiling shall be provided.

### 5.3.1.1

The requirements of clause 5.3.1 apply to residential, commercial etc. buildings. For educational and industrial buildings, the following minimum requirements apply:

#### Minimum height requirement for educational and industrial buildings

S.No.	Types of Building	Ceiling height
1	Education Buildings	Ceiling height 3.6 m for all regions.
2	Industrial Buildings	Ceiling height 3.6 m, except when air-conditioned, 3m (Factory Act 1948 and Rules therein shall govern such heights, where applicable).

### 5.3.1.2 Size

The area of habitable room shall not be less than 9.5 m<sup>2</sup>, where there is only one room with a minimum width of 2.4 m. Where there are two rooms, one of these shall not be less than 9.5 m<sup>2</sup> and the other not less than 7.5 m<sup>2</sup>, with a minimum width of 2.1 m.

## 5.4 Kitchen

### 5.4.1 Height

The height of a kitchen measured from the surface of the floor to the lowest point in the ceiling (bottom of slab) shall not be less than 2.75 m, except for the portion to accommodate floor trap of the upper floor.

### 5.4.2 Size

The area of a kitchen where separate dining area is provided, shall be not less than 5.0 m<sup>2</sup> with a minimum width of 1.8 m. Where there is a separate store, the area of the kitchen may be reduced to 4.5 m<sup>2</sup>. A kitchen, which is intended for use as a dining area also, shall have a floor area of not less than 7.5 m<sup>2</sup> with a minimum width of 2.1 m.

### 5.4.3 Other Requirements

Every room to be used as kitchen shall have:

- a) unless separately provided in a pantry, means for the washing of kitchen utensils which shall lead directly or through a sink to a grated and trapped connection to the waste pipe;
- b) an impermeable floor;
- c) a flue, if found necessary; and
- d) a window or ventilator or opening of size not less than as specified in clause 4.31.1 subject to increase in area of opening in accordance with Note 3.

## 5.5 Bathrooms and Water-Closets

### 5.5.1 Height

The height of a bathroom or water-closet measured from the surface of the floor to the lowest point in the ceiling (bottom of slab) shall not be less than 2.1 m.

### 5.5.2 Size

The area of a bathroom shall not be less than 1.8 m<sup>2</sup> with a minimum width of 1.2 m. The floor area of water-closet shall be 1.1 m<sup>2</sup> with a minimum width of 0.9 m. If bath and water-closet are combined, its floor area shall not be less than 2.8 m<sup>2</sup> with a minimum width of 1.2 m.

### 5.5.3 Other Requirements

Every bathroom or water-closet shall:

- a) be so situated that at least one of its walls shall open to external air except hotels where mechanical means of ventilation are provided.
- b) not be directly over or under any room other than another water-closet, washing place, bath or terrace, unless it has a water-tight floor;
- c) have the platform or seat made of water-tight non-absorbent material;
- d) be enclosed by walls or partitions and the surface of every such wall or partition shall be finished with a smooth impervious material to a height of not less than 1 m above the floor of such a room;
- e) be provided with an impervious floor covering, sloping towards the drain with a suitable grade and not towards VERANDAH or any other room; and
- f) have a window or ventilator, opening to a shaft or open space, of area not less than 0.3 m<sup>2</sup> with side not less than 0.3 m.

### 5.5.4

No room containing water-closets shall be used for any purpose except as a lavatory and no such room shall open directly into any kitchen or cooking space by a door, window or other opening. Every room containing water-closet shall have a door completely closing the entrance to it.

## 5.6 Ledge or Tand/Loft

### 5.6.1 Height

The minimum head-room of ledge or *TAND*/loft shall be 2.2 m. The maximum height of loft shall be 1.5 m.

### 5.6.2 Size

A ledge or *TAND*/loft in a habitable room shall not cover more than 25 percent of the area of the floor on which it is constructed and shall not interfere with the ventilation of the room under any circumstances.

## 5.7 Mezzanine Floor

### 5.7.1 Height

It shall have a minimum height of 2.2 m.

### 5.7.2 Size

The minimum size of the mezzanine floor, if it is to be used as a living room, shall not be less than 9.5 m<sup>2</sup>. The aggregate area of such mezzanine floor in a building shall in no case exceed onethird the plinth area of the building.

### 5.7.3 Other Requirements

A mezzanine floor may be permitted over a room or a compartment provided:

- a) It conform to the standard of living rooms as regards lighting and ventilation in case the size of mezzanine floor is 9.5 m<sup>2</sup> or more ;
- b) It is so constructed as not to interfere under any circumstances with the ventilation of the space over and under it;
- c) Such mezzanine floor is not sub-divided into smaller compartments;
- d) Such mezzanine floor or any part of it shall not be used as a kitchen; and
- e) In no case shall a mezzanine floor be closed so as to make it liable to be converted into unventilated compartments.

## 5.8 Store Room

### 5.8.1 Height

The height of a store room shall be not less than 2.2 m.

### 5.8.2 Size

The size of a store room, where provided in a residential building, shall be not less than 3 m<sup>2</sup>.

## 5.9 Chimneys

The chimneys shall be built at least 0.9 m above flat roofs, provided the top of the chimneys is not below the top of the adjacent parapet wall. In the case of sloping roofs, the chimney top shall not be less than 0.6 m above the ridge of the roof in which the chimney penetrates.

## 5.10 Parapet

Parapet walls and handrails provided on the edges of roof terraces, balcony, verandah, etc shall not be less than 1.0 m and not more than 1.2 m in height from the finished floor level.

### *Note:*

- i. The above shall not apply where roof terrace is not accessible by a staircase.*
- ii. However on terrace floor in the portion where installations like DG Set, Water Tank and other, screening parapet of a suitable height may be constructed to hide such equipment's etc and there is no need to have uniformly increased the height of the parapet.*

## 5.11 Cabin

The size of cabins shall not be less than 3.0 m<sup>2</sup> with a minimum width of 1.0 m. The clear passages within the divided space of any floor shall not be less than 0.75 m and the distance from the farthest space in a cabin to any exit shall not be more than 18.5 m. In case the sub-divided cabin does not derive direct lighting and ventilation from any open spaces/mechanical means, the maximum height of the cabin shall be 2.2 m.

## 5.12 Boundary Wall

The requirements of the boundary wall shall be as follows:

- a) Except with the special permission of the Municipal Corporation/Council/Nagar panchayat, the maximum height of the compound wall shall be 1.5 m above the centre line of the front street. Compound wall up to 2.4 m height may be permitted if the top 0.9 m is of open type construction of a design to be approved by the Municipal Corporation/Council/Nagar panchayat.
- b) In the case of a corner plot, the height of the boundary wall shall be restricted to 0.75 m for a length of 10 m on the front and side of the inter-sections and the balance height of 0.75 m if required in accordance with (a) may be made up of open type construction (through railings) and of design to be approved by the Municipal Corporation/Council/Nagar panchayat.
- c) However, the provisions of (a) and (b) are not applicable to boundary walls of jails. In industrial buildings, electric sub-stations, transformer stations, institutional buildings like sanatoria, hospitals, industrial buildings like workshops, factories and educational buildings like schools, colleges, including hostels, and other uses of public utility undertakings and strategically sensitive buildings, a height up to 2.4 m may be permitted by the Municipal Corporation/Council/Nagar panchayat.

## 5.13 Septic Tanks

Where a septic tank is used for sewage disposal, the location, design and construction of septic tank shall conform to requirements of Part 9 'Plumbing Services, Section 1 Water Supply, Drainage and Sanitation (Including Solid Waste Management)' of NBC, 2005.

### 5.13.1 Location of the Septic Tanks and Subsurface Absorption Systems

A sub-soil dispersion system shall not be closer than 18 m from any source of drinking water, such as well, to mitigate the possibility of bacterial pollution of subsurface water. It shall also be as far removed from the nearest habitable building as economically feasible but not closer than 6 m, to avoid damage to the structures.

### **5.13.2 Requirements**

- a) Dimensions of septic tanks - Septic tanks shall have a minimum width of 750 mm, a minimum depth of 1 m below the water level and a minimum liquid capacity of 1m<sup>3</sup>. The length of tanks shall be 2 to 4 times the width;
- b) Septic tanks may be constructed of brickwork, stone masonry, concrete or other suitable materials as approved by the Municipal Corporation/Council/Committee/nagar panchayat;
- c) Under no circumstances shall effluent from a septic tank be allowed into an open channel drain or body of water without adequate treatment;
- d) The minimum nominal diameter of the pipe shall be 100 mm. Further, at junctions of pipes in manholes, direction of flow from a branch connection shall not make an angle exceeding 45° with the direction of flow in the main pipe;
- e) The gradients of land drains, under-drainage as well as the bottom of dispersion trenches and soakways shall be between 1:300 and 1:400;
- f) Every septic tank shall be provided with ventilating pipe of at least 50 mm diameter. The top of the pipe shall be provided with a suitable cage of mosquitoproof wire mesh. The ventilating pipe shall extend to a height which would cause no smell nuisance to any building in the area. Generally, the ventilating pipe may extend to a height of about 2 m, when the septic tank is at least 15 m away from the nearest building and to a height of 2 m above the top of the building when it is located closer than 15 m;
- g) When the disposal of septic tank effluent is to a seepage pit, the seepage pit may be of any suitable shape with the least cross sectional dimension of 0.90 m and not less than 1.00 m in depth below the invert level of the inlet pipe. The pit may be lined with stone, brick or concrete blocks with dry open joints which should be backed with at least 75 mm of clean coarse aggregate. The lining above the inlet level should be finished with mortar. In the case of pits of large dimensions, the top portion may be narrowed to reduce the size of the RCC cover slabs. Where no lining is used, specially near trees, the entire pit should be filled with loose stones. A masonry ring may be constructed at the top of the pit to prevent damage by flooding of the pit by surface runoff. The inlet pipe may be taken down a depth of 0.90 m from the top as an anti-mosquito measure; and
- h) When the disposal of the septic tank effluent is to a dispersion trench, the dispersion trench shall be 0.50 m to 1.00 m deep and 0.30 m to 1.00 m wide excavated to a slight gradient and shall be provided with 150 mm to 250 mm of washed gravel or crushed stones. Open jointed pipes placed inside the trench shall be made of unglazed earthenware clay or concrete and shall have a minimum internal diameter of 75 mm to 100 mm. Each dispersion trench shall not be longer than 30 m and trenches shall not be placed closer than 1.8 m.

### **5.13.3 Office-cum-Letter Box Room**

In the case of multi-storeyed multi-family dwelling apartments constructed by existing and proposed Cooperative Housing Societies or Apartment Owners Associations, limited companies and proposed societies, an office-cum-letter box room of dimension 3.6 m × 3 m shall be provided on the ground floor. In case the number of flats is more than 20, the maximum size of the office-cum-letter box room shall be 20 m<sup>2</sup>.

### **5.13.4 Business Buildings**

Provision shall be made for letter boxes on the entrance floor as per the requirements of the postal department.

### **5.14 Meter Rooms**

For all buildings above 15 m in height and in special occupancies, like educational, assembly, institutional, industrial, storage, hazardous and mixed occupancies with any of the aforesaid occupancies having area more than 500 m<sup>2</sup> on each floor, provision shall be made for an independent and ventilated meter (service) room, as per requirements of electric (service) supply undertakings on the ground floor with direct access from outside for the

purpose of termination of electric supply from the licensee's service and alternative supply cables. The door/doors provided for the service room shall have fire resistance of not less than two hours.

### 5.15 Staircase/Exit Requirements

**5.15.1** The minimum clear width, minimum tread width and maximum riser of staircases for buildings shall be as given as below (*see also* Part 4 'Fire and Life Safety of NBC 2005).

#### 5.15.2 Minimum width

The minimum width of staircase shall be as follows:

A	Residential buildings (dwellings) NOTE ----- For row housing with 2 storeys, the min. width of shall be 0.75	1.0 m
B	Residential hotel buildings	1.5 m
C	Assembly buildings like auditoria, Theatres and cinemas	2.0 m
D	Educational buildings	1.5 m
E	Institutional buildings	2.0 m
F	All other buildings	1.5 m

#### 5.15.3 Minimum tread

The minimum width of tread without nosing shall be 250 mm for residential buildings.

The minimum width of tread for other buildings shall be 300 mm.

#### 5.15.4 Maximum riser

**5.15.4.1** The maximum height of riser shall be 190 mm for residential buildings and 150 mm for other buildings and these shall be limited to 12 per flight.

**5.15.4.2** The minimum head-room in a passage under the landing of a staircase shall be 2.2 m. The minimum clear head-room in any staircase shall be 2.2 m.

#### 5.15.5 Exit Requirements

All aspects of exit requirements for corridors, doors, stair cases, ramps, etc in respect of widths, travel distance shall be as per Part 4 'Fire and Life Safety' of NBC,2005.

### 5.16 Roofs

**5.16.1** The roof of a building shall be so designed and constructed as to effectively drain water by means of sufficient rain-water pipes of adequate size, wherever required, so arranged, jointed and fixed as to ensure that the rain-water is carried away from the building without causing dampness in any part of the walls, roof or foundations of the building or an adjacent building.

**5.16.1.1** The Municipal Corporation/Council/Nagar Panchayat may require rain-water pipes to be connected to a drain or sewer to a covered channel formed beneath the public footpath to connect the rainwater rainwater pipe to the road gutter or in any other approved manner.

**5.16.1.2** Rain-water pipes shall be affixed to the outside of the external walls of the building or in recesses or chases cut or formed in such external walls or in such other manner as may be approved by the Municipal Corporation/Council/Nagar panchayat.

**5.16.1.3** It is desirable to conserve rain water using suitable rain water harvesting techniques including by roof water collection. In this context, reference may be made to Part 9' Plumbing Services, Section 1 Water Supply, Drainage and Sanitation (Including Solid Waste Management)' of NBC, 2005.

### 5.17 Non-residential buildings

The minimum area for office room/shop or any other space to be used as workspace shall not be less than 6.0 sq m. with a minimum width of 2.1 m.

### 5.18 Other general requirements

#### 5.18.1 Swimming Pool

1. Definition: A constructed pool or a tank indoor or outside the building, used for the purpose of swimming, bathing, aquatic sports or games, training, treatment (Therapy) or

recreation, meant exclusively for human being, having a depth of water not less than that 60 cm. and the surface area exceeding 23.25 sq m. both for the use of public or the institution concerned.

“Capacity of Pools in Relation to Bathers”: The maximum number of persons in bathing attire within the pool enclosures of the bathing area shall not exceed one person per 20 sq ft. (1.86 sq m.) of pool i.e. the area of the water surface.

- a. “Hand Rail”: A side handrail extending up above and returning to the horizontal surface of the pool deck curb or coping shall be provided at each side of each ladder.
- b. “Depth Markers”: Depth of water shall be clearly marked at or above the water surface on the vertical pool wall and on the edge of the deck or walk-way next to the pool, at maximum points and at the points of break between the deep and shallow portions and at intermediate increments of depth, spaced at not more than 2.5” (7.62 cm) intervals. Depth markers, contrasting with background shall be on both sides of the pool.
- c. “Lighting and Wiring”: Where submarine lightning is used, not less than 0.5 watts shall be employed per sq. ft. of pool area.
- d. “Area Lightning”: Where submarine lightning is employed, area lightning shall be provided for the deck areas and directed towards the deck areas and away from the pool surface so far as practicable, in a total capacity of not less than 0.6 watt per sq. ft of deck area. Where submarine lighting is not provided and night swimming is not permitted combined pool lightning shall be provided in an amount of not less than 2 watts per sq. ft. of total area. All submarine lightning shall be individually earthed and must be water tight and damp proof.
- e. “Over Head Wiring”: No electrical wiring for electrical or power shall be permitted to pass over within 20 feet of the pool enclosure.
- f. “Shallow Minimum Depth”: Every swimming pool shall have a minimum depth in the shallow area of the main swimming area of not less then 0.9 mt. (3 feet), but not more than 1.07mt. (3'-6”) from the overflow level to the floor
- g. “Shallow Areas”: In a swimming pool with a diving area, the shallow area of the pool shall be defined as the portion between the shallow end and the break point between the shallow area and the diving area. The slope of the floor shall be uniform from the break point between the diving area and the shallow portion to the outside edge of the shallow portion and shall not be greater than 1 in 2 m.
- h. “Vertical Wall Depth”: The pool walls shall be vertical at all points for a depth of not less than 2 ft 6" (0. 76 m.)

#### **5.19 Means of access (including Fire Safety- Ref Chapter)**

**5.19.1** No Building shall be erected as to deprive any other building of its means of access.

**5.19.2** Every person who erects a building shall not at any time erect or cause or permit to erect or re- erect any building, which in any way encroaches upon or diminishes the area set apart as means of access.

**5.19.3** For buildings identified in clause 11.1 the following provisions of means of access shall be applicable.

- a) The width of the main street on which buildings abut shall not be less than 12.0 m. If there are any bends or curves in the approach road, sufficient width shall be permitted at the curve to enable the fire tenders to turn, the turning circle shall be at least of 9.0 m. radius.
- b) The approach to the building and open spaces on its all sides (see Building Bye-Laws 4.8 and 4.9) upto 6.0 m. width and the layout for the same shall be done in consultation with the Chief Fire Officer and the same shall be of hard surface capable of taking the weight of fire tender, weighing upto 22 tones for low rise building and 45 tones for building 15 m., and above in height. The said open space shall be kept free of obstructions and shall be motorable.
- c) Main entrance to the premises shall be of adequate width to allow easy access to the fire tender and in no case it shall measure less than 5 m. The entrance gate shall fold

back against the compound wall of the premises, thus leaving the exterior access way within the plot free for movement of the fire service vehicles. If archway is provided over the main entrance, the height of the archway shall not be of height less than 5.0 m.

- d) In case of basement extending beyond the building line, it shall be capable of taking load of 45 tones for a building of height 15.0 m. and above and 22 tones for building height less than 15.0 m.
- e) The external window shall not be blocked by louvres etc. In such case provisions shall be made so that one can enter the building to be rescued through the window by using hydraulic platform etc.

**5.19.4 Number and size of Exits :**

The requisite number and size of various exits shall be provided, based on the occupants in each room and floor based on the occupant load, capacity of exits, travel distance and height of buildings as per provisions of Section 4.2 to 4.12 & 6.1 to 6.9 of Part 4- Fire and Life Safety, NBC 2005.

At least one primary entrance to each building shall be usable by individuals in wheelchairs and shall be indicated by a sign At least one entrance usable by individuals in wheelchairs shall be on a level that would make the elevators accessible.

*4 Types of Exits*

- a) *Exits shall be either horizontal or vertical type. An exit may be doorway, corridor and passage to an internal staircase or external staircase, ramp to a verandah and/or terraces that have access to the street or to roof of a building. An exit may also include horizontal exit leading to an adjoining building at the same level.*
- b) *Lifts escalators and revolving doors shall not be considered as exits.*

**5.19.5 Arrangement of Exits**

- a) Exits shall be so located so that the travel distance on the floor shall not exceed 22.50 m. for residential, educational, institutional and hazardous occupancies and 30.0 m. for assembly, business, mercantile, industrial and storage occupancies. Whenever more than one exit is required for a floor of a building they shall be placed as remote from each other as possible. All the exits shall be accessible from the entire floor area at all floor levels.
- b) The travel distance to an exit from the remote point shall not exceed half the distance as stated above except in the case of institutional occupancy in which case it shall not exceed 6.0 m.

**5.19.6 Capacity of Exits**

The capacity of exits (staircase, ramps and doorways) indicating the number of persons could be safety evacuated through a unit exit width of 50 cm shall be as given below:

**Occupants per unit Exit width**

S. No.	Group of Occupancy	Number of occupants		
		Stairways	Ramps	doors
1	Residential	25	50	75
2	Educational	25	50	75
3	Institutional	25	50	75
4	Assembly	40	50	60
5	Business	50	60	75
6	Mercantile	50	60	75
7	Industrial	50	60	75
8	Storage	50	60	75
9	Hazardous	25	30	40

**5.19.7 Minimum Width Provisions for Passageway/Corridors**

The following minimum width provisions shall be made for each passage way/corridor.

- a) Residential buildings, dwelling unit type. 1.00 m.
- b) Residential buildings, e.g., hostels, etc. 1.25 m.
- c) Assembly buildings like auditorium theatres and cinemas. 2.00 m.
- d) All other buildings including hotels. 1.50 m.
- e) Hospital, Nursing Homes, etc. 2.40 m.

#### **5.19.7.1 Ramps**

- a) The ramp to basement and parking floors shall not be less than 7.2m wide for two way traffic and 4 m wide for one way traffic, provided with Gradient of 1:10 for cars and 1:15 for heavy vehicles. At curved portions of the ramp or for circular ramps the slope should not be more than 1:12.
- b) Ramps may also be provided in the setbacks which can be sloped considering unhindered movement of fire engine and in no case the gradient shall be less than 1:10.
- c) All structural design/safety aspects as per latest BIS Codes & NBC, 2005 shall be complied along with consideration of weight of Fire Engine & its maneuverings.
- d) The minimum width of the ramps in hospitals shall be 2.4 m for stretcher and not for vehicular movement
- e) In this case Handrails shall be provided on both sides of the ramp.
- f) Ramps shall lead directly to outside open space at ground level or courtyards or safe place

#### **Ramps with Gradients**

- a. Where ramps with gradients are necessary or desired, they shall conform to the following requirements.
- b. A ramp when provided should not have a slope greater than 1 in 20 or maximum of 1 in 12 for short distance up to 9 000 mm.
- c. A ramp shall have handrails on at least one side, and preferably two sides, that are 900 mm high, measured from the surface of the ramp, that are smooth, and that extend 300 mm beyond the top and bottom of the ramp. Where major traffic is predominantly children, the handrails should be placed 760 mm high.

#### **Notes**

- i. Where handrails are specified to be of heights other than 80 cm, it is recommended that two sets of handrails be installed to serve all people. Where major traffic is predominantly children, particularly physically disabled children, extra care should be exercised in the placement of handrails, in accordance with the nature of the facility and the age group or groups being serviced
- ii. Care should be taken that the extension of the handrails is not in itself a hazard. Extension up to 300 mm may be made on the side of a continuing wall.
- iii. A ramp shall have a surface that is non-slip surface and if length is 3 500 mm, the minimum width shall be 1 500 mm. greatly assists the challenged persons with semi-ambulatory and ambulatory disabilities. Non-slip surfaces are provided by many finishes and materials. The surfaces of the concrete ramps can be made nonskid by brooming the surface or by finishing with an indenting roller.
- iv. A ramp shall have a level platform at the top which is at least 1 800 mm long, if a door swings out onto the platform or toward the ramp. This platform shall extend at least 300 mm beyond each side of the doorway.
- v. Each ramp shall have at least 1 800 mm of straight clearance at the bottom.
- vi. Ramps shall have level platforms at 10 m to 12 m intervals for purposes of rest and safety, and shall have platforms minimum 1.5 m length wherever they turn.
- vii. For visually impaired people, ramps may be colour contrasted with landing.
- viii. To minimize rise to wheelchair users, ramps should be equipped with kerbs approximately 50 mm high at exposed sides.

### **5.19.7.2 Doorways**

- a. Every doorway shall open into an enclosed stairway, a horizontal exit, on a corridor or passageway providing continuous and protected means of egress.
- b. No exit doorways shall be less than 1m in width except assembly and institutional buildings where Doorway shall not be less than 2 m.
- c. Exit doorways shall open outwards, that is away from the room but shall not obstruct the travel along any exit. No door when opened shall reduce the required width of stairway or landing to less than 0.90 m Overhead or sliding door shall not be installed.

**Note:** In the case of buildings where there is a central corridor, the doors of rooms shall open in wards to permit smooth flow of traffic in the corridor<sup>4</sup>

- d. Exit door shall not open immediately upon a flight of stairs. A landing equal to at least, the width of the door shall be provided in the stairway at each doorway. Level of landings shall be the same as that of the floor, which it serves.
- e. Exit doorways shall be openable from the side, which they serve without the use of a key.
- f. Revolving doors shall not to be provided as means of fire exit.
- g. Mirrors shall not be placed in exit ways or exit doors to avoid confusion regarding the direction of exit.

### **5.20 Provision of exterior open spaces and height limitation around the building**

**5.20.1** The open spaces / setbacks covered area, FAR shall be as per Building Bye Laws or NBC, 2005/Master Plan/Zonal Plan requirements as given in the development controls of Master Plan.

**5.20.2** Every room that is intended for human habitation shall abut on an interior or exterior open space or on to a verandah open to such interior or exterior open space.

**5.20.3** In case of High rise the exterior open spaces around a building as in Building Bye Laws No. shall be of green or hard surface capable of taking load of fire engine weighing up to 45 tonnes.

**5.20.4** In case, kitchen and toilets do not abut either interior or exterior open spaces, mechanical ventilation would be accepted.

**5.20.5** Up to 25% of the total setback area can be sunk for light, ventilation and access to basement, provided fire tender movement is not hindered.

### **5.21 Interior Open Space for Light and Ventilation**

**5.21.1** The whole or part of one side of one or more rooms intended for human habitation and not abutting on either the front, rear or side open spaces shall abut on an interior open space whose minimum width in all directions shall be 3.0 m in case of buildings not more than 15 m/ 17.5 m (with stilts) in height, and in case of buildings above 15 m/ 17.5 m (with stilts) it shall have mandatory mechanical ventilation in addition.

#### **5.21.2 Sunken Courtyard:**

Sunken courtyard up to 3mt in depth from the ground level as 'light well' within building envelop shall be permitted for light and ventilation for basement area.

#### **5.21.3 Skylight:**

Skylight in interior open space (courtyard) shall be permitted subject to the fact that it may not act as a covered space on the ground floor and does not violate the maximum/ minimum ground coverage rules.

### **5.22 Joint Open Air Space**

**5.22.1** Every interior or exterior or air space, unless the latter is a street, shall be maintained for the benefit of such building exclusively and shall be entirely within the owner's own premises. If such interior or exterior open air space is intended to be used for the benefit of more than one building belonging to the same owner; then the width of such open air space shall be the one specified for the tallest building as specified in clause 4.10.3 and 4.10.4 abutting on such open air space.

**Table 5.4 Provision of Exterior Open Spaces around the Buildings**

S.No.	Height of the building (m )	exterior open spaces to be left on all sides in m. (front rear and sides in each plot) As per prescribed set backs
1	10	3
2	15	5
3	18	6
4	21	7
5	24	8
6	27	9
7	30	10
8	35	11
9	40	12
10	45	13
11	50	14
12	55 and above	16

*Note: On sides where no habitable rooms face, a minimum space of 9.0 m. shall be left for heights above 27.0 m.*

In case of multi storeyed buildings the exterior open space around a building shall be of hard surface capable to taking load of fire engine weighting upto 45 tonnes.

### **5.23 Provision of Podium for parking and landscaping**

In case the buildings are to be constructed with stilt floor on individual plot for providing parking space and where basement could not be approached for parking, in such cases a podium may be constructed on ground floor in continuation of the stilt floor having access from the front for the parking after leaving minimum 3m setback from the plot line. The terrace of podium may be used for plantation & landscaping. For low rise development, the maximum height permitted is 15mts. However where the stilt floor is to be constructed for parking the height may be increased to 17.5 mtr.

### **5.24 Exemption to Open Spaces/Covered area**

The following exemption to open space shall be permitted.

#### **5.24.1 Projections into Open Spaces**

- a) Every interior or exterior open space shall be kept, free from any erection thereon and shall be open to the sky. Nothing except cornice, chajja or weather shade (not more than 0.75 m. wide) shall overhang or project over the said open spaces so as to reduce the width to less than the minimum required.

**Note:** Such projections shall not be allowed at a height less than 2.20 m. from the corresponding finished floor level

- b) A canopy or canopies each not exceeding 4.50 m. in length and 2.40 m. in width in the form of cantilever or cantilevers, over the main entrance/entrances, providing a minimum clear height of 2.2 m. below the canopy. In single storeyed residential building, only one such canopy shall be permitted for each individual detached block. In more than one storeyed residential building, two canopies shall be permitted over ground floor/higher floor entrances. In buildings of other occupancies, the permissibility of canopy, canopies shall be as decided by the Municipal Corporation/Council/ Nagar Panchayat on its merits.
- c) In case of residential building only, a balcony or balconies at roof level of a width of 1.20 m. overhanging in set-backs within one's own land and courtyards provided the minimum area required shall not be reduced by more than 30% of such open spaces.

- d) The projections (cantilever) of cupboards and shelves shall be permitted and are exempted from covered area calculations in case of residential buildings only. Such projection shall be upto 0.75 m. depth provided.
- i) That no cupboard shall project in the side set back on the ground floor.
- ii) That outer length of cupboard overhanging in the set-backs shall not exceed 2.0 m. per habitable room. In addition to this, cupboard under the above and windows can be provided.

**Note:** Cupboard means a space used for storage of household goods/clothes, having shelves/partitions not more than 1.5 m. apart.

- iii) Only one pergola on each floor shall be permitted in a residential building if constructed in the exterior open spaces or terrace. Such pergola shall not exceed 3.50 sq m. in area on which 40% shall be void and shall have a clear height 2.20 m.

**5.24.1.1** In addition to above, the following shall not be included in covered area for FAR calculations.

- a) Machine room for lift on top floor as required for the lift machine installation .

**Note:** The shaft provided for lift shall be taken for covered area calculations only on one floor.

- b) Rockery, well and well structures, plant nursery, water pool, swimming pool (if uncovered), platform round a tree, tank, fountain, bench, chabutara with open top and / or unenclosed sides by walls, open ramps, compound wall, gate, slide swing door, steps for entrance to the building unenclosed on three sides except for a 0.90 m. high railing/wall, overhead water tank on top of building/open shafts.
- c) A mummy over staircase on top floor.

#### **5.24.2 Height Limit**

The Height and number of storeys shall be related to provisions of FAR as per bye-laws and the provisions of open spaces given in Building Bye-Laws and the following:

- a) The maximum height of building shall not exceed 1.5 times the width of road abutting plus the front open spaces. Subject to Fire Fighting Preparations of Urban Local Body concerned.
- b) If a building abuts on two or more streets of different width, the building shall be deemed to face upon the street that has the greater width and the height of the building shall be regulated by the width of that street. Height shall however, not exceed the maximum height as provided in the Master Plan.
- c) For buildings in the vicinity of the aerodromes the maximum height of such buildings shall be in accordance with regulations of “critical” and “non-critical” zones as identified by the AAI in its Colour-Coded Zoning Maps (CCZM). The application for Building plan approval shall be processed by the Municipal Corporation/Council/ /Nagar Panchayat as per the CCZM for ‘non-critical’ areas.

**Note:** The location of slaughter house/butcher house and other areas for activities like depositing of garbage dumps which would attract high flying birds like eagles/hawks etc. shall not be permitted within a radius of 10 km. from aerodrome reference point.

### 5.24.3 Height Exemptions

The following appurtenant structures shall not be included in the height of building covered under Building Bye-Laws except where prohibited by Defense Authority/AAI:-

Roof tanks and their supports not exceeding 1.0 m. in height, Ventilating, air conditioning and lift rooms and similar service equipments, Stair covered with Mumty not exceeding 3.00 m. in height. Chimneys and parapet wall and architectural features not exceeding 1.50 m. in height, unless the aggregate area of such structures exceeds 1/3 of the roof area of the building on which they are erected. All such appurtenant structures shall be camouflaged to achieve streamlined aesthetics.

### 5.25 Lighting and ventilation of rooms

**5.25.1** Rooms shall have, for the admission of light and air, one or more openings, such as windows and ventilators, opening directly to the external air or into an open VERANDAH. Lighting and ventilation requirements of all types of buildings shall be designed and approved in accordance with the provisions of the following two IS Codes –

- i. SP 32 (1986): Hand book on Functional Requirements of Industrial Buildings (Lighting and Ventilation) [CED 12:Functional Requirements in Buildings] and
- ii.SP 41 (1987): Hand book on Functional Requirements of Buildings (Other than Industrial Buildings) [CED 12: Functional Requirements in Buildings]v Lighting loads of various spaces of :-

- i. Industrial buildings shall be determined as per Clause 1, Section 1 of SP 32 (1986)
- ii. Non-Industrial buildings shall be determined as per Clause 2, Part 4 of SP 41 (1987)

Thermal comfort levels and design requirement of various spaces of –

- i. Industrial buildings shall be determined as per Section 2 of SP 32 (1986)
- ii. Non-Industrial buildings shall be determined as per Part 2 of SP 41 (1987)

Minimum Fresh Air requirement for –

- i. Industrial buildings shall be determined as per Clause 13 of Section 2 of SP 32 (1986)
- ii. Non-Industrial buildings shall be determined as per Clause 4 of Part 3 of SP 41 (1987)

#### 5.25.1.1

Notwithstanding the area of openings obtained through the minimum aggregate area (see Notes 1 to 3) of such openings, excluding doors inclusive of frames, shall be not less than:

- a) one-tenth of the floor area for dry hot climate;
- b) one-sixth of the floor area for wet hot climate;
- c) one-eighth of the floor area for intermediate climate; and
- d) one-twelfth of the floor area for cold climate.

#### Notes

1. If a window is partly fixed, the open able area shall be counted.
2. No portion of a room shall be assumed to be lighted, if it is more than 7.5 m away from the opening assumed for lighting that portion.
3. The area of openings as given in (a) to (d) above shall be increased by 25 percent in the case of a kitchen.

All habitable rooms shall have for the admission of light and air, one or more apertures, such as window, glazed door and fan lights, opening directly to the external air or into an open verandah not more than 2.40 mt. in width. In case light and ventilation to habitable space area-are through an internal courtyard, the minimum dimensions of such courtyard shall not be less than 3.0 m. x 3.0 m. for buildings upto 12.50 m. in height. For buildings with higher heights, the minimum dimensions of the internal courtyard shall be as given in Building Bye-Laws. Where the lighting and ventilation requirements are not met through day lighting and natural ventilation, the same shall be ensured through artificial lighting and mechanical ventilation as given in part-VII building services Section-1 lighting and Ventilation of National Building Code of India published by the Bureau of Indian Standards. The latest version of the National Building Code of India shall be taken into account at the time of enforcement of the Building Bye-Laws.

**5.25.1.2** Notwithstanding the above, the minimum aggregate area of openings of habitable rooms and kitchens excluding doors shall be not less than 1/10 of the floor area.

**5.25.1.3** No portion of a room shall be assumed to be lighted if it is more than 7.50 m. from the opening assumed for lighting that portion.

**5.25.2 Ventilation Shaft**

For ventilating the spaces for water closets and bathrooms, if not opening on the front side, rear and interior open spaces, shall open on the ventilation shaft, the size, of which shall not be less than the values given below:

**Table 5.5 Size of Ventilation Shaft**

Height of Building (m)	Minimum size of shaft (m)	Size of ventilation shaft (sq m)
Upto 10.0	1.2	0.9
Upto 12.0	2.8	1.2
Upto 18.0	4.0	1.5
Upto 24.0	5.4	1.8
Upto 30.0	8.0	2.4
Above 30.0	9.0	3.0

**Notes:**

- i. For buildings above 30.0 m. height, mechanical ventilation system shall be installed besides the provision of minimum ventilation shaft.
- ii. For fully air-conditioned residential buildings for lodging purposes, the ventilation shaft need not be insisted upon, provided the air-conditioning system works in an uninterrupted manner, also, provided there is an alternative source of power supply. However, it is not mandatory in case of buildings where ventilation is mechanized.

**5.26 Building Services**

**5.26.1** The Planning design and installation of electrical installations, air conditioning installation of lifts and escalators can be carried out in accordance with Part-VIII Building Services, section-2 electrical installation, section-3 air conditioning and heating, section-5 installation of lifts and escalators of National Building Code of India. However deviations from National Building Code may be done as per good engineering practices.

**5.26.2** The number and type of lifts to be provided in different buildings shall be as per norms.

**5.26.3** The requirements of electric sub-station shall be as per norms. The provision of electric sub-station shall also require approval from Electricity Board concerned.

**5.27 Plumbing and Sanitary Services**

**5.27.1** The planning, design, construction and installation of water supply, drainage and sanitation and gas supply system shall be in accordance with Part-9: Plumbing Services, Section-1 Water supply, Drainage and sanitation (including Solid Waste Management) and Section-2 Gas supply of NBC, 2005.

**5.27.2** Sewage treatment plant of capacity of treating 100% waste water to be installed.

**5.28 Segregated sanitation for Visitors in Public Buildings**

**5.28.1** Special requirement of segregated sanitation for Visitors in Public Buildings (Government Buildings, Hospitals, Educational Institutions, Commercial Building etc). Provisions and occupancies shall be referred .

**\*\*** This section is provided for *Segregated toilet facilities for visitors in Public Buildings (within the premises of the building, but outside the building block)*. Public toilets are meant for floating population, usually located near railway stations, bus stands, market places, government hospitals, religious centers etc. These toilets have a greater demand for urinals than community toilets. The key considerations for siting such facilities on the site are –

- i. Size of the toilet block (i.e. number of seats) and
- ii. Location of the toilet block with respect to the main building block.
- iii. Convenience of the visitors in accessing and using the facility.

**5.28.2** Surveys conducted by the central government show that people, especially women and aged, are unlikely to use the facility if it beyond 500 meters. The preferable location shall be within 200-500 mt from the main entry of the building.

**5.28.3** The site shall be earmarked on Site Plan or a Layout plan. The Municipal Corporation/Council/Nagar Panchayat shall clearly state advantages and disadvantages of the location for the owner/ engaged Competent Professional for building plan design as prescribed to make an informed decision on the siting.

**5.28.4** It must be accessible to visitors and general public during the operational hours of the building. However, fiscal generation for maintenance may be planned w.r.t user charges from visitors and general public. (Experience in sample cities has shown that toilet blocks are more likely to remain clean if they are centrally located; those on periphery sooner fall into disrepair.)

**5.28.5 Other factors to be considered:**

**a) Wastewater conveyance/treatment and prevention of contamination-**

Since sewers may not be available in many cities, in most cases the toilet blocks will have on-site sanitation, which would require periodic cleaning of tanks / pits. Location on site should allow easy and hygienic emptying of the pits / tanks and ensure that ground water table is not contaminated by wastewater percolation.

**b) Adequacy in provision-**

The size of the block (i.e. on number of seats) must meet visitors' need. Inadequacy results in long queues and encourages open urination. Care is to be taken for *balancing problems and other special needs* of children and the elderly.

**c) Design considerations.**

Adequate Ventilation.

ii. Door Design / Direction of swing of the door (preferred outwards),

iii. Adequate Waiting area and

iv. Adequate volumes of water storage.

**d) The facilities should include:**

i. Separate toilet blocks for men and women with separate entries.

ii. Seats for children to be provided in both sections for men and women.

iii. Waiting / Holding area.

iv. Space for Facility caretaker and maintenance staff – from where they can monitor and maintain both facilities for men and women.

v. Urinal facilities for men

vi. Waste water disposal system

vii. Janitor / Store room for cleaning material / equipments.

**5.28.6 Norms for differently-abled within segregated toilets:**

i. One special W.C. in a set of toilet shall be provided for the use of differently abled persons, with essential provision of wash basin near the entrance.

ii. Minimum clear opening of the door shall be 900 mm. and the door shall swing out.

iii. Suitable arrangement of vertical/horizontal handrails with 50 mm. clearance from wall shall be made in the toilet.

iv. The W.C. seat shall be 500 mm. from the floor.

**5.28.7 Water requirement and facilities:**

Water requirement for the facility may be worked out and enough storage for ½ day operation is to be kept in storage. If municipal water supply is reliable, the toilet blocks may have underground sump that can store half a day's requirement and overhead tanks for another half. If municipal water supply is not available, toilet block may have its own bore well and pump with no underground sump. Alternatively a hand tube well can be used for storing water in an elevated (not overhead) tank. To minimize the wastage of water, self-closing water taps should be used. The pans must be of Pour Flush (PF) design i.e. with a steep slope. Traps should be of a 20 mm water seal. (Use of 50 mm

water seal traps will require more water for flushing.) If toilet is to be linked to city sewer, a master trap has to be provided at the sewer connection. Urinals may not be fitted with urinal pots as their replacement is expensive.

### **5.29 Construction Site**

1. At construction job sites, one toilet must be provided per 20 employees. In a work zone with between 21 and 199 employees, a toilet seat and one urinal must be provided for every 40 employees. For 200 or more workers, regulations call for a toilet seat and a urinal per 50 workers. The toilet must be located within 200 m or 5 minute walk.
2. Job sites that are not equipped with a sanitary sewer must, unless prohibited by local codes, provide privies, in locations where their use will not contaminate either ground or surface water. Other alternatives to a privy could be chemical toilets, re-circulating toilets, or combustion toilets.
3. Toilets should be cleaned regularly and maintained in good order, running water, must be provided along with soap and individual hand towels.

### **5.30 Temporary Camp Toilets**

Toilet facilities shall be provided within 60 m of the, site, which shall not be closer than 15 m of dining area or kitchen. Make sure that toilet area is cleaned at least once per day, it is sanitary, adequately lighted and is employee safe.

### **5.31 Special / Contingency Toilets**

- A) For *Special events* like open air theater, religious/political gatherings, mela, etc. for which there are no permanent toilet facilities, contingency toilets/PSUs shall be provided. The following considerations shall determine the number of toilets to be provided for particular event:
  - i) Duration of the event
  - ii) Type of crowd
  - iii) Weather conditions
  - iv) Whether finishing times are staggered, if the event has multi-functions.
- B) *Special Purpose* Toilets: *Special toilet facilities* shall be adequately provided in public projects (transport terminals/ healthcare and other public spaces) in million plus cities for the *Third gender* with appropriate cleanliness arrangements.

### **5.32 General guidance for water supply arrangements**

1. *For new construction*: Provision shall be made for underground tank for the storage of water, having capacity at 200 l. per person with adequate pumping arrangements to supply water to upper floors. Filtered water connection will be allowed only for use of drinking and bathing needs. For other purposes i.e. flushing and gardening etc., the individual shall be required to have own arrangements of tube well water within the premises. While according sanction to Layout Plan, the Municipal Corporation/Council/Committee/Nagar Panchayat shall make a special mention that provision for space shall be kept for the construction of underground reservoir of adequate capacity along with booster pumping station.
2. Arrangements as given in 1 above shall also be provided in Group Housing Societies.
3. The plumbing arrangement in case of new constructions shall be made in a way that the potable water shall be used for drinking, cooking & bathing only and for rest of the uses, provision for ground water can be made with dual piping system.
4. Low capacity cistern should preferably be provided instead of normal 12.5 L capacity.
5. Provisions for sustainable methods of Water and Wastewater management, and Water harvesting may be referred from the Bye-Laws.

**CHAPTER-VI**  
**PROVISIONS FOR HIGH RISE DEVELOPMENT**

**6.1 High Rise**

Buildings higher than 15m of height without stilts and above 17.5m of height with stilts shall be considered as high rise building.

*Note: These provisions shall be in addition to the **Chapter-3** for plan sanction procedure, general building requirements (low/high) given in **Chapter-5** of this document and structural safety given in **Chapter-7**.*

**6.1.1 Plot Area**

Plots to be used for high rise development should be located in an approved Layout plan, Comprehensive plans or sub division plans as prepared and approved by competent authorities/ as per policy of the Government of India / State Governments.

**6.1.2 Means of access**

- a. A building shall abut on a street or streets or upon spaces directly connected from the street by a hard surface approach road, width of approach road is not less than 9 meters,
- b. If there are any bends or curves on the approach road, a sufficient width shall be provided at the curve to enable the fire appliances to turn, the turning circle being at least of 9.0 m radius. Where entry to the plot is through a slip road the gate width shall not be less than 6 m for entry of the firefighting appliance.
- c. The approach road to the building and open spaces on its all sides up to 6 m width and the layout for the same shall be done in consultation with Chief Fire Officer, Fire Service and the same shall be reinforced to ensure safety of the fire equipment and capable of taking the weight of Fire engine, weighing up to 45 tonnes) The said open space shall be kept free of obstructions and shall be motor able.
- d. Main entrances to the premises shall be of adequate width to allow easy access to the fire engine and in no case it shall measure less than 6 m. The entrance gate shall fold back against the compound wall of the premises, thus leaving the exterior access way within the plot free for movement of fire service vehicles. If archway is provided over the main entrance the height of the archway shall not be at a height less than 5m.

**6.2 Peripheral Open Spaces including set backs**

There shall be a space of 6 m all around up to 40m height and after that a space of 9m all around should be provided..

**6.3 Parking Spaces**

- a. The parking spaces shall be provided as per the provisions of Master Plan or Zonal plan or building byelaws as prevalent. The location of parking spaces shall be well ventilated.
- b. In case of high-rise buildings parking will be permitted at any / all of the following:
  - i. Basements
  - ii. Stilts
  - iii. Surface
- a. Stacked/ Multi-level/ Automated parking is also permitted.

**6.4 Building components**

**6.4.1 Doorways**

- a. Every doorway shall open into an enclosed stairway, a horizontal exit, on a corridor or passageway providing continuous and protected means of egress.
- b. No exit doorway shall be less than 1m in width. Doorways shall be not less than 2 m in height. Doorways for bathrooms, water closet, stores etc. shall be not less than 0.75m wide.
- c. Exit doorways shall open outwards, that is, away from the room but shall not obstruct the travel along any exit. No door, when opened, shall reduce the required width of stairway or landing to less than 0.9m, overhead or sliding doors shall not be installed.

- d. Exit door shall not open immediately upon a flight or stairs, a landing equal to at least the width of the door shall be provided in the stairway at each doorway, level of landing shall be the same as that of the floor which it serves.
- e. Exit doorways shall be openable from the side which they serve without the use of a key.
- f. Mirrors shall not be placed in exit ways or exit doors to avoid confusion regarding the direction of exit.

#### 6.4.2 Revolving Doors

Revolving door shall not be provided as a means of fire exit.

#### 6.4.3 Stairways

- a. A staircase shall not be arranged round a lift shaft.
- b. The staircase shall be ventilated to the atmosphere at each landing and a vent at the top; the vent openings shall be of 0.5 sq.m in the external wall and the top. If the staircase cannot be ventilated, because of location or other reasons, a positive pressure 50 Pa shall be maintained inside. The mechanism for pressurizing the staircase shall operate automatically with the fire alarm. The roof of the shaft shall be 1 m above the surrounding roof. Glazing or glass bricks if used in staircase, shall have fire resistance rating of minimum 2 hour.
- c. The minimum width of staircase shall be as table given below:

**Table 6.1 Minimum width of staircase for different types of buildings**

Types of Building	Width
Residential buildings (dwellings)	1.0m
Residential hotel buildings	1.5m
Assembly buildings like auditorium, theatres and cinemas	2.0m
Educational buildings up to 30 m in height	1.5m
Institutional buildings like hospitals	2.0m
All other buildings	1.5m

- d. The minimum width of treads without nosing shall be 0.25m for staircase for residential buildings. In the case of other buildings the minimum tread shall be 0.3m. The treads shall be constructed and maintained in a manner to prevent slipping. The maximum height of riser shall be 0.19m in the case of residential buildings and 0.15m in the case of other buildings and shall be limited to 15 risers per flight.
- e. Handrails shall be provided with a minimum height of 0.9m from the center of the tread.
- f. The minimum headroom in a passage under the landing of a staircase and under the staircase shall be 2.2m.
- g. Access to main staircase shall be gained through adequate fire resistance rating (clause 12.7.1 of Chapter 12) Automatic closing doors placed in the enclosing wall of the staircases. It shall be a swing type door opening in the direction of the escape.
- h. No living space, store or other fire risk shall open directly into the staircase or staircases.
- i. External exit door of staircase enclosure at ground level shall open directly to the open spaces or can be reached without passing through any door other than a door provided to form a draught lobby.
- j. The exit sign with arrow indicating the way to the escape route shall be provided at a height of 0.5m from the floor level on the wall and shall be illuminated by electric light connected to corridor circuits. All exit way marking signs should be flushed with the wall and so designed that no mechanical damage shall occur to them due to moving of furniture or other heavy equipment's. Further all landings of floor shall have floor indication boards indicating the number of floor. The floor indication board shall be placed on the wall immediately facing the flight of stairs and nearest to the landing. It shall be of size not less than 0.5x 0.5m and it shall be prominently on the wall facing the staircase.

- k. In case of single staircase it shall terminate at the ground floor level and the access to the basement shall be by a separate staircase. However, the second staircase may lead to basement levels provided the same is separated at ground level by either a ventilated lobby with discharge points at two different ends or through enclosures with fire resistance rating door (clause 12.7.1 of Chapter 12) or through a fire protected corridor.

#### **6.4.4 Lifts**

General requirements of lifts shall be as follows:

- a. All the floors shall be accessible for 24 hours by the lifts. The lifts provided in the buildings shall not be considered as a means of escape in case of emergency. In a dual line arrangement (lifts opposite to each other) the lobby may be between 1.5 times to 2.5 times the depth of one car. For in-line (single line) arrangements the lobby may be typically half of the above recommendations.
- b. Grounding switch, at ground floor level, to enable the fire service to ground the lift shall also be provided.
- c. The lift machine room shall be separate and no other machinery shall be installed there in.
- d. Walls of lift enclosures and lift lobby shall have fire rating of 2 hour; (Refer Section 12.7.1 of Chapter 12); lifts shall have a vent at the top of area not less than 0.2 sq.m
- e. Lift car door shall have a fire resistance rating of 1 hour.
- f. Lift lobby doors in lift enclosures shall have fire resistance as per Section 12.7.1 of Chapter 12.
- g. Collapsible gates shall not be permitted for lifts and shall have solid doors with fire resistance of at least 1 hour.
- h. If the lift shaft and lobby is in the core of the building, a positive pressure between 25 and 30 Pa shall be maintained in the lobby and a positive pressure of 50 Pa shall be maintained in the lift shaft. The mechanism for pressurization shall act automatically with the fire alarm; it shall be possible to operate this mechanically also.
- i. Lifts if communicating with the basement, the lift lobby of the basements shall be pressurized as suggested in clause 12.9.1(g) and 12.9.1(h) with self-closing door with fire resistance rating (Refer Section 12.7.1 of Chapter 12). Telephone or other communication facilities shall be provided in lift cars and to be connected to fire control room for the building.
- j. Exit from the lift lobby, if located in the core of the building, shall be through a self closing fire door of half an hour fire resistance.
- k. Suitable arrangements such as providing slope in the floor of lift lobby shall be made to prevent water used during firefighting, etc., at any landing from entering the lift shafts.
- l. A sign shall be posted and maintained on every floor at or near the lift indicating that in case of fire, occupants shall use the stairs unless instructed otherwise. The sign shall also contain a plan for each floor showing the locations of the stairways. Alternate source of power supply shall be provided for all the lifts through a manually operated changeover switch.
- m. For Pressurization Specifications of various building components refer NBC Chapter 4 Fire and Life Safety Clause 4.10 Pressurization of Staircases (Protected Escape Routes)

#### **6.4.5 Basements**

- a. Basement shall be permitted within the setback lines subject to clearance from local bodies/departments concerned, Municipal Corporation and Fire Department.
- b. Each basement shall be separately ventilated. Vents with cross-sectional area (aggregate) not less than 2.5 percent of the floor area spread evenly round the perimeter of the basement shall be provided in the form of grills or breakable stall board lights or pavement lights or by way of shafts. Alternatively, a system of air inlets shall be provided at basement floor level and smoke outlets at basement ceiling level. Inlets and

extracts may be terminated at ground level with stall board or pavement lights as before, but ducts to convey fresh air to the basement floor level have to be laid. Stall board and pavement lights should be in positions easily accessible to the fire brigade and clearly marked 'SMOKE OUTLET' or 'AIR INLET' with an indication of area served at or near the opening.

c. The staircase of basements shall be of enclosed type having fire resistance rating (Refer Section 12.7.1 of Chapter 12). The staircase shall be situated at the periphery of the basement to be entered at ground level only, from outside open air. The staircase shall communicate with basement through a lobby with self-closing doors with fire resistance rating as per relevant NBC code mentioned above.

d. For travel distance Table 6.2 given below shall be followed. If travel distance exceeds that given in the table below, additional staircases shall be provided.

**Table 6.2 Travel Distance for Occupancy and Type of Construction**

S. No	Group of Occupancy	Maximum Travel Distance Construction	
		Type 1 & 2	Type 3 & 4
i.	Residential(A)	30.0	22.5
ii.	Educational(B)	30.0	22.5
iii.	Institutional	30.0	22.5
iv	Assembly(D)	30.0	30.0
v	Business(E)	30.0	30.0
vi	Mercantile(F)	30.0	30.0
vii	Industrial(G)	45.0	Construction type 3 and 4 not permitted
viii	Storage(H)	30.0	Construction type 3 and 4 not permitted.
ix	Hazardous(J)	22.5	Construction type 3 and 4 not permitted.

**Notes:**

1. For fully sprinkled building, the travel distance may be increased by 50% of the values specified above

2. Ramps shall be counted as one of the means of escape wherever permitted in National Building Code 2005.

e. In multi-story basements, intake ducts may serve all basement levels, but each basement level and basement compartment shall have separate smoke outlet duct or ducts. Ducts so provided shall have the same fire resistance rating as the compartment itself. Fire rating may be taken as the required smoke extraction time for smoke extraction ducts.

f. Mechanical extractors for smoke venting system from lower basement levels shall also be provided. The system shall be of such design as to operate on actuation of heat / smoke sensitive detectors or sprinklers, if installed, and shall have a considerably superior performance compared to the standard units. It shall also have an arrangement to start it manually.

g. Mechanical extractors shall have an internal locking arrangement, so that extractors shall continue to operate and supply fans for HVAC shall stop automatically with the actuation of fire detectors.

h. Mechanical extractors shall be designated to permit 30 air changes per hour in case of fire or distress call. However, for normal operation, air changes schedule shall be as given in Part 8, Building Services, Section 3, Air-conditioning, Heating and Mechanical Ventilation of National Building Code, 2005.

i. Mechanical extractors shall have an alternative source of supply.

- j. Ventilating ducts shall be integrated with the structure and made out of brick masonry or reinforced cement concrete and when this duct crosses the transformer area or electrical switchboard, fire dampers shall be provided.
- k. Use of basements for kitchens working on gas fuel shall not be permitted, unless air conditioned. The basement shall not be permitted below the ward block of a hospital/nursing home unless it is fully sprinkled. Building services such as electrical sub-stations, boiler rooms in basements shall comply with the provisions of the Indian Electricity Act / Rules. Boiler room shall be provided at the first basement along the periphery wall with fire resistance rating (Refer Section 11.7.1 of Chapter 12) or shall be separated with the blast wall.
- l. If cutouts are provided from basements to the upper floors or to the atmospheres, all sides cutout openings in the basements shall be protected by sprinkler head at close spacing so as to form a water curtain in the event of a fire.
- m. It is essential to make provisions for drainage of any such water on all floors to prevent or minimize water damage of the contents. The drain pipes should be provided on the external wall for drainage of water from all floors. On large area floors, several such pipes may be necessary which should be spaced 30 m apart. Care shall be taken to ensure that the construction of the drain pipe does not allow spread fire / smoke from floor to floor.

#### **6.4.6 Compartmentation**

The building shall be suitably compartmentalized so that fire/smoke remains confined to the area where fire incident has occurred and does not spread to the remaining part of the building. Compartmentation and Pressurization method shall be adopted (as per clause 4.10 of Part 4 of NBC, 2005) to protect escape routes against ingress of smoke, or toxic gases into the escape routes will be prevented. Pressurization shall be adopted for high rise buildings and building having mixed occupancy/multiplexes having covered area more than 500 m<sup>2</sup>.

#### **6.4.7 Ramps**

- a. The ramp to basement and parking floors shall not be less than 7.2m wide for two way traffic and 4 m wide for one way traffic, provided with Gradient of 1:10 for cars and 1:15 for heavy vehicles. At curved portions of the ramp or for circular ramps the slope should not be more than 1:12.
- b. Ramp may also be provided in setback area which can be sloped considering unhindered movement of fire Engine and in no case the gradient shall be less than 1:10.
- c. All structural design/safety aspects as per latest BIS Codes & NBC, 2005 shall be complied along with consideration of weight of Fire Engine & its maneuverings.
- d. The minimum width of the ramps in hospitals shall be 2.4 m for stretcher and not for vehicular movement
- e. In this case Handrails shall be provided on both sides of the ramp.
- f. Ramps shall lead directly to outside open space at ground level or courtyards or safe place.

#### **6.4.8 Corridors**

- a. Exit corridors and passageways shall be of width not less than the aggregate required width of exit doorways leading from them in the direction of travel to the exterior.
- b. The minimum width of a corridor in a residential building shall be 1.0 m for single loaded and 1.8 m for double loaded and in all other buildings shall be 1.5m.
- c. Where stairways discharge through corridors and passageways, the height of corridors and passageways shall be not less than 2.4 m.
- d. All means of exit including staircases lifts lobbies and corridors shall be ventilated.

#### **6.4.9 Glass Façade/ Service Ducts/Shafts/ Refuge Area/ Vents**

- a. An Opening to the glass façade of min. width 1.5 m and height 1.5m shall be provided at every floor at a level of 1.2 m from the flooring facing compulsory open space as well as on road side. Construction that complies with the fire rating of the horizontal

segregation and has any gap packed with a non-combustible material to withstand thermal expansion and structural movement of the walling without the loss of seal against fire and smoke.

- b. Mechanism of Opening: The open able glass panel shall be either left or right shall have manual opening mechanism from inside as well as outside. Such open able panels shall be marked conspicuously so as to easily identify the open able panel from outside.
- c. Fire seal to be provided at every floor level between the external glazing and building structure.
- d. The glazing used for the façade shall be of toughened (tempered) safety glass as per I.S.2553.
- e. To avoid fire propagation vertically from one floor to another floor, a continuous glass I must be separated internally by a smoke/ fire seal which is of noncombustible material having a fire resistance rating of not less than 2 hours.
- f. Service ducts and shafts shall be enclosed by walls and doors with fire resistance rating (Refer Section 11.7.1 of Chapter 12). All such ducts/shafts shall be properly sealed and stopped fire ingress at all floor levels.
- g. A vent opening at the top of the service shaft shall be provided having an area between one-fourth and one-half of the area of the shaft.
- h. The open able vent of minimum 2.5% of the floor area shall be provided. The openable vent can be pop out type or bottom hinged provided with fusible link opening mechanism and shall also be integrated with automatic Smoke Detection System.

or

- i) Alternate vertical glass panels of the façade shall be open able type with the mechanism mentioned above in order to ventilate the smoke.
- ii) Refuge areas covered with the glass façade shall have all the panels fully open able (either left or right hinged) both from inside as well as outside. Glass quality and Practice of use of Glass in buildings shall have to be in conformity with the BIS codes as given in Table 6.3 below:

**Table 6.3 Glass quality and Use of glass in buildings**

<b><u>IS Code</u></b>	<b><u>Specifications</u></b>
2553 (Part 1):1990	Specification for safety glass: Part 1 General purpose ( <i>third revision</i> )
2835:1987	Specification for flat transparent sheet glass ( <i>third revision</i> )
438:1994	Specification for silvered glass mirrors for general purposes ( <i>second revision</i> )
5437:1994	Specification for figured rolled and wired glass ( <i>first revision</i> ).
14900:2000	Specification for transparent float glass.
16231 Part 1	General methodology for selection
16231 Part 2	Energy and Light
16231 Part 3	Fire and Loading
16231 Part 4	Safety related to Human Impact

## **6.5 Building Services**

### **6.5.1 Staircase and Corridor Lighting**

- a. The staircase and corridor lighting shall be on separate service and shall be independently connected so as it could be operated by one switch installation on the ground floor, easily accessible to firefighting staff at any time irrespective of the position of the individual control of the light points, if any.
- b. Staircase and corridor lighting shall also be connected to alternate supply from parallel high-tension supply or to the supply from the stand-by generator.
- c. Emergency lights shall be provided in staircase and corridor/ passageway, horizontal exits, refuge area; and all wires and other accessories used for emergency light shall have fire retardant property.

### **6.5.2 Electrical Services**

- a. The electric distribution cables/wiring shall be laid in separate duct the duct shall be sealed at every floor with non-combustible materials having the same fire resistance as that of the duct. Low and medium voltage wiring running in shaft and in false ceiling shall run in separate conduits.
- b. Water mains, telephone cables, intercom cables, gas pipes or any other service line shall not be laid in the duct for electric cables. Use of bus ducts/solid rising mains instead of cables is preferred.
- c. The provision of dedicated telecommunication ducts for all new building proposals is mandatory for conveyance of telecommunication and other data cables.
- d. Separate circuits for water pumps lifts, staircases and corridor lighting and blowers for pressurizing system shall be provided directly from the main switchgear panel (for detailed specifications refer NBC 2005, chapter 4 Fire and Life Safety).

### **6.5.3 Alternate Source of Electric Supply**

A stand-by electric generator shall be installed to supply power to staircase and corridor lighting circuits, fire lifts, the stand-by fire pumps, pressurization fans and blowers, smoke extraction and damper system in case of failure of normal electric supply. The generator shall be capable of taking starting current of all the machines and circuits stated above simultaneously. If the stand-by pump is driven by diesel engine, the generator supply need not be connected to the stand-by pump.

### **6.5.4 Air-conditioning**

Air-conditioning shall conform to the following:

- a. Escape routes like staircases, common corridors, lift lobbies, etc. shall not be used as return air passage.
- b. The ducting shall be constructed of substantial gauge metal in accordance with good practice.
- c. Wherever the ducts pass through fire walls or floors, the opening around the ducts shall be sealed with materials having fire resistance rating of the compartment.
- d. Where duct crosses a compartment which is fire rated, the ducts shall be fire rated for same fire rating. Further depending on services passing around the duct work, which may get affected in case of fire temperature rising, the ducts shall be insulated.
- e. Metallic ducts shall be used even for the return air instead of space above the false ceiling.
- f. Where plenum is used for return air passage, ceiling and its fixtures shall be of noncombustible material.
- g. The materials used for insulating the duct system (inside or outside) shall be of noncombustible material; glass wool shall not be wrapped or secured by any material of combustible nature.
- h. Air ducts serving main floor areas, corridors, etc. shall not pass through the staircase enclosure.
- i. The air-handling units shall be separate for each floor and air ducts for every floor shall be separated and in no way inter-connected with the ducting of any other floor.
- j. If the air-handling unit serves more than one floor, the recommendations given above shall be compiled with in addition to the conditions given below:
  - i. Proper arrangements by way of automatic fire dampers working on smoke detector / or fusible link for isolating all ducting at every floor from the main riser shall be made.
  - ii. When the automatic fire alarm operates, the respective air-handling units of the air-conditioning system shall automatically be switched off.
  - iii. The vertical shaft for treated fresh air shall be of masonry construction.
  - iv. The air filters of the air-handling units shall be of non-combustible materials or fire rated .
  - v. The air-handling unit room shall not be used for storage of any combustible materials.
  - vi. Inspection panels shall be provided in the main trunking to facilitate the cleaning of ducts of accumulated dust and to obtain access for maintenance of fire dampers.
  - vii. No combustible material shall be fixed nearer than 150 mm to any duct unless such duct is properly enclosed and protected with non-combustible material (glass wool or spyglass with

neoprene facing enclosed and wrapped with aluminum sheeting) at least 3.2 mm thick and which would not readily conduct heat.

#### **6.5.5 Transformers**

- a. If transformers are housed in the building below the ground level it shall be necessarily in the first basement in separate fire resistance room of 4 hours rating. Transformer shall be dry type and shall be kept in an enclosure with walls, doors and cut-outs having fire resistance rating of 4 hour. The room shall necessarily be at the periphery of the basement having separate and direct access from open area at ground floor through a fire escape staircase. The entrance to the room shall be provided with a steel door of 2 hours fire rating. A curb of a suitable height shall be provided at the entrance in order to prevent the flow of oil from ruptured, transformer into other parts of the basement. The switchgears shall be housed in a separate room separated from the transformer bays by a fire-resisting wall with fire resistance not less than 4 hours.
- b. The transformer shall be protected by an automatic foam sprinkler system. When housed at ground floor level it/they shall be cut-off from the other portion of premises by Fire Resisting Walls of 4 hours rating.
- c. A tank of RCC construction of adequate capacity shall be provided at lower basement level, to collect the oil from the catch pit in case of emergency. The pipe connecting the catch-pit to the tank shall be of non-combustible construction and shall be provided with a flame-arrester.
- d. The electric sub-station shall be located in a separate building in accordance to I.E. Rules 68(I) and 64(I) (a).
- e. If this is not possible due to site conditions, the sub-station shall be located on the ground floor. As far as possible sub-station shall not be installed in a basement, for such situations special provisions like mechanical ventilation, wherever required, cable ducting, cable trays, top/bottom entry of HV/LV cable, hooks on Transformer(s) & HV panels, adequate fire detection and fire fighting arrangement, adequate drainage, effective measures to prevent flooding etc. shall be provided. Adequate precautions shall also be taken for water proofing to prevent seepage of water. A ramp shall also be provided with a slope, not steeper than 1 in 7, for easy movement of equipments to and from sub-station.
- f. Fire regulations – The installations shall be carried out in conformity with the local regulations and rules there under wherever they are in force. At other places NBC guidelines shall be followed.

#### **6.5.6 Gas supply**

- a. Town Gas / L.P. Gas Supply Pipes – Where gas pipes are run in buildings, the same shall be run in separate shafts exclusively for this purpose and these shall be on external walls, away from the staircases. There shall be no interconnection of this shaft with the rest of the floors.
- b. LPG distribution pipes shall always be below the false ceiling. The length of these pipes shall be as short as possible. In the case of kitchen cooking range area, apart from providing hood, covering the entire cooking range, the exhaust system should be designed to take care of 30 cu.m per minute per sq.m of hood protected area. It should have grease filters using metallic grill to trap oil vapors escaping into the fume hood.

*Note: For detailed information on gas pipe installations, reference may be made to Para.9 'Plumbing Services, Section 3 Gas Supply', of National Building Code of India.*

- c. For large/commercial kitchens all wiring in fume hoods shall be of fiberglass insulation. Thermal detectors shall be installed into fume hoods of large kitchens for hotels, hospitals and similar areas located in high rise buildings. Arrangements shall be made for automatic tripping of the exhaust fan in case of fire.
- d. If LPG is used, the same shall be shut off. The voltage shall be of 24 V or 100 V DC operated with the external rectifier. The valve shall be of the hand re-set type and shall be located in an area segregated from cooking ranges. Valves shall be easily accessible. The hood shall have manual facility for steam or carbon dioxide gas injection, depending on duty condition; and Gas meters shall be housed in a suitably constructed metal cupboard located in a well-ventilated space, keeping in view the fact that LPG is heavier than air and town gas is lighter than air.

### **6.5.7 Boiler Room**

Further, the following additional aspects may be taken into account in the location of Boiler/Boiler Room:

- a. The boiler shall not be allowed in sub-basement but be allowed in the first basements away from the escape routes.
- b. The boilers shall be installed in a fire resisting room of 4 hours fire resistance rating, and this room shall be situated on the periphery of the basement. Catch pit shall be provided at the low level. Entry to this room may be provided with a composite door of two hour fire resistance.
- c. The boiler room shall be provided with fresh air inlets and smoke exhausts directly to the atmosphere.
- d. Foam inlets shall be provided on the external walls of the building at the ground floor level to enable the fire services to use foam in case of fire.
- e. The furnace oil tank for the boiler, if located in the adjoining room shall be separated by fire resisting wall of 4 hour rating. Entry to this room shall be provided with a composite door of 2 hour fire resistance. A curb of suitable height shall be provided at the entrance in order to prevent the flow of oil into the boiler room in case of tank rupture.

### **6.5.8 Disaster Management / Fire Safety**

Refer *Chapter 12* of this document.

### **6.5.9 Sustainable Environment and Buildings**

Refer *Chapter 11* of this document.

### **6.5.10 General**

- a. Architectural elements such as louvers, pergolas, other sunshine materials should be free from FAR.
- b. Any architectural roof top structures would also be permitted out of FAR if not used for habitable or commercial purposes.
- c. Building elements such as sky bridges and landscape terraces which are meant for community purposes only shall be permitted free of FAR
- d. Services can be permitted on roofs with adequate screening for the same.
- e. Service floors with ceiling height up to 2.1 m shall not be counted in FAR. Service area on habitable floors may be considered free from FAR.
- f. Atrium/ Atria at any floor will be counted only once in the FAR. Atrium may be enclosed by light roofing or R.C.C as per development control norms .
- g. Scissor staircase would be permitted provided all travel distance and fire norms are adhered to.
- h. Stilts in high-rise will not be restricted to height of 2.4m as long as it is used for parking.
- i. Multilevel car parking with car lifts would be permitted with adequate fire safety.

### **6.5.11 Structural Safety**

As per provisions made for Structural Safety in *Chapter 7*.

**CHAPTER-VII**  
**PROVISIONS FOR STRUCTURAL SAFETY**

**7.1 Structural design and safety**

For any building under the jurisdiction of these regulations structural design/retrofitting shall only be carried out by a Structural Engineer on Record (SER) or Structural Design Agency on Record (SDAR). Proof checking of various designs/reports shall be carried out by competent Municipal Corporation/Council/ Nagar Panchayat as per Table 7.1 wherever applicable.

**7.1.1 Additional provisions in building regulations/ bye-laws for natural hazard prone areas**

Generally, the structural design of foundations, elements of masonry, timber, plain concrete, reinforced concrete, pre-stressed concrete and structural steel shall conform to the provisions of Part 6: Structural Design -

Section- 1 Loads, Forces and Effects

Section- 2 Soils and Foundations,

Section- 3 Timber and Bamboo,

Section- 4 Masonry,

Section- 5 Concrete &

Section- 6 Steel

Section- 7 Prefabrication Systems, Building and Mixed /Composite Construction of National Building Code of India (NBC), taking into consideration the Indian Standards as given below:

**For General Structural Safety**

- 1) IS: 456:2000 "Code of Practice for Plain and Reinforced Concrete.
- 2) IS: 800-2007 "Code of Practice for General Construction in Steel.
- 3) IS: 801-1975 "Code of Practice for Use of Cold Formed Light Gauge Steel Structural Members in General Building Construction.
- 4) IS 875 (Part 2):1987 Design loads (other than earthquake) for buildings and structures Part 2 Imposed Loads. (Reference to Table 4.1- "Occupant Load" may be considered for design load)
- 5) IS 875 (Part 3):1987 Design loads (other than earthquake) for buildings and structures Part 3 Wind Loads.
- 6) IS 875 (Part 4):1987 Design loads (other than earthquake) for buildings and structures Part 4 Snow Loads.
- 7) IS 875 (Part 5):1987 Design loads (other than earthquake) for buildings and structures Part 5 special loads and load combination.
- 8) IS: 883:1994 "Code of Practice for Design of Structural Timber in Building.
- 9) IS: 1904:1986 (R 2005) "Code of Practice for Structural Safety of Buildings: Foundation"
- 10) IS 1905:1987 "Code of Practice for Structural Safety of Buildings: Masonry Walls.
- 11) IS 2911(Part 1): Section 1: 2010 "Code of Practice for Design and Construction of Pile Foundation Section 1  
Part 1: Section 2 Bored Cast-in-situ Piles  
Part 1: Section 3 Driven Precast Concrete Piles  
Part 1: Section 4 Bored Precast Concrete Piles  
Part 2: Timber Piles  
Part 3: Under Reamed Piles  
Part 4: Load Test on Piles

**For Cyclone/Wind Storm Protection**

- 12) IS 875 (3):1987 "Code of Practice for Design Loads (other than Earthquake) for Buildings and Structures, Part 3, Wind Loads"
- 13) Guidelines (Based on IS 875 (3)-1987) for improving the Cyclonic Resistance of Low rise houses and other building.

### **For Earthquake Protection**

- 14) IS: 1893 (Part 1)-2002 "Criteria for Earthquake Resistant Design of Structures (Fifth Revision)"
- 15) IS:13920-1993 "Ductile Detailing of Reinforced Concrete Structures subjected to Seismic Forces - Code of Practice"
- 16) IS:4326-2013 "Earthquake Resistant Design and Construction of Buildings - Code of Practice (Second Revision)"
- 17) IS:13828-1993 "Improving Earthquake Resistance of Low Strength Masonry Buildings - Guidelines"
- 18) IS:13827:1993 "Improving Earthquake Resistance of Earthen Buildings- Guidelines"
- 19) IS:13935-2009 "Seismic Evaluation, Repair and Seismic Strengthening of Buildings - Guidelines"

### **For Protection of Landslide Hazard**

- 20) IS 14458 (Part 1): 1998 Guidelines for retaining wall for hill area: Part 1 Selection of type of wall.
- 21) IS 14458 (Part 2): 1997 Guidelines for retaining wall for hill area: Part 2 Design of retaining/breast walls
- 22) IS 14458 (Part 3): 1998 Guidelines for retaining wall for hill area: Part 3 Construction of dry stone walls
- 23) IS 14496 (Part 2): 1998 Guidelines for preparation of landslide – Hazard zonation maps in mountainous terrains: Part 2 Macro-zonation.

*Note: Whenever an Indian Standard including those referred in the National Building Code or the National Building Code is referred, the latest revision of the same shall be followed except specific criteria, if any, mentioned above against that code.*

### **7.1.2 Structural Design Basis Report (SDBR)**

In compliance of the design with the above Indian Standard, the Structural Engineer on Record will submit a structural design basis report in the Proforma attached herewith covering the essential safety requirements specified in the Standard. The "Structural Design Basis Report (SDBR)" consists of four parts (Form No.6, MHA Expert Committee Report)

Part 1: General Information/ Data

Part 2: Load Bearing Masonry Buildings

Part 3: Reinforced Concrete Buildings

Part 4: Steel Buildings

i) Drawings and Documents to be submitted for approval of appropriate authorities shall include SDBR as detailed below:

Part 1: Completed

Part 2: (if applicable) – completed

Part 3: (if applicable) – undertaking that completed Part 3 will be submitted before commencement of construction.

Part 4: (if applicable) – undertaking that completed Part 4 will be submitted before commencement of construction.

ii) SDBR as detailed below shall be submitted to the appropriate Municipal Corporation/Council/Committee/Nagar Panchayat as soon as design of foundation is completed, but not later than one month prior to commencement of construction.

Part 1: Completed

Part-2, Part-3 or Part-4: (if applicable) Completed

### **7.1.3 Seismic strengthening/retrofitting**

Prior to seismic strengthening/retrofitting of any existing structure, evaluation of the existing structure as regards structural vulnerability in the specified wind/seismic hazard zone shall be carried out by a RSE/RSDA. If as per the evaluation of the RSE/RSDA the seismic resistance is assessed to be less than the specified minimum seismic resistance as given in the note below,

action will be initiated to carry out the upgrading of the seismic resistance of the building as per applicable standard guidelines.

**Note:**

1. For masonry buildings reference shall be made to IS 4326 and IS 13935
2. For concrete buildings and structures reference shall be made to IS15988: 2013 Seismic evaluation and strengthening of existing RCC buildings.

**7.1.4 Buildings with Soft Storey**

In case buildings with a flexible storeys, such as the ground storey consisting of open spaces for parking that is “*Stilt buildings*” or any other storey with open halls, special arrangements are to be made to increase the lateral strength and stiffness of the soft/open storey such as Steel bracing / Shear walls / Brick infills between columns. Dynamic analysis of building is to be carried out including the strength and stiffness effects of infills and inelastic deformations in the members, particularly, those in the *soft storey*, and the structural members are to be designed accordingly. Alternatively, the following design criteria are to be adopted after carrying out the earthquake analysis, neglecting the effect of infill walls in other storeys:

- a. The columns and beams of the soft storey shall be designed for 2.5 times the storey shears and moments, calculated under seismic loads specified in the other relevant clauses; or,
- b. Besides the columns designed and detailed for the calculated storey shears and moments, shear walls shall be placed symmetrically in both directions of the building as far away from the centre of the building as feasible; to be designed exclusively for 1.5 times the lateral storey shear force calculated as before. For details of design and provisions, IS 1893, Part 1 shall be referred.

**7.1.5 Review of structural design**

- i) The Competent Municipal Corporation/Council/Committee/Nagar Panchayat shall create a Structural Design Review Panel (SDRP) consisting of senior SER’s and SDAR’s whose task will be to review and certify the design prepared by SER or SDAR whenever referred by the competent Municipal Corporation/Council/Committee/nagar panchayat.
- ii) The Reviewing Agency shall submit addendum to the certificate or a new certificate in case of subsequent changes in structural design.
- iii) Table-7.1 gives requirements of SDRP for different seismic zones namely III, IV and V and for structures of different complexities.
- iv) In seismic Zone II, buildings & structures greater than 40m in height will require proof checking by SDRP as per detail at Sl. no.3 of Table 7.1

**Table 7.1 Proof Checking Requirements for Structural Design**

S.No.	Type of Structure	Submission from SER or SDAR	To be Proof Checked
1	Load Bearing Buildings upto three storeys	SDBR*	Not to be checked
2	Buildings upto seven storeys (R.C.C/Steel framed structure)	SDBR Preliminary design	To be checked To be checked
3	Building greater than seven storeys (R.C.C/Steel framed structure)	SDBR Preliminary design Detailed structural design and structural drawings	To be checked To be checked To be checked
4	Special Structures	SDBR Preliminary design Detailed structural design and structural drawings	To be checked To be checked To be checked

\* SDBR – Structural Design Basis Report

**Notes:**

1. Table 4.1 may be referred for Occupant Load/Live load for different building types.
2. At the preliminary proposal stage of a project, the objective is to undertake feasibility study/comparison of a number of possible alternatives of structural schemes and determine the most cost effective one, detailed structural calculations are not necessary for each alternative scheme. However, it is necessary to determine the member sizes and reinforcement content in order to determine the cost. By making conservative assumptions it is possible to derive simplified calculations for both analysis and design. **This is called “Preliminary or approximate analysis, and design”**. After the most cost effective scheme is selected and signed-off by the Client, the detailed calculations are performed on the selected scheme to determine the precise structural members and composition (size, dimension and stress behavior), and this is called the **“Detailed structural design”**. In the aforesaid, the design of structural members is typically assumed to account for all the stress loads identified from section xx to be applicable in the given project.
3. Special structure means large span structures such as stadium, assembly halls, or tall structures such as water tanks, TV tower, chimney, etc.

It will be seen from the Table 7.1 above that there is a wide range of structure typology, and the requirement by the Competent Municipal Corporation/Council/ Nagar Panchayat for third party verification will depend on the type of structure.

#### **7.1.6 Certification regarding structural safety in design**

Structural Engineer on Record (SER) or Structural Design Agency on Record (SDAR) shall give a certificate of structural safety of design as per proforma given in **Form-3** and **Form 14** (of the MHA Expert Committee Report) at the time of completion.

#### **7.1.7 Constructional safety**

##### **7.1.7.1 Supervision**

All construction except load bearing buildings up to 3 storeys shall be carried out under supervision of the Construction Engineer on Record (CER) or Construction Management Agency on Record (CMAR) for various seismic zones.

##### **7.1.7.2 Certification of structural safety in construction**

CER/ CMAR shall give a certificate of structural safety of construction as per proforma given in **Form-13** (of the MHA Expert Committee Report) at the time of completion.

#### **7.1.8 Quality control and inspection**

All material and workmanship shall be of good quality conforming generally to accepted standards of Public Works Department and Indian standard specification and codes as included in Part-V Building Materials and Part-VII Construction practices and safety of National Building Code of India.

##### **7.1.8.1 Inspection**

All the construction for high-rise buildings higher than seven storeys, public buildings and special structures shall be carried out under quality inspection program prepared and implemented under the Quality Auditor on Record (QAR) or Quality Auditor Agency on Record (QAAR) in seismic zones IV & V.

##### **7.1.8.2 Certification of safety in quality of construction**

Quality Auditor on Record (QAR) or Quality Auditor Agency on Record (QAAR) shall give a certificate of quality control as per proforma given in Form-15. Quality Inspection Programme to be carried on the site shall be worked out by QAR/ QAAR in consultation with the owner, builder, CER / CMAR.

*Note: Sections 7.1.7 and 7.1.8 shall not be applicable for Government buildings that are designed and constructed under the supervision of in-house architects/engineers.*

### **7.1.9 Control of signage & outdoor display structures, cellphone towers and telephone towers.**

Following provisions shall apply for telecommunication infrastructure a) Location: The Telecommunication Infrastructure shall be either placed on the building roof tops or on the ground or open space within the premises subject to other regulations.

b) Type of structure

i) Steel fabricated tower or antennae's on M.S. pole.

ii) Pre-fabricated shelters of fibre glass or P.V.C. on the building roof top / terrace for equipment.

iii) Masonry Structure/ Shelter on the ground for equipment.

iv) D.G. Set with sound proof cover to reduce the noise level.

c) Requirement:

i) Every applicant has to obtain/ procure the necessary permission from the "Standing Advisory Committee on Radio Frequency Allocation" (SACFA) issued by Ministry of Telecommunications.

ii) Every applicant will have to produce the structural safety & stability certificate for the tower as well as the building from the Structural Engineer on Record (SER) which shall be the liability of both owner and SER.

iii) Applicant has to produce / submit plans of structure to be erected.

d) Projection: No Pager and/or Telephone Tower shall project beyond the existing building line of the building on which it is erected in any direction.

### **7.2 Structural requirements of low income housing**

Notwithstanding anything contained herein, for the structural safety and services for development of low income housing, the relevant provisions of applicable IS:8888 Part 1 shall be enforced along with Annex C of Part 3 NBC, 2005.

### **7.3 Inspection**

The general requirement for inspection of the development shall also include the following regulation.

#### **7.3.1 General Requirements**

The building unit intended to be developed shall be in conformity with Regulation on requirement of site. Generally all development work for which permission is required shall be subject to inspection by the Competent Municipal Corporation/Council/Nagar Panchayat as deemed fit. The applicant shall keep a board at site of development mentioning the survey No, city survey No, Block No, Final Plot No., Sub plot No., etc. name of owner and name of Architect on Record, Engineer on Record, Developer, Structural Engineer on Record, Construction Engineer on Record.

#### **7.3.2 Record of Construction Progress**

a) Stages for recording progress certificate and checking:-

i) Plinth, in case of basement before the casting of basement slab.

ii) First storey.

iii) Middle storey in case of High-rise building.

iv) Last storey.

b) At each of the above stages, the Owner / Developer / Builder shall submit to the designated officer of the Competent Municipal Corporation/Council/Nagar Panchayat a progress certificate in the given formats (Form No. 7-10, of the MHA Expert Committee Report). This progress certificate shall be signed by the Construction Engineer on Record.

c) The progress certificate shall not be necessary in the following cases:

i) Alteration in Building not involving the structural part of the building.

ii) Extension of existing residential building on the ground floor upto maximum 15 sq mt. in area.

d) Completion Report

- i) It shall be incumbent on every applicant whose plans have been approved, to submit a completion report in **Form No.11** (of the MHA Expert Committee Report)
- ii) It shall also be incumbent on every person / agency who is engaged under this Development Control Regulations to supervise the erection or reerection of the building, to submit the completion report in **Form No.12 and 13** (of the MHA Expert Committee Report) prescribed under these Development Control Regulations.
- iii) No completion report shall be accepted unless completion plan is approved by the Competent Municipal Corporation/Council/Committee/nagar panchayat.
- e) The final inspection of the work shall be made by the concerned Competent Municipal Corporation/Council/Committee/Nagar Panchayat within 21 days from the date of receipt of notice of completion report.

### **7.3.3 Permission for Building Occupancy and Certification**

The Municipal Corporation/Council/Nagar Panchayat issuing occupancy certificate before doing so shall ensure that following are compiled from consideration of safety against natural hazard:

- i) Certificate of lift Inspector has been procured & submitted by the owner, regarding satisfactory erection of Lift.
- ii) The Certificate of Competent Municipal Corporation/Council/Nagar Panchayat and or fire department for completion and or fire requirements as provided in these regulations has been procured and submitted by the owner.
- iii) If any project consists of more than one detached or semi detached building/buildings in a building unit and any building / buildings thereof is completed as per provisions of D.C.R. (Such as Parking, Common Plots, Internal Roads, Height of the Building, Infrastructure facilities, lift and fire safety measures), the competent Municipal Corporation/Council/Nagar Panchayat may issue completion certificate for such one detached or semi detached building / buildings in a building unit.
- iv) The occupancy certificate shall not be issued unless the information is supplied by the Owner and the Architect on Record/ Engineer on Record concerned in the schedule as prescribed by the Competent Municipal Corporation/Council/Nagar Panchayat from time to time.

### **7.3.4 Maintenance of Buildings**

In case of building older than fifty years, it shall be the duty of the owner of a building, to get his building inspected by a Registered Structural Engineer (RSE) within a year from the date of coming into force of these regulations. The Structural Inspection Report (Form No.16, of the MHA Expert Committee Report) shall be produced by the Owner to the Appropriate Municipal Corporation/Council/Nagar panchayat. If any action, for ensuring the structural safety and stability of the building is to be taken, as recommended by SER, it shall be completed within five years. For other buildings, the owner shall get his building inspected after the age of building has crossed forty years. The procedure shall be followed as per above regulation.

### **7.3.5 Protective Measures in Natural Hazard Prone areas**

In natural hazard prone areas identified under the land use zoning regulations, structures buildings and installations which cannot be avoided, protective measures for such construction/development should be properly safeguarded based on the suggestion given in the Report of the MHA Expert Committee - Volume I.

### **7.3.6 Registration of Professionals**

Presently, the legislation for the profession of architecture is applicable in the country in the form of Architects Act 1972, an Act of the Parliament of India. Accordingly, the qualifications, competence and service conditions followed in the profession of architecture are in accordance with the provisions of the said Act and the rules made there under. For other professions and professionals like engineers, structural engineers, landscape architects, urban designers, building supervisors, electrical engineers, developers/promoters there is no legislative frame available/applicable. Therefore, for appropriate qualifications, competence and responsibilities of

professional involved in different types of development proposals shall be applicable as per building bye-laws.

### **7.3.7 Professional fees for SER/SDAR and CER/CMAR**

Selection of professionals and determination of professional charges shall be done by the Municipal Corporation/Council/Nagar panchayat, considering the following:

- i) Structural safety of a building is the responsibility of the “SER/SDAR” for proper design and the “CER/CMAR” for proper construction, therefore it is imperative that selection and appointment of these professionals is made after verification of their antecedents.
- ii) The fees to be paid to SER/SDAR for structural design may be specified keeping in view the size and complexity of the project.
- iii) Similarly, fees for construction management to CER/CMAR may be specified keeping in view the size and complexity of the project and the duration for which construction management services have to be provided on the basis of the total cost of the project.
- iv) Proof checking: Fees for Proof checking where carried out may vary based on the cost of the structural items enumerated in (ii) above.

### **7.3.8 Appointment of Professionals**

The Owner/Developer shall appoint Town Planner on Record (TPR), Architect on Record (AR), Engineer on Record (ER), Structural Engineer on Record (SER), Structural Design Agency on Record (SDAR), Geotechnical Engineer on Record (GER), Construction Engineer on Record (CER), (CMAR), and Quality Auditor on Record (QAR) and Quality Audit Agency on Record (QAAR) as required. Details of qualification and requirement of registration shall be as per bye-laws. Proper written agreement(s), in standard format(s), shall be entered upon with such professional(s) engaged.

### **7.4 Alternative Materials, Methods of Design and Construction and Tests**

The provision of the Bye-Laws are not intended to prevent the use of any material or method of design or construction not specifically prescribed by the bye-law provided any such alternative has been approved. The building materials approved by B.I.S. or any statutory body will form part of the approved building material and technology as part of the Bye-Laws. The Municipal Corporation/Council/Nagar Panchayat shall promote and encourage use of Pre fabricated factory made building components for medium to large scale projects that have significant impact. The use of ready mix concrete (RMC) shall also be encouraged for in-situ concrete constructions. Section 11.2.5 may be referred for further aspects of Sustainability and incentivized promotion of alternative materials, methods in construction.

**CHAPTER-VIII**  
**SPECIAL REQUIREMENTS FOR OCCUPANCY/LAND DEVELOPMENT AND**  
**OTHER**

**8.1 Industrial Buildings (Factories, Workshops, etc.)**

1. The relevant provisions contained in the Factory Act. 1948 shall apply for the construction of factory buildings. The minimum internal height of workrooms shall not be less than 4.5 m. measured from the floor level to the lowest point in the ceiling provided that this bye-law shall not apply to room intended for storage, godowns and the like purposes but only in rooms occupied by workers for purposes of manufacture. In case of small factories, employing less than 50 workers for purposes of manufacturing and carrying on a class of manufacturing covered under the flatted factories and service industries, as given in the Master Plan/Development Plan, the Municipal Corporation/Council/ Nagar Panchayat may allow minimum height up to 3.66 m.
2. Parking space provisions as provided in the bye-laws or in development code of Master Plan/Development Plan.
3. Requirements of water supply, drainage and sanitary installation shall be as per *Chapter-5*, but in no case less than 1 W.C. and one urinal shall be permitted.
4. a) Notwithstanding the provision of exits requirements as per Bye-law No. 12.8 (*Chapter-12*) each working room shall be provided with adequate number of exits not less than two in number.  
b) No exit shall be less than 1.2 m. in width and 2.1 m. in height and doors of such exit shall be so arranged that it can be opened easily from inside.  
c) No staircase, lobby corridors or passage shall be less than 1.2 m. in width. In addition to the requirement in this part, provisions contained in chapter-3 will be followed.
5. There shall be provided at all time for each person employed in any room of factory at least 3.5 sq m. of floor space exclusive to that occupied by the machinery and a breathing space of at least 15 cum. (Further the provision of part VIII section 1 lighting and ventilation of National Building code of India shall be followed).
6. The effluent from industries (industrial and biological in nature) shall be treated and shall be of quality to the satisfaction of the concerned local bodies before letting out the same into a watercourse or municipal drain.

**8.2 Educational Building (School/Colleges)**

1. No basement or cellar room shall be designed, constructed, altered, converted or used for the purpose of study or instruction.
2. Every such building, exceeding two storeys in height shall be constructed of fire resisting material throughout.
3. The minimum size of a cellar room, study room or room used for purposes of instruction shall be 5.5 m. x 4.5 m. and no part of such room shall be distant more than 7.5 m. from an external wall abutting on the requisite open space. Every such room shall have minimum ventilation to the extent of 1/5th of its floor area.
4. A minimum of 1.0 sq m. of net floor space per student shall be provided. A central hall will not be counted in the accommodation, nor will a class room for cookery, laundry, manual instruction, drawing or science. The number of students in such building shall be calculated on this basis for the purpose of this clause.
5. Every assembly room, gymnasium shall have a clear height of 3.6 m. except under a girder which may project 0.6 m. below the required ceiling height. A clear internal height under balcony or a girder shall not be less than 3.0 m. A minimum room height for classroom in all schools and other institutions shall not be less than 3.0 m. The minimum head room under beams shall be 2.75 m.
6. Exit requirements shall conform to bye-law 5.2 (*Chapter-5*). No door shall be less than 1.2 m. in width and 2.20 m. in height.

7. Requirement of water supply, drainage and sanitary installation shall conform to *Chapter-5*.
8. A playground shall be provided as per norms.

### **8.3 Assembly Building (Cinema, Theaters, etc.)**

1. The relevant provisions of the Cinematographic Rules/Acts of the particular States and IS: 4878 code for construction of Cinema Building shall apply for planning, design and construction of Cinema Building.
2. Parking spaces wherever not specifically given shall conform to the NBC.
3. Requirements of water supply, drainage and sanitation shall conform to provisions of *Chapter 5*.
4. Buildings for religious worship shall not be erected on a site, which has not been previously approved by the Municipal Corporation/Council/Nagar panchayat.

### **8.4 Petrol filling station**

The location of the petrol filling stations and its layout shall be approved by the Municipal Corporation/Council/Nagar Panchayat in consultation with the Commissioner of the Division depending upon width of roads and traffic generated location with respect of points of intersections and nearness to occupancies of educational, assembly, storage and hazardous uses.

### **8.5 Burial and cremation grounds**

The Municipal Corporation/Council/Panchayat shall under the provisions of their Regulations/Acts, regulate the location and area limits of the burial and cremation grounds, including cemetery. The Municipal Corporation/Council/Nagar Panchayat shall permit/prohibit burial and cremation grounds to be located in certain area layouts, after scrutiny of the proposal with respect to health and well being surrounding neighborhood and shall follow the selection criteria given below:

- a) The proposed development in terms of land use has to be compatible with the ground;
- b) Compatible landuses have to be planned with regards to prevailing wind direction and beyond the prescribed buffer zone. The likely direction of drift in the event of odour has to be accounted while planning the layout;
- c) Adequate land area is to be provided to house furnaces, and for internment of cremated remains;
- d) The site has to have proper accessibility by the local road network.

#### **8.5.1 Buffer Zones**

The location of such cremation grounds have to provide for buffer zones from the surrounding landuse to account for environmental impact of the operation:

- i. A buffer zone of the order of *200 mts* (depending on the nature of prevailing winds and the natural topography of the site) between the emission stack and *neighbouring residential zone* shall be considered.
- ii. In any case any buffer zone shall not be less than *100 mts*.

### **8.6 Building in mining area**

Building in mining area shall not be constructed to a height more than one storey without the special prior approval of the Municipal Corporation/Council/Nagar panchayat.

### **8.7 Poultry farms (wherever allowed as per Master Plan)**

**8.7.1** The coverage for poultry farms shall be as allowed in case of farmhouses.

**8.7.2** Setback: The setback for farm building from the right of way shall be as under:

**Table 8.1 Setback for farm building**

<b>Road</b>	<b>Front Setback</b>
National Highway (90 m )	60 m.
Provincial Highway (60 m.)	37 m.
Major Urban Road (30 m.)	22 m.
Village Road (18 m.)	13 m.

### **8.7.3 Space Planning**

- a) There should be a minimum distance of 6.0 mt. between sheds in the farm.
- b) The minimum distance of any farm building from the property line should be 4.5 m.
- c) The minimum distance of any farm shed or farm building from the dwelling unit should be 7.5 m.

### **8.7.4 Farm Shed**

- a) Shed should be constructed on pillars with walls on two longer sides not higher than 1.2 mt.
- b) The remaining height of the farm sheds in respect of two longer sidewalls can be covered with netting or other similar material.
- c) The maximum height of the roof of the farm shed shall not exceed 6.0 m.

### **8.7.5 Dwelling Units as a Farm House**

- a) The following norms shall be adopted for construction of dwellings in farmhouses: The maximum coverage for the dwelling unit shall be as per the provision of the Master Plan / Zonal Plan.
- b) The distance of parts of dwelling units from shed shall be as in Building Bye-Laws 8.7.3.
- c) The requirements of parts of dwelling shall be as in Building Bye-Laws 5.2 in *Chapter-5*.
- d) Any other special requirements as specified by the Municipal Corporation/Council/Nagar panchayat.

### **8.8 Special buildings not covered**

In case of special buildings not covered above, norms will be followed as decided by the Municipal Corporation/Council/Nagar panchayat.

### **8.9 Provisions in the public buildings for handicapped persons**

The building to be designed for Handicapped persons need special treatment and the provisions for site planning, building requirements etc.

### **8.10 Rules for development of land**

**8.10.1** The provisions of Master Plan/Development Plan and norms formulated by Municipal Corporation/Council/Nagar panchayat shall apply regarding sub-division of a large parcel of land into plots, open areas, roads, spaces for services and community facilities.

**8.10.2** Regulations for Low Income Housing. The norms specified for Low-income housing as per NBC, 2005 shall apply unless other specified.

### **8.11 Penal action for violation of Master Plan/Zonal plan regulation/bye- laws**

**8.11.1** The Municipal Corporation/Council/Nagar Panchayat under the provisions of their respective Acts shall take action for violation of Master Plan/Zonal Plan/regulations. The Municipal Corporation/Council/Nagar Panchayat may take penal action under respective Acts, which may include stopping of construction activity, demolition/ alteration and levying of penalties as per instructions of the Govt..

**8.11.2** The Municipal Corporation/Council/Nagar Panchayat may also take action as provided under Building Bye-Laws.

**8.11.3** In addition, action for discontinuance of services in building may also be taken.

### **8.12 Signs and outdoor display structures**

No advertising signs (including hoarding) on buildings or on land shall be displayed without the prior approval of the Municipal Corporation/Council/Nagar panchayat and shall be subject to the Outdoor Advertisement Policy of the Government. The standards specified in part X Signs and outdoor display structures of National Building Code of India published by Indian Standards Institution shall be applicable.

**CHAPTER-IX**  
**PROVISIONS FOR DIFFERENTLY-ABLED, ELDERLY AND CHILDREN**

**9.1 Applicability**

These regulations shall be applicable to all buildings and facilities used by the public such as educational, institutional, assembly, commercial, business, mercantile buildings and group housing constructed on plots having an area of more than 2000 sq.m. It shall not apply to private residential buildings.

**9.2 Guidelines and Provisions**

Provisions in the following guidelines shall apply:

1. *“Guidelines and Space Standards for Barrier Free Built Environment for Disabled and Elderly Persons”*, (1998), Central Public Works Department, GoI 5
2. *“Manual on Barrier Free Environment”*, (2002), O/o the Chief Commissioner for Persons with Disabilities, Ministry of Urban Development, GoI.
3. *“National Building Code”*, (2005), Bureau of Indian Standards,
4. *“National Policy for Persons with Disabilities”*, (2006), Ministry of Social Justice and Empowerment, GoI.
5. *“Harmonized Guidelines and Space Standards for Barrier Free Built Environment for Persons with Disabilities and Elderly Persons”*, (Draft 2014), Ministry of urban Development, GoI.

**9.3 Types of buildings to adopt barrier free guidelines as notified by the State Government**

**9.3.1 Buildings to be designed for Ambulant Disabled People**

Higher Secondary School, Conference Hall, Dance Halls, Youth Centers, Youth Clubs, Sport Centers, Sport Pavilions, Boat Club Houses, Ice Rinks, Bowling Centers, Swimming Pools, Police Stations, Law Courts, Courts Houses, Sport Stadiums, Theaters, Concert Halls, Cinemas, Auditoria, Small Offices (the maximum plinth area 1400 sq.mt) Snack Bars, Cafes and banqueting rooms (for capacity above 50 dinners).

**Note:**

- a. *In sport stadiums provisions shall be made for non-ambulant spectators (small wheel chair)*
- b. *@ 1:1000 up to 10,000 spectators and @ 1:2000 for spectators above 10,000.*
- c. *In Theaters, Concert Halls, Cinemas and Auditoria provisions shall be made for non-ambulant spectators (Small Wheel Chairs) @ 1/250 up to 1000 spectators and 1/500 for spectators above 1000.*
- d. <http://cpwd.gov.in>
- e. The finalized Harmonized guidelines published by the Ministry of Urban Development.

**9.3.2 Buildings to be designed for Non-Ambulant Disabled People**

Schools for differently abled and other buildings along with Botanical Gardens, Religious Buildings, Elderly People Clubs, Village Halls, Day Centers, Junior Training Centers, Post Offices, Banks, Dispensaries, Railway Stations, Shops, Super Markets, and Departmental Stores.

**Note:** *Large wheel chair criteria shall be applicable on ground floors of the following building, post offices, banks, dispensaries, railway station, shops, supermarkets, and departmental stores.*

**9.3.3 Buildings to be designed for Non-Ambulant People (using small wheel chairs)**

Public lavatories in Tourist Sports, Clubs Motels, Professional and Scientific Institution, Museum, Art Galleries, Public Libraries, Laborites, Universities, College for further Education, Teachers Training Colleges, Technical College, Exhibition Halls Dentist Surgeries, Administrative Department of the Hospitals, Service Stations, Car Parking, Buildings Airports Terminals, Bus Terminals, Factories Employing differently-abled for sedentary works, Large

Offices, (with plinth area abode 1400 sq.mt.), Tax Offices, Passport Offices, Pension Offices, and Labour Offices, Cafes, Banqueting Rooms and Snack Bars (For capacity above 100 dinners).

### **9.3.4 Site development**

Level of the roads, access paths and parking areas shall be described in the plan along with specification of the materials.

#### **9.3.4.1 Access Path / Walk Way**

Access path from plot entry and surface parking to building entrance shall be minimum of 1800 mm wide having even surface without any steps. Slope, if any, shall not have gradient greater than 5%. Selection of floor material shall be made suitably to attract or to guide visually impaired persons (limited to coloured floor material whose colour and brightness is conspicuously different from that of the surrounding floor material or the material that emits different sound to guide visually impaired persons; hereinafter referred "o as "guiding floor material". Finishes shall have a non- slip surface with a texture traversable by a wheel chair. Kerbs wherever provided should blend to a common level.

#### **9.3.4.2 Parking**

For parking of vehicles of differently-abled people, the following provisions shall apply:

- a) Surface parking for two car spaces shall be provided near entrance for the physically differently-abled persons with maximum travel distance of 30.0 m. from building entrance.
- b) The width of parking bay shall be minimum 3.6 meter.
- c) The information stating that the space is reserved for wheel chair users shall be conspicuously displayed.
- d) Guiding floor materials shall be provided or a device, which guides visually impaired persons with audible signals, or other devices, which serves the same purpose, shall be provided.

### **9.4 Building requirements**

The specified facilities in buildings for differently abled persons shall be as follows:

#### **9.4.1 Approach to plinth level**

Every building should have at least one entrance accessible to the differently abled and shall be indicated by proper signage. This entrance shall be approached through a ramp together with the stepped entry.

- a. **Ramped Approach:** Ramp shall be finished with non-slip material to enter the building. Minimum width of ramp shall be 1800mm with maximum gradient 1:12. Length of ramp shall not exceed 9.0 meter having 800mm high hand rail on both sides extending 300mm beyond top and bottom of the ramp. Minimum gap from the adjacent wall to the hand rail shall be 50mm.
- b. **Stepped Approach:** For stepped approach size of tread shall not be less than 300mm and maximum riser shall be 150mm. Provision of 800mm high hand rail on both sides of the stepped approach similar to the ramped approach.
- c. **Exit/Entrance Door:** Minimum & clear opening of the entrance door shall be 900mm and it shall not be provided with a step that obstructs the passage of a wheel chair user. Threshold shall not be raised more than 12mm.
- d. **Entrance Landing:** Entrance landing shall be provided adjacent to ramp with the minimum dimension 1800mm x 2000mm. The entrance landing that adjoins the top end of a slope shall be provided with floor materials to attract the attention of visually impaired person's (limited to coloured floor material whose colour and brightness is conspicuously different from that of the surrounding floor material or the material that emits different sound to guide visually impaired persons. Finishes shall have a non-slip surface with a texture traversable by a wheel chair. Kerbs wherever provided should blend to a common level.

#### **9.4.2 Corridor connecting the entrance/ exit for the differently abled**

The corridor connecting the entrance / exit for differently abled leading directly outdoors to a place where information concerning the overall use of the specified building can be provided to visually impaired persons either by a person or by signs, shall be provided as follows:

- a) Guiding floor materials' shall be provided or device that emits sound to guide visually impaired persons.
- b) The minimum width shall be 1500mm.
- c) In case there is a difference of level, slope ways shall be provided with a slope of 1:12.
- d) Handrails shall be provided for ramps/slope ways.

#### **9.5 Stair-ways**

One of the stair-ways - near the entrance / exit for the differently abled shall have the following provisions:

- a) The minimum width shall be 1350 mm.
- b) Height of the riser shall not be more than 150 mm and width of the tread 300mm. The steps shall not have abrupt (square) nosing.
- c) Maximum number of risers on a flight shall be limited to 12.
- d) Handrails shall be provided on both sides and shall extend 300 mm on the top and bottom of each flight of steps.

#### **9.6 Lifts**

Wherever lift is required as per bye-laws, provision of at least one lift shall be made for the wheel chair user with the following cage dimensions of lift recommended for passenger lift of 13 person's capacity of NBC 2005, BIS. Section 4.9.3 Table no1-

Desirable Lift size

Clear internal width 1100 mm

Clear internal depth 2000 mm

Entrance door width 900 mm

- a) A hand rail not less than 600mm long at 1000mm above floor level shall be fixed adjacent to the control panel.
- b) The lift lobby shall be of an inside measurement of 1800 mm x 2000 mm or more.
- c) The time of an automatically closing door should be minimum 5 seconds and the closing speed should not exceed 0.25 m/ sec.
- d) The interior of the cage shall be provided with a device that audibly indicates the floor, the cage has reached indicates that the door of the cage of entrance/exit is either open or closed.
- e) Graphic/Braille signage, as per the Harmonized Guidelines, shall be provided in the lift lobby.

#### **9.7 Toilets**

One special W.C. in a set of toilets shall be provided for the use of differently abled with essential provision of washbasin near the entrance for the differently abled.

- a) The minimum size shall be 1500 mm x 1750 mm.
- b) Minimum clear opening of the door shall be 900mm and the door shall swing out.
- c) Suitable arrangement of vertical/horizontal handrails with 50mm clearance from wall shall be made in the toilet.
- d) The W.C. seat shall be 500mm from the floor.

##### **9.7.1 Provision of W.Cs in buildings without lift:**

Provision of special W.C. shall be made on all floors for buildings designed for ambulant disabled persons. For buildings designed for non-ambulant disabled special W.C. shall be provided at Ground Floor. Size of W.C. shall depend on the type of wheel chair used by the disabled.

##### **9.7.2 Provisions of W.Cs in buildings with lift**

Provision of Special W.C. shall be made on all floors. Size will depend on the category of disabled for whom it has been provided.

### **9.7.3 Toilet Details: For Toilets Designed for Ambulant Disabled**

- a) The minimum size of W.C. shall be 1075 x 1650 mm with a minimum depth of 1450 mm from entry door 900 mm.
- b) Long handrail on the side closer to W.C. with a clear width between the handrails shall be 900 mm and height of handrails shall be 800 mm from floor level.
- c) Minimum size of the clear door opening shall be 780 mm.

### **9.7.4 For Toilets Designed for Non-Ambulant Disabled Small Wheel Chair:**

The minimum size of W.C. shall be 1350 x 1500 mm with a minimum depth of 150 mm from entry door. 900 mm long handrail on the side closer to W.C. shall be provided. To provide movement space for wheel chair, W.C. seat shall be fixed towards one side to the opposite adjacent wall. The centerline of W.C. from the adjacent wall shall be 400 mm and minimum 950 mm from the other wall. Minimum size of the clear door opening shall be 780 mm.

### **9.7.5 For Toilets Designed for Non-Ambulant Disabled Using Large Wheel Chair:**

The minimum size of W.C. shall be 1500 X 1750 mm with a minimum depth of 175 mm from entry door. 900 mm long handrail on the side wall closer to W.C. shall be provided. To provide movement space for wheel chair, W.C. seat shall be fixed towards one side of the opposite wall. The centerline of the W.C. from the adjacent wall shall be 400 mm and a minimum of 1100 mm from the other wall. Min. size of clear door opening shall be 860 mm.

## **9.8 Designing for Children**

In the buildings meant for the pre-dominant use of the children, it will be necessary to suitably alter the height of the handrail and other fittings & fixtures etc.

**Note:** Guiding / Warning Floor Material: The floor material to guide or to warn the visually impaired persons with a change of colour or material texture and easily distinguishable from the rest of the surrounding floor materials. The material with different texture gives audible signals with sensory warning when a person moves on this surface with walking stick. The guiding/warning floor material is meant to give the directional effect or warn a person at critical places. It should be provided in the following areas:

- a. The access path to the building and to the parking area.
- b. The landing lobby towards the information board, reception, lifts, staircases and toilets
- c. Immediately at the beginning/end of walkway where there is a vehicular traffic.
- d. At the location abruptly changing in level or beginning/end of a ramp.
- e. Immediately in front of an entrance/exit and the landing.

## **9.9 Drinking Water:**

Suitable provision of drinking water shall be made for the differently abled near the special toilet provided for them.

## **9.10 Refuge**

An alternative to immediate evacuation of a building via staircases and/ or lifts is the movement of disabled persons to areas of safety within a building. If possible, they could remain there until the fire is controlled and extinguished or until rescued by the fire fighters.

- a) It is useful to have the provisions of a refuge area, usually at the fire protected stair landing on each floor that can safely hold one or two wheelchairs.
- b) Hand Doorways with clear opening width of 900 mm and regular compliance
- c) Have an alarm switch installed between 900 mm and 1200 mm from floor level.

## **9.11 Proper signage**

- a) Appropriate identification of specific facilities within a building for the differently abled persons should be done with proper signals.
- b) Visually impaired persons make use of other senses such as hearing and touch to compensate for the lack of vision, whereas visual signals benefit those with hearing disabilities. Signs

should be designed and located so that they are easily legible by using suitable letter size (not less than 20 mm high).

- c) For visually impaired persons, information board in brail should be installed on the wall at a suitable height and it should be possible to approach them closely.
- d) To ensure safe walking, there should not be any protruding sign which creates obstruction in walking.
- e) Public Address System may also be provided in busy public areas.
- f) The symbols/information should be in contrasting colour and properly illuminated because people with limited vision may be able to differentiate amongst primary colours.
- g) International Symbol Mark for wheel chair be installed in a lift, toilet, staircase, parking areas, etc., that have been provided for the differently abled.

### **9.12 Public Building regulations**

In case of design regulations in *Public buildings* (excluding domestic buildings), provisions for differently-abled shall be according to the *Annex "D" of Part 3, NBC 2005*.

**CHAPTER-X**  
**RAINWATER HARVESTING**

**10.1 The RWH system**

The harvesting of rainwater simply involves the collection of water from surfaces on which rain falls, and subsequently storing this water for use. The rainwater collected can be stored for direct use or can be recharged into the underground aquifers. In scientific terms water harvesting (broadly) refers to collection and storage of rainwater from the rooftops. This also restricts evaporation and seepage into building foundations. *All buildings having a plot size of 100 sq.m. or more, while submitting the building plans for sanction, shall mandatorily include the complete proposal of rainwater harvesting.*

A rainwater harvesting system consists of:

- i. Roof catchment
- ii. Gutters
- iii. Down pipes
- iv. Rain water/ Storm water drains
- v. Filter Chamber
- vi. Storage Tanks/ Pits/ Sumps.
- vii. Ground Water recharge structures like pit, trench, tube well or combination of above structure.

Rainwater Harvesting is a way to capture the rain runoff, store that water above ground or charge the underground aquifers and use it later. This happens naturally in open rural areas. But in congested, over-paved metropolitan cities, there is a need to devise methods to capture the rain water. The rainwater that is incident on the surface/ roof top is guided to bore wells or pits or new/old/ abandoned wells through small diameter pipes to recharge the underground water which can be used later whenever required. Rainwater can be harvested to the extent of 55,000 liters per 100sq. meters area per year from rooftops.

**10.2 Rainwater harvesting techniques:**

There are two main techniques of rain water harvestings.

- a. Storage of rainwater on surface for future use.
- b. Recharge to ground water.

**10.3 Harvesting provisions in various Building categories:**

All buildings in a city contribute to the rainwater runoff during the monsoon and hence such runoff can be harvested for water reuse/recharge. The indicative provisions of rainwater harvesting in various buildings types are:

**Table 10.1 Provisions for Rainwater harvesting by building types**

Category / Use	Area of Plot (sq.m.)	Provisions to be made	Other conditions
Residential Plotted Houses			
New Proposals	100 and above	Construction of Rain Water Harvesting Structure.	Shall have emphasis on both storage and reuse.
Group Housing			
New Proposals	All plot sizes	i. Construction of Rain Water Harvesting Structure. ii. Concrete paving to be avoided and permeable materials are to be used for all open parking spaces.	Should indicate the system of Storm Water Drainage, Rain Water Harvesting Structure and Recharging Well.
Public and semi public buildings			

All Proposals	All plot sizes	i. Shall have Rain Water Harvesting Structure and storage ii. Shall have Recharge pits	Shall have emphasis on both storage and reuse.
Commercial / Mixed use			
All Proposals	All plot sizes	i. Construction of Rain Water Harvesting Structure. ii. Soft landscape provisions and open spaces with Percolation pits. iii. Common treatment plant to be made part of the integrated development, funded by sale of commercial space.	Should indicate the system of Storm Water Drainage, Rain Water Harvesting Structure and Recharging Well Shall have emphasis on both storage and reuse.
Industrial			
All proposals	All plot sizes	i. Construction of Rain Water Harvesting Structure. ii. Soft landscape provisions and open spaces with Percolation pits. iii. Use of abandoned bore wells for recharging of ground water. iv. Common treatment plant to be made part of the integrated development funded by sale of commercial space.	Should indicate the system of Storm Water Drainage, Rain Water Harvesting Structure and Recharging Well. Provision should be made not to inject contaminated water into recharge structures in industrial areas and care is to be taken to keep such structures away from sewer lines, septic tanks, soak pits, landfill and other sources of contamination.
Other proposals	All plot sizes	Similar as above	Similar as above

*Note: The number of recharge bores to be provided in different plot sizes shall be accordance to Sl No 2 of Table Nos. 15.1 - 15.3 of Chapter 15.*

#### **10.4 Rain Water Harvesting Provisions for Open spaces in cities**

The open spaces/recreational land use generally constitute regional parks, district parks, play ground and stadium, sports complex, monument zones, public parking, Plaza and other public open space. This may be as high as 30% to 50% of the city's geographic area. All such public open spaces *above the size of 500 sq.m.* shall have arrangements for complete utilization and capture of storm water with scientific rain water harvesting arrangements.

Following ideas may also be included:

- i. Well cum Channel cum Percolation pits.
- ii. Use of abandoned bore wells for recharging of ground water
- iii. Artificial or natural Storage of storm water runoff from larger sites.

#### **10.5 Ground Water Recharge**

Recharging of ground water should be made mandatory not only for residential buildings but for all types of buildings, including Group Housing Societies having a plot area more than 500 sq.m. and above. The Ground Water Recharge should also be mandatory for open spaces like parks, parking, plazas and playgrounds. The harvesting and recharge structures could be constructed by

the Municipal Corporation/Council/Nagar Panchayat with the involvement of community based organizations like Resident Welfare Associations.

#### **10.6 Enforcement and Monitoring**

- a. The Municipal Corporation/Council/Nagar Panchayat shall constitute a **Rainwater Harvesting Cell** which will be responsible for enforcement and monitoring of the provisions of Rainwater Harvesting. The cell shall employ qualified persons who are well versed with the interpretation of Building Bye Laws and responsible for enforcement as well as monitoring the functioning of the Rainwater Harvesting System.
- b. The Municipal Corporation/Council/Nagar Panchayat shall include *inspection of Rainwater Harvesting Structures* before issuing Completion Certificates or NOCs for service connections to the property.
- c. Set an example in the city by ensuring that Rainwater is harvested in the properties /assets owned by them including public buildings, markets, community centers, parking spaces, roads and parks etc.
- d. The Municipal Corporation/Council/Nagar Panchayat shall also establish a mechanism to monitor 100% of RWH provisions in all the buildings above 1000 sq.m. with annual physical verification, while buildings less than 1000 sq.m. can be monitored on the basis of 10% random survey by competent Municipal Corporation/Council/Nagar panchayat.
- e. With regard to open public spaces viz., Parks, playgrounds etc. the implementation of provision rainwater harvesting may be done with the help of Residents Welfare Associations, Community Building Organization and Non- Governmental Organizations.
- f. The Municipal Corporation/Council/Nagar Panchayat shall ensure earmarking budgetary provision for the creation and maintenance of rainwater harvesting structures in public spaces owned and maintained by them, like parking spaces, parks, plazas etc.
- g. The practice of incentives and penalties to promote rain water harvesting shall be formulated by the local Municipal Corporation/Council/Nagar Panchayat based on best practices. Municipal Corporation/Council/Nagar Panchayat shall design its own incentive and penalty systems, considering the water level and scarcity.

**CHAPTER-XI**  
**GREEN BUILDINGS AND SUSTAINABILITY PROVISIONS**

Modern buildings consume about 25 to 30 % of total energy, and up to 30 % of fresh potable water, and generate approximately 40 % of total waste. Sustainable buildings have demonstrated reduction in energy and water consumption to less than half of the present consumption in conventional buildings, and complete elimination of the construction and operational waste through recycling. *Thus, all buildings on various plot sizes above 100 sq.m. shall comply with the green norms and conform to the requirements mandatory for sanction as mentioned in this chapter.* These provisions are not specific to any rating system and are not intended to provide a single metric indication of overall building performance. These provisions allows the practitioners to easily exercise their engineering judgment in holistically and objectively applying the underlying principles of sustainability to a development or building facility, considering its functionality and required comfort level.

**11.1 Provisions and Applicability**

The green building provisions on various plot sizes are indicated in the table below:

**Table 11.1 Provisions and applicability for various plot sizes (Residential and Non-Residential)**

<b>Plot Category</b>	<b>Applicable plot area (sq.m)</b>	<b>Provisions for Residential</b>	<b>Provisions for Non-Residential</b>
I	Up to 100	Nil	Nil
II	100 to 500	1(a), 2(a), 2(b), 4(a)	1(a), 2(b), 4(a)
	500 to 1,000	1(a), 1(c), 2(b), 3(c), 4(a)	1(a), 1(c), 2(a), 2(b), 3(c), 4(a)
	1,000 to 3,000	1(a), 1(c), 1(d), 2(a), 2(b), 3(b), 3(c), 4(a)	1(a), 1(c), 1(d), 2(a), 2(b), 3(b), 3(c),4(a)
III	Above 3,000	1(a), 1(b), 1(c), 1(d), 2(a), 2(b), 3(a), 3(b), 3(c), 4(a), 4(b)	1(a), 1(b), 1(c), 1(d), 2(a), 2(b), 3(a), 3(b), 3(c), 4(a), 4(b)

*\*Note: provisions marked 1(a), 2(b) etc are as per section 11.2.*

*The schemes/ projects formulated on the basis of provisions given in Master plan/ Zonal Development Plan will require approval as indicated:*

*EIA/ ECC (as per MoEF), NBC (latest), ECBC 2007 or latest, BEE Star rating/ LEED of IGBC/ GRIHA of TERI Certification}*

*EIA- Environmental Impact Assessment Study Report,*

*ECC- Environmental Clearance Certificate,*

*MoEF – Ministry of Environment and Forest,*

*NBC – National Building Code,*

*ECBC – Energy Conservation Building Code,*

*BEE – Bureau of Energy Efficiency,*

*LEED – Leadership in Energy and Environment Design,*

*IGBC –Indian Green Building Council,*

*GRIHA – Green Rating for Integrated Habitat Assessment,*

*TERI – The Energy and Resources Institute.*

The prevailing provisions of the above shall be applicable. However if there are any modification in the same, the modified provisions notified by the Government shall become automatically applicable.

## 11.2 Provisions for Sanction

1. Water Conservation and Management
  - a) Rain Water Harvesting
  - b) Low Water Consumption Plumbing Fixtures
  - c) Waste Water Recycle and Reuse
  - d) Reduction of Hardscape
2. Solar Energy Utilization
  - a) Installation of Solar Photovoltaic Panels (detailed at section 11.2.3 below)
  - b) Installation of Solar Assisted Water Heating Systems
3. Energy Efficiency (Concept of *passive solar design of buildings*) (Ref. Table 15.1-3)
  - a) Low Energy Consumption Lighting Fixtures (Electrical Appliances – BEE Star and Energy Efficient Appliances)
  - b) Energy Efficiency in HVAC systems.
  - c) Lighting of Common areas by Solar energy/ LED devices.
4. Waste Management
  - a) Segregation of Waste
  - b) Organic Waste Management

In case owners of properties desire to procure green building ratings from one or more rating bodies, they may suitably incorporate any other provisions if required and additional incentive FAR as per Master Plan may be availed.

### 11.2.1 Provisions for City and Site level greening

In alignment with *National Sustainable Habitat Mission*, the Municipal Corporation/Council/Committee/Nagar Panchayat shall encourage augmentation of green cover in the city/plot, by following:

*The Urban Greening Guidelines, 2014 of Government of India* and other provisions as given below -

- i. Provision of minimum 1 tree / every 80sqmt of plot area for plot sizes > 100sqmt and planted within the setback of the plot.
- ii. Compensatory Plantation for felled/transplanted trees in the ratio 1:3 within the premises under consideration.
- iii. Choice of species for plantation in site and abutting the road to be adopted as per Section 8 of the *Urban Green Guidelines, 2014*.
- iv. The unpaved area shall be more than or equal to 20% of the recreational open spaces.
- v. The action plan for increase in green cover to 15% in the municipal areas, notified by the govt. vide notification no. Dir.TP-2016/2850 on dt. 15/12/2016 shall be followed to achieve the goal of urban greening.

### 11.2.2 Water Re-use and Recycling

- (i) Ground water shall not be used for construction purposes.
- (ii) All building having a minimum discharge of 10,000 l. and above per day shall incorporate waste water recycling system. The recycled water should be used for horticultural purposes.

### 11.2.3 Roof Top Solar Energy Installations

Rooftop photovoltaic power station, or rooftop PV system, is a photovoltaic system that has its electricity-generating solar panels mounted on the rooftop of residential or commercial buildings. The various components of such a system include photovoltaic modules, mounting systems, cables, solar inverters and other electrical accessories. Rooftop PV systems are faster than other types of renewable power plants. They're clean, quiet, and visually unobtrusive. Table 11.2 below stipulates the Norms for Roof Top Solar PV Installation-

**Table 11.2 Norms for Roof Top Solar PV Installation and generation**

S.No.	Category of buildings/area	Area standards	Generation requirement *
	<b>Residential</b>		
1	<b>Plotted Housing</b>	For HIG Plots and above	Minimum 5% of connected load or 20W/sqft for “available roof space”**, whichever is less
2	<b>Group Housing</b>	All proposals, as per Group Housing Norms	Minimum 5% of connected load or 20W/sqft for “available roof space”, whichever is less
	<b>All other buildings</b> (Government or Private, defined as per clause 1.16 b to g) (mandatory for buildings having shadow free rooftop area > 50 sqmt)		
3	<b>Educational</b>	Plot size of <b>500 sqmt and above</b>	Minimum 5% of connected load or 20W/sqft for “available roof space”, whichever is less
4	<b>Institutional</b>		
5	<b>Commercial</b>		
6	<b>Industrial</b>		
7	<b>Mercantile</b>		
8	<b>Recreational</b>		

\* Area provisions on roof top shall be @12 sqmt per 1KWp, as suggested by Ministry of New and Renewable Energy.

\*\* “available rood area” = 70% of the total roof size, considering 30% area reserved for residents’ amenities.

#### 11.2.4 Installation of Solar Assisted Water Heating System in Buildings

I. No new building in the following categories in which there is a system of installation for supplying hot water shall be built unless the system of the installation is also having an auxiliary solar assisted water heating system:-

- Hospitals and Nursing Home.
- Hotels, Lodges, Guest Houses, Group Housing with a plot area of 4000 sq m.
- Hostels of Schools, Colleges and Training Centres with more than 100 Students.
- Barracks of armed forces, paramilitary forces and police.
- Individual residential buildings having more than 150 sq m. plinth area.
- Functional Buildings of Railway Stations and Air Ports like waiting rooms, retiring rooms, rest rooms, inspection bungalows and catering units.
- Community Centres, Banquet Halls, Barat Ghars, Mangal Karyalayas and buildings for similar use.

#### II. Definitions

i)	“Solar Assisted Water Heating System”	A device to heat water using solar energy as heat source.
ii)	“Auxiliary back-up”	Electricity operated or fuel fired boilers/systems to heat water coming out from solar water heating system to meet continuous requirement of hot water.
iii)	“New Building”	Such buildings of above said categories for which construction plans have been submitted to the Municipal Corporation/Council/Committee/Nagar Panchayat for clearance.
iv)	“Existing building”	Such buildings, which are licensed to perform their

	respective business.
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### III. Installation of Solar Water Heating System

- a) *New Buildings:* Clearance of plan for the construction of new buildings of the aforesaid categories shall only be given if they have a provision in the building design itself for an insulated pipeline from the rooftop in the building to various distribution points where hot water is required. The building must have a provision for continuous water supply to the solar water heating system. The building should also have open space on the rooftop, which receives direct sun light. The load bearing capacity of the roof should at least be 50 kg. per sq m. All new buildings of above said categories must complete installation of solar water heating systems before obtaining necessary license to commence their business.
  - b) *Existing Buildings:* Installation of Solar Assisted Water Heating Systems in the existing building shall be made mandatory at the time of change of use to above said category provided there is a system or installation for supplying hot water.
- IV. *Capacity:* The capacity of solar water heating system to be installed on the building of different categories shall be decided in consultation with the local bodies. The recommended minimum capacity shall not be less than 25 litres per day for each bathroom and kitchen subject to the condition that maximum of 50% of the total roof area is provided with the system.
- V. *Specifications:* Installation of Solar Assisted Water Heating Systems shall conform to BIS specification IS 12933. The solar collectors used in the system shall have the BIS certification mark.
- VI. *Auxiliary System:* Wherever hot water requirement is continuous, auxiliary heating arrangement either with electric elements or oil of adequate capacity can be provided.

#### 11.2.5 Sustainable Waste Management

- (i) The Solid Waste (Management and Handling) Rules, 2016, the Plastic Waste (Management and Handling) Rules, 2016, the Construction and Demolition Waste Management Rules, 2016 and the E-Waste (Management and Handling) Rules, 2016 shall be applicable to all the sites and buildings.
- (ii) Under the Solid Waste (Management and Handling) Rules, 2016, the owner/developer/promoter of a group housing project shall provide a Secondary Collection Point for Solid Waste handling within the site, of area not less than 10 sqm. and shall segregate the organic, in-organic, plastic waste and process the waste.

#### 11.2.6 Sustainability of Building Materials

Sustainability of natural resources for building materials shall be ensured through conservation of available natural resources and use of supplementary materials such as industrial/agricultural by-products, renewable resources, factory made building components and recycled construction and demolition waste. Supplementary building materials (derived or processed waste) shall be suitably used in combination with conventional resources offers dual advantages in purview of health & environmental benefits. Use of Factory made pre-fab/pre-cast and recycled components with *Green benefits:*

- a) Panels, hollow slabs, hollow blocks—etc. - conservation of materials, less water requirement.
- b) Fly Ash bricks, Portland Pozzolana cement, Fly ash concrete, phosphogypsum based walling & roofing panels, particle wood – recycled use of industrial/ agricultural by-products. (Ref. Table 14)
- c) Fly ash/ AAC (Autoclaved aerated light weight concrete) panels/ CLC (Cellular light weight concrete) panels- ensures thermal comfort (significant reduction in air conditioning requirement)
- d) Use of bamboo & rapidly growing plantation timbers- environmental benefits. Local materials are generally suitable for prevailing geo-climatic conditions & have advantage of low transportation cost & time. Sustainable use of building materials shall be encouraged which may combine certain mandatory provisions and incentives.

### **11.3 Various Guidelines for Green Rating systems**

The respective State Governments may prepare their separate *Green Rating* systems for buildings by selectively combining/adopting/amending the provisions between the following guidelines:

1. IGBC guidelines by the Confederation of Indian Industries.
2. GRIHA guidelines by the Ministry of New and Renewable Energy. GoI.

In pursuance of the *National Sustainable Habitat Mission* on *Energy Efficiency* in Buildings, the Municipal Corporation/Council/Committee/Nagar Panchayat shall encourage the provisions of the following Energy efficiency guidelines by certain mandatory provisions and incentives-

3. ECBC guidelines prepared by Bureau of Energy Efficiency, Ministry of Power. GoI
4. Model Energy Efficiency guidelines. (NSMH Sub report by Bureau of Energy Efficiency)
5. LEED rating system

### **11.4 Incentives for Green Buildings**

For promotion of Green Buildings and to bring sustainability in buildings, the Govt. has issued notification no. DTP(LG)-2016/2895 on dt. 19/12/2016, the same shall be adopted and followed by the ULBs.

**CHAPTER-XII**  
**FIRE PROTECTION AND FIRE SAFETY REQUIREMENTS**

**12.1 Scope**

This part covers the requirements of the fire protection for the multi-storeyed buildings (high rise buildings) and the buildings, which are of 15 m. and above in height and low occupancies of categories such as Assembly, Institutional, Educational (more than two storeyed and built-up area exceeds 1000 sq m.), Business (where plot area exceeds 500 sq m.), Mercantile (where aggregate covered area exceeds 750 sq m.), Hotel, Hospital, Nursing Homes, Underground Complexes, Industrial Storage, Meeting/Banquet Halls, Hazardous Occupancies.

**12.2 Procedure for clearance from fire service**

**12.2.1** The concerned Municipal Corporation/Council/Committee/Nagar Panchayat shall refer the building plans to the Chief Fire Officer for obtaining clearance in respect of building identified in these Bye- Laws.

**12.2.2** The Municipal Corporation/Council/Nagar Panchayat shall furnish three sets of complete building plans along with prescribed fee to the Chief Fire Officer, after ensuring that the proposals are in line with Master Plan/Zonal Plan of the area.

**12.2.3** The plans shall be clearly marked and indicate the complete fire protection arrangements and the means of access/escape for the proposed building with suitable legend along with standard signs and symbols on the drawings. The same shall be duly signed/certified by a licensed Fire Consultant/Architect. The information regarding fire safety measures shall be furnished along with details.

**12.2.4** The Chief Fire Officer shall examine these plans to ensure that they are in accordance with the provisions of fire safety and means of escape as per these bye-laws and shall forward two sets of plans duly signed for implementation to the building sanctioning Municipal Corporation/Council/Nagar panchayat.

**12.2.5** After completion of fire fighting installations as approved and duly tested and certified by the licensed Fire Consultant/Architect, the Owner/ Builder of the building shall approach the Chief Fire Officer through the concerned Municipal Corporation/Council/Nagar Panchayat for obtaining clearance from fire safety and means of escape point of view. The concerned Municipal Corporation/Council/Nagar panchayat shall ensure that clearance from Chief Fire Officer has been obtained for the building identified in clause 12.1 before granting the completion certificate.

**12.2.6** On receipt of the above request, the Chief Fire Officer shall issue the No Objection Certificate from fire safety and means of escape point of view after satisfying himself that the entire fire protection measures are implemented and functional as per approved plans.

**12.2.7** Any deficiencies observed during the course of inspection shall be communicated to the Municipal Corporation/Council/Nagar Panchayat for rectification and a copy of the same shall be forwarded to the concerned building owner /builder.

**12.2.8** An undertaking shall be given by the Fire Consultant that the building plans are in accordance with the provisions of fire safety and means of escape as per these bye-laws.

**12.3 Renewal of fire clearance**

On the basis of undertaking given by the Fire Consultant / Architect, the Chief Fire Officer shall renew the fire clearance in respect of the following buildings on annual basis:-

- 1) Public entertainment and assembly
- 2) Hospitals
- 3) Hotels
- 4) Underground shopping complex

**12.4 Fee**

For augmentation of fire service facilities for effecting rescue/fire fighting operation in high rise building, fee payable to Chief Fire Officer by the applicant(s) along with sets of plans for

obtaining the No Objection Certificate shall be as prescribed by the Municipal Corporation/Council/Nagar panchayat.

### **12.5 Fire Consultant**

The engaged Competent Professional for building plan design as prescribed of the project shall be responsible for making provisions for fire protection and fire fighting measure as provided in this Chapter and for that she / he may consult an expert in this field, as in case of other professionals for structural, sanitary and others.

### **12.6 Terminology**

For the purpose of this Chapter all the technical terms shall have the meaning as defined in National Building Code of India, Part-IV, Fire Protection as amended from time to time but for the terms which are defined otherwise in these bye-Laws.

### **12.7 General**

The Chief Fire Officer may insist on suitable provisions in the building from fire safety and means of escape point of view depending on the occupancy, height or on account of new developments creating special fire hazard, in addition to the provision of these building bye laws and part IV (Fire Protection) of National Building Code of India

#### **12.7.1 Fire Resistance of Types of Constructions / Building Components**

The fire resistance ratings for various types of construction for structural and nonstructural members shall be as given in Table 1 of Part IV of the NBC, 2005. Building elements/components such as walls, columns, beams and floors shall have the requisite fire resistance rating in accordance with the accepted standards at Tables 2 to 18 of Part IV of the NBC.

#### **12.7.2 The following Sections MEANS OF ACCESS**

As provided in Building Bye-Laws,

***Provisions of Exterior Open Spaces around the Building:***

As provided in building bye laws .

#### **12.7.3 EXIT REQUIREMENT**

As provided in Section 4.2 of Part 4, NBC 2005.

***Type of Exits:*** As provided in Section 4.2.1 of Part 4, NBC 2005.

***Number of Size of Exits:*** As provided in Section 4.6 of Part 4, NBC 2005.

***Arrangements of Exits:*** As provided in Section 4.5 of Part 4, NBC 2005.

***Occupant Load:*** As provided in Section 4.3 of Part 4, NBC 2005.

***Capacity of Exit:*** As provided in Section 4.4 of Part 4, NBC 2005.

***Staircase Requirements:*** As provided in Section 4.9 of Part 4, NBC 2005.

***Minimum Width Provision for Stairways:*** As provided in Section 4.9.6 of Part 4, NBC 2005

***Minimum Width Provision for Passageway/Corridors:*** As provided in Section 4.8 of Part 4, NBC 2005

***Doorways:*** As provided in Section 4.7 of Part 4, NBC 2005

***Stairways:*** As provided in Section 4.9 of Part 4, NBC 2005

### **12.8 Fire Escapes or External Stairs:**

- a) Fire escape shall not be taken into account while calculating the number of staircases for a building.
- b) All fire escapes shall be directly connected to the ground.
- c) Entrance to the fire escape shall be separate and remote from internal staircase.
- d) The route to fire escape shall be free of obstructions at all times except the doorway leading to the fire escape which shall have the required fire resistance.
- e) Fire escape shall be constructed of non-combustible materials.

- f) Fire escape stairs shall have straight flight not less than 125 cm wide with 25 cm treads and risers not more than 19 cm.
- g) Handrails shall be at a height not less than 100 cm.
- h) Fire escape staircase in the mercantile, business, assembly, hotel buildings above 24 m. height shall be a fire tower and in such a case width of the same shall not be less than the width of the main staircase. No combustible material shall be allowed in the fire tower.

### **12.8.1 Spiral Stairs**

- a) The use of spiral staircase shall be limited to low occupant load and to a building height 9 m.
- b) A spiral stair shall not be less than 150 cm in diameter and shall be designed to give the adequate headroom.

### **12.8.2 Staircase Enclosures**

- a) The external enclosing walls of the staircase shall be of the brick or the R.C.C. construction having fire resistance of not less than two hours. All enclosed staircases shall have access through self-closing door of one-hour fire resistance. These shall be single swing doors opening in the direction of the escape. The door shall be fitted with the check action door closers.
- b) The staircase enclosures on the external wall of the building shall be ventilated to the atmosphere at each landing.
- c) Permanent vent at the top equal to the 5% of the cross sectional area of the enclosure and openable sashes at each floor level with area equal to 1 to 15% of the cross sectional area of the enclosure on external shall be provided. The roof of the shaft shall be at least 1 m. above the surrounding roof. There shall be no glazing or the glass bricks in any internal closing wall of staircase. If the staircase is in the core of the building and cannot be ventilated at each landing, a positive of 5-mm. e.g. by electrically operated blower/blowers shall be maintained.
- d) The mechanism for pressurizing the staircase shaft shall be so installed that the same shall operate automatically on fire alarm system/sprinkler system and be provided with manual operation facilities.

### **12.8.3 Ramps**

- a) Ramps of slope of not more than 1 in 10 may be substituted for and shall comply with all the applicable requirements of all required stairways as to enclosure capacity and limiting dimensions. Larger slopes shall be provided for special uses but in no case greater than 1 in 8. For all slopes exceeding 1 in 10 and where the use is such as to involve danger of slipping, the ramp shall be surfaced with approved non-slipping material.
- b) The minimum width of the ramps in the Hospitals shall be 2.4 m. and in the basement using car parking shall be 6.0 m.
- c) Handrails shall be provided on both sides of the ramp.
- d) Ramp shall lead directly to outside open space at ground level or courtyards of safe place.
- e) For building above 24.0 m. in height, access to ramps from any floor of the building shall be through smoke fire check door.
- f) In case of nursing homes, hospitals etc. area exceeding 300 sq m. at each floor one of the exit facility shall be a ramp of not less than 2.4 m. in width.

### **12.9 Provision of lifts**

- a) Provision of the lifts shall be made for all multi-storeyed building having a height of 15.0 m. and above.
- b) All the floors shall be accessible for 24 hrs. by the lift. The lift provided in the buildings shall not be considered as a means of escape in case of emergency.
- c) Grounding switch at ground floor level to enable the fire service to ground the lift car in case of emergency shall also be provided.
- d) The lift machine room shall be separate and no other machinery be installed in it.

### **12.9.1 Lift Enclosure/lift**

General requirements shall be as follows

- a) Walls of lift enclosures shall have a fire rating of two hours. Lift shafts shall have a vent at the top of area not less than 0.2 sq m.
- b) Lift motor room shall be located preferably on top of the shaft and separated from the shaft by the floor of the room.
- c) Landing door in lift enclosures shall have a fire resistance of not less than one hour.
- d) The number of lifts in one lift bank shall not exceed four. A wall of two hours fire rating shall separate individual shafts in a bank.
- e) Lift car door shall have a fire resistance rating of 1 hour.
- f) For buildings 15.0 m. and above in height, collapsible gates shall not be permitted for lifts and solid doors with fire resistance of at least one hour shall be provided. g) If the lift shaft and lobby is in the core of the building a positive pressure between 25 and 30 pa shall be maintained in the lobby and a possible pressure of 50 pa shall be maintained in the lift shaft. The mechanism for the pressurization shall act automatically with the fire alarm/sprinkler system and it shall be possible to operate this mechanically also.
- h) Exit from the lift lobby, if located in the core of the building, shall be through a self-closing fire smoke check door of one-hour fire resistance.
- i) Lift shall not normally communicate with the basement. If however, lifts are in communication, the lift lobby of the basement shall be pressurized as in (g) with self closing door as in (h).
- j) Grounding switch(es), at ground floor level shall be provided to enable the fire service to ground the lifts.
- k) Telephone/talk back communication facilities may be provided in lift cars for communication system and lifts shall be connected to the fire control room of the building.
- l) Suitable arrangements such as providing slope in the floor of the lift lobby shall be made to prevent water used during fire fighting, etc at any landing from entering the lift shafts.
- m) A sign shall be posted and maintained on every floor at or near the lift indicating that in case of fire, occupants shall use the stairs unless instructed otherwise. The sign shall also contain a plan for each floor showing the location of the stairways. Floor marking shall be done at each floor on the wall in front of the lift-landing door.
- n) Alternate power supply shall be provided in all the lifts.

### **12.9.2 Fire Lift**

Following details shall apply for a fire lift in addition to above requirements:

- a) To enable fire service personnel to reach the upper floors with the minimum delay, one or more of the lifts shall be so designed so as to be available for the exclusive use of the fireman in an emergency and be directly accessible to every dwelling/lettable floor space on each floor.
- b) The lift shall have a floor area of not less than 1.4 sq.mt. It shall have a loading capacity of not less than 545 kg. (8 persons lift) with automatic closing doors.
- c) The electric supply shall be on a separate service from electric supply mains in a building and the cables run in a route safe from fire, that is within a lift shaft. Lights and fans in the elevator having wooden paneling or sheet steel construction shall be operated on 24-volt supply.
- d) In case of failure of normal electric supply, it shall automatically switch over to the alternate supply. For apartment houses, this changeover of supply could be done through manually operated changeover switch. Alternatively, the lift should be so wired that in case of power failure, it comes down at the ground level and comes to stand still with door open.
- e) The operation of a fire lift shall be by a single toggle of two-button switch situated in a glass-fronted box adjacent to the lift at the entrance level. When the switch is on landing; call points will become inoperative and the lift will be on car control only or on a priority control device.

When the switch is off, the lift will return to normal working. This lift can be used by the occupants in normal times.

- f) The words '*FIRE LIFT*' shall be conspicuously displayed in fluorescent paint on the lift landing doors at each floor level.
- g) The speed of the fire lift shall be such that it can reach to the top floor from ground level within one minute.

## **12.10 Basement**

As provided in the Building Bye-Laws.

### **12.10.1 Requirements**

- i) The access to the basement shall be either from the main or alternate staircase providing access and exit from higher floors. Where the staircase is continue the same shall be enclosed type serving as a fire separation from the basement floor and higher floors. Open ramps shall be permitted if they are constructed within the building line subject to the provision of the (iv).
- ii) In case of basement for office, sufficient number of exit ways and access ways shall be provided with a travel distance not more than 15.0 m. The travel distance in case of dead-end shall be 7.5 m.
- iii) The basement shall be partitioned and in no case compartment shall be more than 500 sq m. and less than 50 sq m. area except parking. Each compartment shall have ventilation standards as laid down in Bye-Laws separately and independently. The partition shall be made in consultation with Chief Fire Officer.
- iv) The first basement (immediately below ground level) can be used for services/parking/other permissible services. Lower basement, if provided, shall exclusively be used for car parking only.
- v) Each basement shall be separately ventilated. Vents with cross-sectional area (aggregate) not less than 2.5 percent of the floor area spread evenly round the perimeter of the basement shall be provided in the form of grills or breakable starboard lights or pavement lights or by way of shafts. Alternatively a system of air inlets shall be provided at basement floor level and smoke outlets at basement ceiling level. Inlets and extracts may be terminated at ground level with starboard or pavement lights as before. But ducts to convey fresh air to the basement floor level have to be laid. Starboard and pavement lights should be in positions easily accessible to the firemen and clearly marked "SMOKE OUTLET" or "AIR INLET" with an indication of area served at or near the opening.
- vi) The staircase of basement shall be of enclosed type having fire resistance of not less than two hours and shall be situated at the periphery of the basement to be entered at ground level only from the open air and in such positions that smoke from any fire in the basement shall not obstruct any exit serving the ground and upper stories of the building and shall communicate with basement through a lobby provided with fire resisting self closing door of one hour rating. In case of basement being used as car parking only, the travel distance shall be 45 m.
- vii) In multi-storeyed basements, intake duct may serve all basements levels, but each basement and basement compartment shall have separate smoke outlet duct or ducts. Mechanical extractors for smoke venting system from lower basement levels shall also be provided. The system shall be of such design as to operate on actuation of smoke, heat sensitive detectors/sprinklers, if installed, and shall have a considerably superior performance compared to the standard units. It shall also have an arrangement to start it manually.
- viii) Mechanical extractors shall have an internal locking arrangement so that extractors shall continue to operate and supply fans shall stop automatically with the actuation of fire detectors. Mechanical extractors shall be designed to permit 30 air changes per hour in case of fire or distress call. However, for normal operation, only 30 air changes or any other convenient factor can be maintained.
- ix) Mechanical extractors shall have an alternate source of power supply.
- x) Ventilating ducts shall be integrated with the structure and made out of brick masonry or RCC as far as possible and when this duct crosses the transformer area of electrical switchboard, fire dampers shall be provided.

- xi) Kitchens working on gas fuel shall not be permitted in basement/sub-basement.
- xii) If cutouts are provided from basement to the upper floors or to the atmosphere, all side cutout openings in the basements shall be protected by sprinkler heads at closed spacing so as to form a water curtain in the event of a fire.
- xiii) Dewatering pump shall be provided in all basements.

### **12.11 Provision of helipad**

All high-rise buildings of height 200 m. and above shall have provision for a Helipad as per the norms. The same shall be approved by the Municipal Corporation/Council/Nagar panchayat.

### **12.12 Service ducts/refuge chute**

- a) Service duct shall be enclosed by walls and door, if any, of 2 hours fire rating. If ducts are larger than 10 sq m. the floor should seal them, but provide suitable opening for the pipes to pass through, with the gaps sealed.
- b) A vent opening at the top of the service shaft shall be provided between one-fourth and one-half of the area of the shaft. Refuge chutes shall have an outlet at least of wall of non-combustible material with fire resistance of not less than two hours. They shall not be located within the staircase enclosure or service shafts or air-conditioning shafts. Inspection panel and door shall be tight fitting with 1 hour fire resistance; the chutes should be as far away as possible from exits.
- c) Refuge chutes shall not be provided in staircase walls and A/C shafts etc.

### **12.13 Electrical services**

Electrical Services shall conform to the following:

- a) The electric distribution cables/wiring shall be laid in a separate duct shall be sealed at every floor with non-combustible material having the same fire resistance as that of the duct. Low and medium voltage wiring running in shaft and in false ceiling shall run in separate conduits.
- b) Water mains, telephone wires, inter-com lines, gas pipes or any other service lines shall not be laid in ducts for electric cables.
- c) Separate conduits for water pumps, lifts, staircases and corridor lighting and blowers for pressuring system shall be directly from the main switch panel and these circuits shall be laid in separate conduit pipes, so that fire in one circuit will not affect the others. Master switches controlling essential service circuits shall be clearly labeled.
- d) The inspection panel doors and any other opening in the shaft shall be provided with airtight fire doors having fire resistance of not less than 1 hour.
- e) Medium and low voltage wiring running in shafts, and within false ceiling shall run in metal conduits. Any 230 voltage wiring for lighting or other services, above false ceiling should have 660V grade insulation. The false ceiling including all fixtures used for its suspension shall be of non-combustible material.
- f) An independent and well-ventilated service room shall be provided on the ground floor with direct access from outside or from the corridor for the purpose of termination of electrical supply from the licenses service and alternative supply cables. The doors provided for the service room shall have fire resistance of not less than 1 hour.
- g) Miniature circuit breakers(MCB) and Earth leakage circuit breaker (ELCB) shall be provided for electrical circuit.

### **12.14 Staircase and corridor lights**

The staircase and corridor lighting shall be on separate circuits and shall be independently connected so that it could be operated by one switch installation on the ground floor easily accessible to fire fighting staff at any time irrespective of the position of the individual control of the light points, if any. It should be of miniature circuit breaker type of switch so as to avoid replacement of fuse in case of crisis.

- a) Staircase and corridor lighting shall also be connected to alternate source of power supply.

- b) Suitable arrangement shall be made by installing double throw switches to ensure that the lighting installed in the staircase and the corridor does not get connected to two sources of supply simultaneously. Double throw switch shall be installed in the service room for terminating the stand by supply.
- c) Emergency lights shall be provided in the staircase and corridor.

### **12.15 Air-conditioning**

- a) Air- conditioning system should be installed and maintained so as to minimize the danger of spread of fire, smoke or fumes thereby from one floor of fire area to another or from outside into any occupied building or structure.—
- b) Air -Conditioning systems circulating air to more than one floor area should be provided with dampers designed to close automatically in case of fire and thereby prevent spread of fire or smoke. Such a system should also be provided with automatic controls to stop fans in case of fire, unless arranged to remove smoke from a fire, in which case these should be designed to remain in operation.
- c) Air- conditioning system serving large places of assembly (over one thousand persons), large departmental stores, or hostels with over 100 rooms in a single block should be provided with effective means for preventing circulation of smoke through the system in the case of fire in air filters or from other sources drawn into the system even though there is insufficient heat to actuate heat smoke sensitive devices controlling fans or dampers. Such means shall consist of approved effective smoke sensitive controls.

#### **12.15.1 Air- Conditioning should conform to the following:**

- a) Escape routes like staircase, common corridors, lift lobbies; etc should not be used as return air passage.
- b) The ducting should be constructed of metal in accordance with BIS 655:1963
- c) Wherever the ducts pass through fire walls or floor, the opening around the ducts should be sealed with fire resisting material of same rating as of walls/floors.
- d) Metallic ducts should be used even for the return air instead of space above the false ceiling.
- e) The material used for insulating the duct system (inside or outside) should be of flame resistant (IS 4355: 1977) and non- conductor of heat.
- f) Area more than 750 sq m. on individual floor should be segregated by a firewall and automatic fire dampers for isolation should be provided.
- g) In case of more than one floor, arrangement by way of automatic fire dampers for isolating the ducting at every floor from the floor should be made. Where plenums used for return air passage, ceiling and its features and air filters of the air handling units, these should be flame resistant. Inspection panels should be provided in the main trenching. No combustible material should be fixed nearer than 15 cm. to any duct unless such ducting is properly enclosed and protected with flame resistant material
- h) In case of buildings more than 24 m. in height, in non-ventilated lobbies, corridors, smoke extraction shaft should be provided.

#### **12.15.2 Fire Dampers**

- a) These shall be located in air ducts and return air ducts/passages at the following points:
  - i) At the fire separation wall.
  - ii) Where ducts/passages enter the central vertical shaft.
  - iii) Where the ducts pass through floors.
  - iv) At the inlet of supply air duct and the return air duct of each compartment on every floor.
- b) The dampers shall operate automatically and shall simultaneously switch off the air- handling fans. Manual operation facilities shall also be provided.

*Note: For blowers, where extraction system and dust accumulators are used, dampers shall be provided.*

- c) Fire/smoke dampers (for smoke extraction shafts) for building more than 24 m. in height. For apartment houses in non-ventilated lobbies/corridor operated by detection system and manual

control sprinkler system. For other buildings on operation of smoke/heat detection system and manual control/sprinkler system.

- d) Automatic fire dampers shall be so arranged so as to close by gravity in the direction of air movement and to remain tightly closed on operation of a fusible link.

### **12.16 Boiler Room**

Provisions of boiler and boiler rooms shall conform to Indian Boiler Act, 2007. Further, the following additional aspects may be taken into account in the location of boiler/ boiler room -

- a) The boiler shall not be allowed in sub-basement, but may be allowed in the basement away from the escape routes.
- b) The boilers shall be installed in a fire resisting room of 4 hours fire resistance rating, and this room shall be situated on the periphery of the basement. Catch pits shall be provided at the low level.
- c) Entry to this room shall be provided with a composite door of 2 hours fire resistance.
- d) The boiler room shall be provided with fresh air inlets and smoke exhaust directly to the atmosphere.
- e) The furnace oil tank for the boiler if located in the adjoining room shall be separated by fire resisting wall of 4 hours rating. The entrance to this room shall be provided with double composite doors. A curb of suitable height shall be provided at the entrance in order to prevent the flow of oil into boiler room in case of tank rupture.
- f) Foam inlets shall be provided on the external walls of the building near the ground level to enable the fire services to use foam in case of fire.

### **12.17 Alternate source of electric supply**

A stand by electric generator shall be installed to supply power to staircase and corridor lighting circuits, lifts detection system, fire pumps, pressurization fans and bowlers, Public Addressal (PA) system, exit sign, smoke extraction system, in case of failure of normal electric supply. The generator shall be capable of taking starting current of all the machines and circuits stated above simultaneously. If the standby pump is driven by diesel engine, the generator supply need not be connected to the standby pump. The generator shall be automatic in operation.

### **12.18 Safety measures in electric sub-station**

- 1) Clear independent approach to the sub-station from outside the building shall be made available round the clock
- 2) The approaches/corridors to the sub-station area shall be kept clear for movement of men and material at all times.
- 3) The sub-station space is required to be provided with proper internal lighting arrangements.
- 4) In addition to natural ventilation proper ventilation to the sub-station area is to be provided by grill shutters and exhaust fans at suitable places so as to discharge all smoke from the sub-station without delay in case of fire so that sub-station operations can be carried out expeditiously.
- 5) Cable trenches of 0.6 m. X 0.6 m. dummy floor of 0.6 mt. depth shall be provided to facilitate laying of cable inside the building for connecting to the equipment.
- 6) Steel shutters of 8'X 8' with suitable grills shall be provided for transformers and sub-station room.
- 7) The floor of the sub-station should be capable of carrying 10 tons of transformer weight on wheels.
- 8) Built up substation space is to be provided free of cost.
- 9) Sub-station space should be clear from any water, sewer, air conditioning, and gas pipe or telephone services. No other service should pass through the sub station space or the cable trenches.
- 10) Proper ramp with suitable slope may be provided for loading and unloading of the equipment and proper approach will be provided.

- 11) RCC pipes at suitable places as required will be provided for the cable entries to the sub station space and making suitable arrangement for non-ingress of water through these pipes.
- 12) The sub station space is to be provided in the approved/sanctioned covered area of the building.
- 13) Any other alteration /modification required while erection of the equipment will be made by the Owner / builder at site as per requirement.
- 14) Adequate arrangement for fixing chain pulley block above the fixing be available for load of 15 tons.
- 15) Provision shall be kept for the sumps so as to accommodate complete volume of transformer oil, which can spillover in the event of explosion of the transformer in the basement of the building. Sufficient arrangement should exist to avoid fire in the sub-station building from spread of the oil from the sumps.
- 16) Arrangement should be made for the provision of fire retardant cables so as to avoid chances of spread of fire in the sub-station building.
- 17) Sufficient pumping arrangement should exist for pumping the water out, in case of fire so as to ensure minimum loss to the switchgear and transformer.
- 18) No combustible material should be stacked inside the substation premises or in the vicinity to avoid chances of fire.
- 19) It should be made mandatory that the promoters of the multi-storeyed building should get substation premises inspected once a year to get their license revalidated for the provision of electric supply from Electricity Board so that suitable action can be taken against the Owner / Builder in case of no implementation of Bye-Laws.
- 20) The sub-station must not be located below the 1st basement and above the ground floor.
- 21) The sub-station space should be totally segregated from the other areas of the basement by fire resisting wall. The ramp should have a slope of 1:10 with entry from ground level. The entire Sub-station space including the entrance at ground floor be handed over to the licensee of electricity free of cost and rent.
- 22) The sub-station area shall have a clear height of 15 feet (4.5 m.) below beams. Further the Sub-station area will have level above the rest of basement level by 2 feet.
- 23) It is to be ensured that the Sub-station area is free of seepage / leakage of water.
- 24) The licensee of electricity will have the power to disconnect the supply of the building in case of violation of any of the above points. However, provision of emergency lights has to be made in the sub-station for emergency operations.
- 25) Electric sub-station enclosure must be completely segregated with 4-hours fire rating wall from remaining part of basement.11
- 26) The sub-station should be located on periphery /sub basement and (not above ground floor).
- 27) Additional exit shall be provided if travel distance from farthest corner to ramp is more than 15 m.
- 28) Perfect independent vent system 30 air changes per hour linked with detection as well as automatic high velocity water spray system shall be provided.
- 29) All the transformers shall be protected with Nitrogen Injection System Carbon Dioxide total flooding system in case of oil filled transformer. In addition to this, manual control of auto high velocity spray system for individual transformers shall be located outside the building at ground floor.
- 30) Suitable arrangement for pump house, water storage tanks with main electrical pump and a diesel-operated pump shall be made if no such arrangement is provided in the building. In case the water pumping facilities are existing in the building for sprinkler system, the same should however be utilized for high velocity water spray system. Alternatively automatic CO2 total flooding system shall be provided with manual controls outside the electric sub-station.
- 31) System shall have facility to give an audio alarm in the basement as well as at the control room.
- 32) Fire control room shall be manned round the clock.

- 33) The electric sub station shall have electric supply from alternate source for operation of vent System lighting arrangements.
- 34) Cable trenches shall be filled with sand.
- 35) Partition walls shall be provided between two transformers as per the rules.
- 36) Electric control panels shall be segregated.
- 37) Exits from basement electric substation shall have self-closing fire smoke check doors of 2-hours fire rating near entry to ramp.
- 38) All openings to lower basement or to ground floor shall be sealed properly.
- 39) Yearly inspection shall be carried out by electrical load sanctioning Municipal Corporation/Council/Committee/Nagar Panchayat.
- 40) Ramp to be designed in a manner that in case of fire no smoke should enter the main building.
- 41) Electric sub-station transformer shall have clearance on all sides as per BBL/relevant electric rules.
- 42) Other facility will be as per Building Bye-Laws and relevant electric rules.
- 43) Rising electrical mains shall consist of metal bus bars suitably protected from safety point of view.
- 44) Oil less transformer shall be preferred. If the sub-station is located in basement / ground floor of the main building, the transformers shall be essentially of dry type. In case of dry type transformer room with wall enclosure is not essential.

*Note: The sub-station installations shall be carried out in conformity with the local fire regulations and rules there under wherever they are in force. At other places NBC guidelines shall be followed.*

### **12.19 Fire protection requirements**

Buildings shall be planned, designed and constructed to ensure fire safety and this shall be done in accordance with part IV Fire Protection of NBC, 2005 of India, unless otherwise specified in these Bye-Laws.

#### **12.19.1 First Aid /Fixed Fire Fighting /Fire Detection Systems and other Facilities**

Provision of fire safety arrangement for different occupancy from. Sl.No. 1 to 23 shall be as indicated below :

1. Access
2. Wet Riser
3. Down Comer
4. Hose Reel
5. Automatic Sprinkler System
6. Yard Hydrant
7. U.G. Tank with Draw off Connection
8. Terrace Tanks
9. Fire Pump
10. Terrace Pump
11. First Aid Fire Fighting Appliances
12. Auto Detection System
13. Manual operated Electrical Fire Alarm System
14. P.A System with talk back facility
15. Emergency Light
16. Auto D.G. Set
17. Illuminated Exit Sign
18. Means of Escape
19. Compartmentation
20. MCB /ELCB
21. Fire Man Switch in Lift
22. Hose Boxes with Delivery Hoses and Branch
23. Pipes Refuge Area

### **12.19.1.1 Notes :**

1. Where more than one riser is required because of large floor area, the quantity of water and pump capacity recommended should be finalized in consultation with Chief Fire Officer.
2. The above quantities of water shall be exclusively for fire fighting and shall not be utilized for domestic or other use.
3. A facility to boost up water pressure in the riser directly from the mobile pump shall be provided in the wet riser, down comer system with suitable fire service inlets (collecting head) with 2 to 4 numbers of 63 mm inlets for 100-200 mm dia main, with check valve and a gate valve.
4. Internal diameter of rubber hose for reel shall be minimum 20 mm. A shut off branch with nozzle of 5 mm. size shall be provided.
5. Fire pumps shall have positive suctions. The pump house shall be adequately ventilated by using normal/mechanical means. A clear space of 1.0 m. shall be kept in between the pumps and enclosure for easy movement/maintenance. Proper testing facilities and control panel etc. shall be provided.
6. Unless otherwise specified in Bye-Laws, the fire fighting equipments/ installation shall conform to relevant Indian Standard Specification.
7. In case of mixed occupancy, the fire fighting arrangement shall be made as per the highest class of occupancy.
8. Requirement of water based first aid fire extinguishers shall be reduced to half if hose reel is provided in the Building.

### **12.20 Static water storage tank**

- a) A satisfactory supply of water exclusively for the purpose of fire fighting shall always be available in the form of underground static storage tank with capacity specified with arrangements of replenishment b' town's main or alternative source of supply @ 1000 liters per minute. The static storage water supply required for the above mentioned purpose should entirely be accessible to the fire tenders of the local fire service. Provision of suitable number of manholes shall be made available for inspection repairs and insertion of suction hose etc. The covering slab shall be able to withstand the vehicular load of 45 tonnes in case of high rise and 22 tonnes in case of low rise buildings. A draw off connection shall be provided. The slab need not strengthened if the static tank is not located in mandatory set- back area.
- b) To prevent stagnation of water in the static water tank the suction tank of the domestic water supply shall be fed only through an over flow arrangement to maintain the level therein at the minimum specified capacity.
- c) The static water storage tank shall be provided with a fire brigade collecting branching with 4 Nos. 63mm dia instantaneous male inlets arranged in a valve box with a suitable fixed pipe not less than 15 cm dia to discharge water into the tank. This arrangement is not required where down comer is provided.

### **12.21 Automatic sprinklers**

Automatic sprinkler system shall be installed in the following buildings:

- a) All buildings of 24 m. and above in height, except group housing and 45 m. and above in case of apartment /group housing society building.
- b) Hotels below 15 m. in height and above 1000 sq m. built up area at each floor and or if basement is existing.
- c) All hotels, mercantile, and institutional buildings of 15 m. and above.
- d) Mercantile buildings having basement more than one floor but below 15 m. (floor area not exceeding 750 sq m.)
- e) Underground Shopping Complex.
- f) Underground car / scooter parking /enclosed car parking.
- g) Basement area 200 sq m. and above.
- h) Any special hazards where the Chief Fire Officer considers it necessary.

- i) For buildings up to 24 m. in height where automatic sprinkler system is not mandatory as per these Bye-Laws, if provided with sprinkler installation following relaxation may be considered.
- ii) Automatic heat/smoke detection system and M.C.P. need not be insisted upon.
- iii) The number of Fire Extinguisher required shall be reduced by half.

### **12.22 Fixed Carbon di-oxide /Foam/DCO water spray extinguishing system**

Fixed extinguishing installations shall be provided as per the relevant specifications in the premises where use of above extinguishing media is considered necessary by the Chief Fire Officer.

### **12.23 Fire alarm system**

All buildings of 15 m. and above in height shall be equipped with fire alarm system, and also residential buildings (Dwelling House, Boarding House and Hostels) above 24 m. height.

- a) All residential buildings like dwelling houses (including flats) boarding houses and hostels shall be equipped with manually operated electrical fire alarm system with one or more call boxes located at each floor. The location of the call boxes shall be decided after taking into consideration their floor without having to travel more than 22.5 m.
- b) The call boxes shall be of the break glass type without any moving parts, where the call is transmitted automatically to the control room without any other action on the part of the person operating the call boxes.
- c) All call boxes shall be wired in a closed circuit to a control panel in a control room, located as per Bye-Laws so that the floor number from where the call box is actuated is clearly indicated on the control panel. The circuit shall also include one or more batteries with a capacity of 48 hours normal working at full load. The battery shall be arranged to be a continuously trickle charged from the electric mains.
- d) The call boxes shall be arranged to sound one or more sounders so as to ensure that all occupants of the floor shall be warned whenever any call box is actuated.
- e) The call boxes shall be so installed that they do not obstruct the exit ways and yet their location can easily be noticed from either direction. The base of the call box shall be at a height of 1.5 m. from the floor level.
- f) All buildings other than as indicated above shall, in addition to the manually operated electrical fire alarm system, be equipped with an automatic fire alarm system.
- g) Automatic detection system shall be installed in accordance with the relevant standard specifications. In buildings where automatic sprinkler system is provided, the automatic detection system may not be insisted upon unless decided otherwise by the Chief Fire Officer.

*Note: The installation of Fire Alarm Systems shall be carried out in conformity with the local fire regulations and rules, there under whenever they are in force and the provisions in local bye-laws, if any. Several type of fire detectors are available in the market but the application of each type is limited and has to be carefully considered in relation to the type of risk and the structural features of the building where they are to be installed.*

### **12.24 Control Room**

There shall be a control room on the entrance floor of the building with communication system (suitable public address system) to all floors and facilities for receiving the message from different floors. Details of all floor plans along with the details of fire fighting equipment and installation shall be maintained in the Control Room. The Control Room shall also have facility to detect the fire on any floor through indicator boards connecting fire detection and alarm system on all floors. The staff in charge of the Control Room shall be responsible for the maintenance of the various services and fire fighting equipment and installation. The Control Room shall be manned round the clock by trained fire fighting staff.

### **12.25 Fire drills and fire orders**

The guidelines for fire drill and evacuation etc. for high-rise building may be seen in Appendix (B) of NBC 2005 part IV. All such buildings shall prepare the fire orders duly approved by the

Chief Fire Officer. A qualified fire officer and trained staff shall be appointed for the following buildings:

- a) All high rise buildings above 30 m. in height where covered area of one floor exceeds 1000 sq m. except apartments / group housing.
- b) All hotels, identified under classification 3 star and above category by Tourism Department and all hotels above 15 m. in height with 150 beds capacity or more without star category.
- c) All hospital building of 15 m. and above or having number of beds exceeding 100.
- d) Underground shopping complex where covered area exceeds 1000 sq m.
- e) All high hazard industries.
- f) Any other risk which Chief Fire Officer considers necessary. The **lightening protection** warning light (red) for high-rise buildings shall be provided in accordance with the relevant standard. The same shall be checked by electrical department.

### **12.26 Material used for construction of building**

- a) The combustible/flammable material shall not be used for partitioning, wall paneling, false ceiling etc. Any material giving out toxic gases/smoke if involved in the fire shall not be used for partitioning of a floor or wall paneling or a false ceiling etc. The surface frames spread of the lining material shall conform to class- I of the standard specification. The framework of the entire false ceiling would be provided with metallic sections and no wooden framework shall be allowed for paneling/false ceiling.
- b) Construction features/elements of structures shall conform to National Building Code and BIS code.

### **12.27 Liquefied Petroleum Gas (LPG)**

The use of LPG shall not be permitted in the high-rise building except residential/hotel/hostel/kitchen/pantry (if any) and shall be located at the periphery of the building on the ground level.

### **12.28 House keeping**

A high standard of house keeping must be insisted upon by all concerned. There must be no laxity in this respect. It must be borne in mind that fire safety is dependent to a large extent upon good housekeeping.

#### **12.28.1 Good House-Keeping includes the following:-**

- a) Maintaining the entire premises in neat and clean condition.
- b) Ensuring that rubbish and combustible material are not thrown about or allowed to accumulate, even in small quantity, in any portion of the building. Particular attention must be paid to corners and places hidden from view.
- c) Providing metal receptacles/waste paper basket (of non-combustible material) at suitable locations for disposal of waste. Separate receptacles must be provided for disposal of cotton rags/waste, wherever it is generated, these must under no circumstances be left lying around in any portion of the building.
- d) Ensuring that receptacles for waste are emptied at regular intervals and the waste removed immediately for safe disposal outside the building.
- e) Ensuring that all doors/fixtures are maintained in good repairs, particular attention must be paid to self-closing fire smoke check doors and automatic fire/doors/rolling shutters.
- f) Ensuring that self-closing fire/smoke check doors close properly and that the doors are not wedged open.
- g) Ensuring that the entire structure of the building is maintained in good repairs.
- h) Ensuring that all electrical and mechanical service equipments are maintained in good working condition at all times.
- i) Ensuring that Cars /Scooters etc. are parked systematically in neat rows. It is advisable to mark parking lines on the ground in the parking areas near the building and in the parking area on ground floor and in basement(s); as applicable, inside the building. A parking attendant must

ensure that vehicles are parked in an orderly manner and that the vehicles do not encroach upon the open space surrounding the building.

### **12.28.2 Smoking Restrictions**

- a) Smoking shall be prohibited throughout the basement(s) and in all areas where there is a profusion of combustible materials. Easily readable "NO SMOKING" signs must be conspicuously posted at locations where they can catch the eye. Each sign must also include a pictograph. The sign may also be illuminated.
- b) In all places where smoking is permitted ashtrays, half filled with water, must be placed on each table/at each other suitable locations for safe disposal of spent smoking material. The design of the ashtrays must be such that they cannot easily topple over. If, for any reason, this is not practicable a minimum of one metal bucket or other non-combustible container half filled with water must be provided in each compartment for disposal of spent smoking materials.

### **12.28.3 Limiting the Occupant Load in Parking and Other Areas of Basement(s)**

Where parking facility is provided in the basement(s) no person other than the floor parking attendant may be allowed to enter and remain in the parking areas except for parking and removal of Cars/Scooters. Regular offices must not be maintained in the storage/parking area in the basement(s). The stores/godowns must be opened for the limited purpose of keeping or removing stores. No person other than those on duty may be permitted in the air-conditioning plant room(s), HT/LT switch room, transformer compartment, control room pump-house, generator room, stores and records etc.

### **12.29 Fire prevention**

In addition to the measures recommended above, the following fire prevention measures must be implemented when the building is in occupation.

- a) Storage of flammable substances, such as diesel oil, gasoline, motor oils, etc must not be allowed anywhere within the building. The only exception to this rule may be:
  - i) Storage of diesel oil in a properly installed tank in a fire-resisting compartment in the generator room;
  - ii) Diesel oil, gasoline, motor oil etc, filled in the vehicle tanks.
- b) Preparation of tea and warming of food must be prohibited throughout the building.
- c) Where heaters are used during winters, the following precautions must be taken.
  - i) All heaters, except convector heaters, must be fitted with guards.
  - ii) Heaters must not be placed in direct contact with or too close to any combustible material.
  - iii) Heaters must be kept away from curtains to ensure that the latter do not blow over the heater accidentally.
  - iv) Heaters must not be left unattended while they are switched on.
  - v) Defective heaters must be immediately removed from service until they have been repaired and tested for satisfactory performance.
  - vi) Use of heaters must be prohibited in the entire basement, fire control room and in all weather maker rooms throughout the building. Also in all places where there is profusion of combustible flammable materials.
- d) Use of candles or other naked light flame must be forbidden throughout the building, except in the offices (for sealing letters only) and kitchen. When candles/ spirit lamps are used for sealing letters/packages, extreme care must be taken to ensure that paper do not come in direct contact with the naked flame and the candle/spirit lamp does not topple over accidentally while still lighted. All candles/spirit lamps kitchen fires must be extinguished when no longer required.
- e) Fluorescent lights must not be directly above the open file racks in offices/record rooms. Where this is unavoidable, such lights must be switched on only for as long as they are needed.

- f) Filling up of old furniture and other combustible materials such as scrap paper, rags, etc. must not be permitted anywhere in the building. These must be promptly removed from the building.
- g) More than one portable electrical appliance must not be connected to any single electrical outlet.
- h) Used stencils, ink smeared combustible materials and empty ink tubes must not be allowed to accumulate in rooms/compartments where cyclostyling is done. These must be removed and disposed off regularly.
- i) All shutters/doors of main switch panels and compartments/shafts for electrical cables must be kept locked.
- j) Aisles in record rooms and stores must have a clear uniform width of not less than 1.0 m. Racks must not be placed directly against the wall/partition.
- k) In record rooms, offices and stores, a clear space of not less than 30 cm. must be maintained between the top-most stack of stores/records and the or lighting fittings whichever is lower.
- l) A similar clearance, and at (k) above must be maintained from fire detectors. m) Fire detectors must not be painted under any circumstances and must also be kept free from lime/distemper.
- n) Records must not be piled/dumped on the floor.
- o) Welding or use of blow torch shall not be permitted inside the building, except when it is done under strict supervision and in full conformity with the requirements laid down in IS: 3016-1966 code of practice for fire precautions in welding and cutting operation.
- p) Printing ink/oil must not be allowed to remain on the floor, the floor must be maintained in a clean condition at all times.

### **12.30 Occupancy restrictions**

- a) The premises leased to any party shall be used strictly for the purpose for which they are leased.
- b) No dangerous trade/practices (including experimenting with dangerous chemicals) shall be carried on in the leased premises.
- c) No dangerous goods shall be stored within the leased premises.
- d) The common/public corridor shall be maintained free of obstructions, and the lessee shall not put up any fixtures that may obstruct the passage in the corridor and/or shall not keep any wares, furniture or other articles in the corridor.
- e) The penalty for contravention of the condition laid down below must be immediate termination of lease and removal of all offending materials.
- f) Regular inspection and checks must be carried out at frequent intervals to ensure compliance with conditions above.

*Note: For any further details / clarification NBC, Part 4 shall be referred. Norms and standards in Part 4 of NBC 2005 shall be overriding in any instance of variance of standards.*

**CHAPTER-XIII**  
**CONSERVATION OF HERITAGE SITES INCLUDING HERITAGE BUILDINGS,**  
**HERITAGE PRECINCTS AND NATURAL FEATURE AREAS**

Conservation of heritage sites shall include buildings, artifacts, structures, areas and precincts of historic, aesthetic, architectural, cultural or environmentally significant nature (heritage buildings and heritage precincts), natural feature areas of environmental significance or sites of scenic beauty.

**13.1 Applicability**

These regulations shall apply to heritage sites which shall include those buildings, artifacts, structures, streets, areas and precincts of historic, architectural, aesthetic, cultural or environmental value (hereinafter referred to as Listed Heritage Buildings/Listed Heritage Precincts) and those natural feature areas of environmental significance or of scenic beauty including, but not restricted to, sacred groves, hills, hillocks, water bodies (and the areas adjoining the same), open areas, wooded areas, points, walks, rides, bridle paths (hereinafter referred to as ‘listed natural feature areas’) which shall be listed in notification(s) to be issued by the State Government / identified in Master Plan. The provisions in this chapter are beyond the regulations applicable on the *Prohibited and Regulated areas* as defined by Ancient Monuments and Archaeological Sites and Remains (AMASR) Act 2010, where *site specific Heritage Bye-Laws* prepared and notified by the Competent Authority under the AMASR Act shall be applicable. NOC shall have to be obtained by submission of required documents as may be necessary, including “*Heritage Impact Assessment*” report, if so necessitated by the NMA.

**13.1.1 Definitions**

- a) “*Heritage building*” means and includes any building of one or more premises or any part thereof and/or structure and/or artifact which requires conservation and/or preservation for historical and/or architectural and/or artisanry and/or aesthetic and/or cultural and/or environmental and/or ecological purpose and includes such portion of land adjoining such building or part thereof as may be required for fencing or covering or in any manner preserving the historical and/or architectural and/or aesthetic and/or cultural value of such building.
- b) “*Heritage Precincts*” means and includes any space that requires conservation and/or preservation for historical and/or architectural and/or aesthetic and/or cultural and/or environmental and/or ecological purpose. Walls or other boundaries of a particular area or place or building or may enclose such space by an imaginary line drawn around it.
- c) “*Conservation*” means all the processes of looking after a place so as to retain its historical and/or architectural and/or aesthetic and/or cultural significance and includes maintenance, preservation, restoration, reconstruction and adoption or a combination of more than one of these.
- d) “*Preservation*” means and includes maintaining the fabric of a place in its existing state and retarding deterioration
- e) “*Restoration*” means and includes returning the existing fabric of a place to a known earlier state by removing accretions or by reassembling existing components without introducing new materials.
- f) “*Reconstruction*” means and includes returning a place as nearly as possible to a known earlier state and distinguished by the introduction of materials (new or old) into the fabric. This shall not include either recreation or conjectural reconstruction.

**13.2 Responsibility of the owners of heritage buildings**

It shall be the duty of the owners of heritage buildings and buildings in heritage precincts or in heritage streets to carry out regular repairs and maintenance of the buildings. The State Government, the Municipal Corporation or the Local Bodies and Authorities concerned shall not

be responsible for such repair and maintenance except for the buildings owned by the Government, the Municipal Corporation or the other local bodies.

### **13.3 Restrictions on development / re-development / repairs etc.**

No development or redevelopment or engineering operation or additions / alterations, repairs, renovations including painting of the building, replacement of special features or plastering or demolition of any part thereof of the said listed buildings or listed precincts or listed natural feature areas shall be allowed except with the prior permission of Municipal Corporation/Council/Nagar panchayat. Before granting such permission, the agency concerned shall consult the Heritage Conservation Committee to be appointed by the State Government and shall act in accordance with the advice of the Heritage Conservation Committee.

- i) Provided that, before granting any permission for demolition or major alterations / additions to listed buildings (or buildings within listed streets or precincts), or construction at any listed natural features, or alteration of boundaries of any listed natural feature areas, objections and suggestions from the public shall be invited and shall be considered by the Heritage Conservation Committee.
- ii) Provided that, only in exceptional cases, for reasons to be recorded in writing, the Municipal Corporation/Council/Nagar panchayat may refer the matter back to the Heritage Conservation Committee for reconsideration. However, the decision of the Heritage Conservation Committee after such reconsideration shall be final and binding.

### **13.4 Penalties**

Violation of the regulations shall be punishable under the provisions regarding unauthorized development. In case of proved deliberate neglect of and/or damage to Heritage Buildings and Heritage Precincts, or if the building is allowed to be damaged or destroyed due to neglect or any other reason, in addition to penal action provided under the concerned Act, no permission to construct any new building shall be granted on the site if a Heritage Building or Building in a Heritage Precinct is damaged or pulled down without appropriate permission from Municipal Corporation/Council/Nagar panchayat. It shall be open to the Heritage Conservation Committee to consider a request for rebuilding/ reconstruction of a Heritage Building that was unauthorizedly demolished or damaged, provided that the total built-up area in all floors put together in such new construction is not in excess of the total built-up area in all floors put together in the original Heritage Building in the same form and style in addition to other controls that may be specified.

### **13.5 Preparation of list of heritage sites including heritage buildings, heritage precincts and listed natural feature areas**

The list of heritage sites including Heritage Buildings, Heritage Precincts and listed Natural Features Areas is to be prepared and supplemented by the Municipal Corporation/Council/Nagar Panchayat on the advice of the Heritage Conservation Committee. Before being finalized, objections and suggestions of the public are to be invited and considered. The said list to which the regulation applies shall not form part of this regulation for the purpose of Building Bye-laws. The list may be supplemented from time to time by Government on receipt of proposal from the agency concerned or by Government *suo-moto* provided that before the list is supplemented, objections and suggestions from the public be invited and duly considered by the Municipal Corporation/Council/Nagar panchayat /and/or State Government and / or the Heritage Conservation Committee. When a building or group of buildings or natural feature areas are listed it would automatically mean (unless otherwise indicated) that the entire property including its entire compound / plot boundary along with all the subsidiary structures and artifacts, etc. within the compound/plot boundary, etc. shall form part of list.

### **13.6 Alteration / modification / relaxation in development norms**

On the advice of the said Heritage Conservation Committee to be appointed by the Government and for reasons to be recorded in writing, Municipal Corporation/Council/Nagar Panchayat shall follow the procedure as per relevant/Municipal Acts, to alter, modify or relax the

Development Control Norms prescribed in the Master Plan, if required, for the conservation or preservation or retention of historic or aesthetic or cultural or architectural or environmental quality of any heritage site.

### **13.7 Heritage precincts / Natural feature areas**

In cases of streets, precincts, areas and (where deemed necessary by the Heritage Conservation Committee) natural feature areas notified, development permissions shall be granted in accordance with the special separate regulation prescribed for respective streets, precincts / natural feature areas which shall be framed by the Municipal Corporation/Council/Nagar Panchayat on the advice of the Heritage Conservation Committee. Before finalizing the special separate regulations for precincts, streets, natural features, areas, the draft of the same shall be published in the official gazette and in leading newspapers for the purpose of inviting objections and suggestions from the public. All objections and suggestions received within a period of 30 days from the date of publication in the official gazette shall be considered by the Municipal Corporation/Council/ Nagar Panchayat / Heritage Conservation Committee. After consideration of the above suggestions and objections, the agency concerned, acting on the advice of the Heritage Conservation Committee shall modify (if necessary) the aforesaid draft separate regulations for streets, precincts, areas and natural features and forward the same to Government for notification.

### **13.8 Road widening**

Widening of the existing roads under the Master Plan of the City or Town / Zonal Development Plan or in the Layout Plan shall be carried out considering the existing heritage buildings (even if they are not included in a Heritage Precinct) or which may affect listed natural features areas.

### **13.9 Incentive uses for heritage buildings**

In cases of buildings located in non-commercial use zones included in the Heritage Conservation List, if the owner / owners agree to maintain the listed heritage building as it is in the existing state and to preserve its heritage state with due repairs and the owner / owners / lessees give a written undertaking to that effect, the owner / owners / lessees may be allowed with the approval of the Heritage Conservation Committee within permissible use zone to convert part or whole thereof of the non-commercial area within such a heritage building to commercial/office use/hotel. Provided that if the heritage building is not maintained suitably or if the heritage value of the building is spoiled in any manner, the commercial / office / hotel use shall be disallowed.

### **13.10 Maintaining skyline and architectural harmony**

After the guidelines are framed, buildings within heritage precincts or in the vicinity of heritage sites shall maintain the skyline in the precinct and follow the architectural style (without any high-rise or multi-storeyed development) as may be existing in the surrounding area, so as not to diminish or destroy the value and beauty of or the view from the said heritage sites. The development within the precinct or in the vicinity of heritage sites shall be in accordance with the guidelines framed by the Municipal Corporation/Council/Nagar Panchayat on the advice of the Heritage Conservation Committee or separate regulations / guidelines, if any, prescribed for respective zones by Municipal Corporation/Council/Nagar panchayat.

### **13.11 Restrictive covenants**

Restrictions existing as imposed under covenants, terms and conditions on the leasehold plots either by the State Government or by Municipal Corporation/Council/ Nagar Panchayat shall continue to be imposed in addition to Development Control Regulations. However, in case of any conflict with the heritage preservation interest/environmental conservation, this Heritage Regulation shall prevail.

### 13.12 Grading of the listed buildings / listed precincts

Listed Heritage Buildings / Listed Heritage Precincts may be graded into three categories. The definition of these and basic guidelines for development permissions are as follows: Listing does not prevent change of ownership or usage. However, change of use of such Listed Heritage Building / Listed Precincts is not permitted without the prior approval of the Heritage Conservation Committee. Use should be in harmony with the said listed heritage site.

**Table 13.1 Grading of Listed heritage**

Grade-I	Grade-II	Grade-III
<p>(A) Definition Heritage Grade-I comprises buildings and precincts of national or historic importance, embodying excellence in architectural style, design, technology and material usage and/or aesthetics; they may be associated with a great historic event, personality, movement or institution. They have been and are the prime landmarks of the region. All natural sites shall fall within Grade-I.</p>	<p>Heritage Grade-II (A&amp;B) comprises of buildings and precincts of regional or local importance possessing special architectural or aesthetic merit, or cultural or historical significance though of a lower scale than Heritage Grade-I. They are local landmarks, which contribute to the image and identity of the region. They may be the work of master craftsmen or may be models of proportion and ornamentation or designed to suit a particular climate.</p>	<p>Heritage Grade-III comprises building and precincts of importance for townscape; that evoke architectural, aesthetic, or sociological interest through not as much as in Heritage Grade-II. These contribute to determine the character of the locality and can be representative of lifestyle of a particular community or region and may also be distinguished by setting, or special character of the façade and uniformity of height, width and scale.</p>
<p>(B) Objective: Heritage Grade-I richly deserves careful preservation.</p>	<p>Heritage Grade-II deserves intelligent conservation.</p>	<p>Heritage Grade-III deserves intelligent conservation (though on a lesser scale than Grade-II and special protection to unique features and attributes)</p>
<p>(C) Scope for Changes: No interventions be permitted either on exterior or interior of the heritage building or natural features unless it is necessary in the interest of strengthening and prolonging the life of the buildings/or precincts or any part or features thereof. For this purpose, absolutely essential and minimum changes would be allowed and they must be in conformity with the original.</p>	<p>Grade-II(A): Internal changes and adaptive re-use may by and large be allowed but subject to strict scrutiny. Care would be taken to ensure the conservation of all special aspects for which it is included in Heritage Grade-II. Grade-II(B): In addition to the above, extension or additional building in the same plot or compound could in certain circumstances, be allowed provided that the extension / additional building is in harmony with (and does not detract from) the existing heritage building(s) or precincts especially in terms</p>	<p>Internal changes and adaptive reuse may by and large be allowed. Changes can include extensions and additional buildings in the same plot or compound. However, any changes should be such that they are in harmony with and should be such that they do not detract from the existing heritage building/precinct.</p>

	of height and façade.	
(D) Procedure: Development permission for the changes would be given on the advice of the Heritage Conservation Committee.	Development permission for the changes would be given on the advice of the Heritage Conservation Committee.	Development permission for changes would be given on the advice of the Heritage Conservation Committee.
(E) Vistas / Surrounding Development: All development in areas surrounding Heritage Grade-I shall be regulated and controlled, ensuring that it does not mar the grandeur of, or view from Heritage Grade-I.	All development in areas surrounding Heritage Grade-II shall be regulated and controlled, ensuring that it does not mar the grandeur of, or view from Heritage Grade-II.	All development in areas surrounding Heritage Grade-III shall be regulated and controlled, ensuring that it does not mar the grandeur of, or view from Heritage Grade-III.

### 13.13 Opinion of the Heritage Conservation Committee

Nothing mentioned above should be deemed to confer a right on the owner / occupier of the plot to demolish or reconstruct or make alterations to his heritage building / buildings in a heritage precinct or on a natural heritage site if in the opinion of the Heritage Conservation Committee, such demolition / reconstruction /alteration is undesirable.

### 13.14 Approval to preserve the beauty of the area

The Heritage Conservation Committee shall have the power to direct, especially in areas designated by them, that the exterior design and height of buildings should have their approval to preserve the beauty of the area.

### 13.15 Signs and outdoor display structures / including street furniture on heritage sites

Municipal Corporation/Council/Nagar Panchayat on the advice of the Heritage Conservation Committee shall frame regulations or guidelines to regulate signs, outdoor display structures and street furniture on heritage sites.

### 13.16 Composition of heritage conservation committee

The Heritage Conservation Committee shall be appointed by the State Government comprising of:

- (i) ACS/PSLG/Secretary (Local Government) - **Chairman**
- (i) In charge Architecture, State PWD - Member
- (iii) Structural Engineer having experience of 10 years in the field and membership of the Institution of Engineers, India - Member
- (iv) Architect having 10 years experience - Member
- (v) Urban Designer - Member
- (vi) Conservation Architect - Member
- (vii) Environmentalist having in-depth knowledge and experience of 10 years of the subject – Member.
- (viii) Historian having knowledge of the region having 10 years experience in the field - Member.
- (ix) Natural historian having 10 years experience in the field - Member
- (x) Chief Architect, Development Authority - Member
- (xi) Representative of State Archeological Department - Member
- (xii) Chief Town Planner, Punjab(HUD) – Member
- (xiii) Chief Town Planner, Local Government - Member Secretary
  - (a) The Committee shall have the powers to co-opt up to three additional members who may have related experience.

- (b) The tenure of the Chairman and Members of other than Government Department / Local Bodies shall be three years.

**The terms of reference of the Committee shall inter alia be:**

- (i) To advise the Municipal Corporation/Council/ Nagar Panchayat whether development permission is to be granted under Building Bye-Laws No. 13.3 and the conditions of permission.
- (ii) to prepare a supplementary list of heritage sites, which include buildings artifacts, structures, streets, areas, precincts of historic, aesthetic, architectural, cultural, or environmental significance and a supplementary list of natural feature areas of environmental significance, scenic beauty including but not restricted to sacred groves, hills, hillocks, water bodies (and the areas adjoining the same), open areas, wooded areas, points, walks, rides, bridle paths etc. to which this Building Bye- Law would apply.
- (iii) To advise whether any relaxation, modification, alteration, or variance of any of the Building Bye-laws;
- (iv) To frame special regulations / guidelines for precincts and if necessary for natural feature areas to advise Municipal Corporation/Council/ Nagar Panchayat regarding the same;
- (v) To advise whether to allow commercial / office/ hotel use in the (name the areas) and when to terminate the same.
- (vi) To advise the Municipal Corporation/Council/ Nagar Panchayat in the operation of this Building Bye-law to regulate or eliminate/erection of outside advertisements/bill boards/street furniture;
- (vii) To recommend to Municipal Corporation/Council/ Nagar Panchayat guidelines to be adopted by those private parties or public / government agencies who sponsor beautification schemes at heritage sites;
- (viii) To prepare special designs and guidelines / publications for listed buildings, control of height and essential façade characteristics such as maintenance of special types of balconies and other heritage items of the buildings and to suggest suitable designs adopting appropriate materials for replacement keeping the old form intact to the extent possible.
- (ix) To prepare guidelines relating to design elements and conservation principles to be adhered to and to prepare other guidelines for the purposes of this Regulation;
- (x) To advise the Municipal Corporation/Council/Nagar panchayat/ on any other issues as may be required from time to time during course of scrutiny of development permissions and in overall interest of heritage / conservation;
- (xi) To appear before the Government either independently or through or on behalf of the Municipal Corporation/Council/ Nagar Panchayat in cases of Appeals under relevant/Municipal Act in cases of listed buildings / heritage buildings and listed precincts / heritage precincts and listed natural feature areas.

**13.17 Implications of listing as heritage buildings**

The Regulations do not amount to any blanket prevention of demolition or of changes to Heritage Buildings. The only requirement is to obtain clearance from Municipal Corporation/Council/ Nagar Panchayat and Heritage Conservation Committee from heritage point of view.

**13.18 Ownership not affected**

Sale and purchase of Heritage Buildings does not require any permission from Municipal Corporation/Council/Nagar panchayat/or Heritage Conservation Committee. The Regulations do not affect the ownership or usage. However, such usage should be in harmony with the said listed precincts / buildings. Care will be taken to ensure that the development permission relating to these buildings is given within 60 days.

**CHAPTER-XIV**  
**STREAMLINING OF BUILDING PLAN APPROVALS**

**14.1 Streamlining the building approval/sanction procedure (*Ease of Doing Business*)**

Typically for any urban infrastructure development project, a number of clearances are required. As per World Bank's Report Doing Business, 2014 India is ranked 183, out of 189 countries in terms of dealing with construction permits and on an average there are 37 procedures involved and 162 days are spent before obtaining permission for undertaking construction. It clearly signifies that the procedure for obtaining clearances is time consuming and projects often get stalled due to delay in obtaining clearances from various agencies.

In order to attract investments into the country, efforts are being made to improve '*Ease of Doing Business*'. In this direction, the limit of Built-up Area (BUA) for Foreign Direct Investment (FDI) has been reduced from 50,000 sqm to 20,000 sqm. The local bodies have been directed to get the entire building approval process made online so that the building plan applications are submitted online along with building fees and other charges, and after due scrutiny, the approvals are also to be conveyed online. Further, external bodies like Urban Art Commission (UAC), Metro Rail Corporation (MRC), Heritage Conservation Committee (HCC), NHAI, Airport Authority etc. grant No Objection Certificate (NOC)/ approvals on the proposed building plans to the local bodies. All such external bodies are mandated to prepare online NOC systems compatible to and integrated with that of the local bodies and the desired information is to be sent to the concerned external bodies and their comments/ NOC/ approval are to be received online so that there is no need for building proponents to pursue matter with local bodies or external agencies.

The specific requirements of the external bodies are to be added in the *Common Application Form (CAF)* of the local body so that building proponent has to file all information at a single customized online application. The objective is to make the whole process simplified and streamlined to ensure ease in getting the approvals for building permit within stipulated time.

**14.2 Clearances at Master Plan level**

Individual construction proposals should not generally require separate clearances from various authorities each time. Such clearances should be integrated into the DCR of the Master/Development Plan of the concerned city. The areas unaffected by any of the restrictions should be clearly marked out and mapped, preferably on a GIS platform. Area zones of differential control regulations (within the city) by any of these agencies may also be mapped accordingly. This will result in a composite map of the city with various control regulations as per the various agencies clearly marked on the map. Thus, the sites which are located outside these restricted/regulated areas would not require availing clearance from the respective authorities, thereby reducing the clearance process significantly. Following are the clearances which should be integrated into the city Master Plan-

**Table 14.1 Clearances from various agencies proposed to be integrated in Master Plans**

S.No.	Name of Agency	Type of Clearance	Area of Influence
1	National Monuments Authority through Local Competent Authority	Ancient Monument approval	As prescribed in the AMASAR (Amendment and Validation) Act, 2010 for protection of monuments.
2	Ministry of Environment	Environment Clearance (EC)	As prescribed in the statutory provisions for EIA and clearance based on the size of the project in accordance with Environment protection Act, 1986
3	Central Ground Water Authority through Local	Borewell Registration	As per Guidelines/criteria for evaluation of proposals/ requests for

	Competent Authority	Certificate	ground water abstraction, 2012
4	Ministry of Civil Aviation	AAI Height NoC	Critical and non-critical area as identified by AAI
5	Ministry of Defense	Defense Clearance	Areas in and around Defense Establishments as identified by MoD.
6	Coastal Zone Management Authority	NOC (if near sea/coastal areas)	Areas under the CRZ regulations
7	NHAI/PWD	Road access	Buffer zones as prescribed by NHAI along National Highways.
8	Ministry of Railways	Area clearance	Buffer zones as prescribed by Railways along the Rail tracks/depots/yards etc.

Efforts are on at the Government of India level to coordinate with all the central ministries and their organizations so that they streamline their own internal processes to issue no objection etc. where ever required by law. The efforts are mainly focused on delegating the powers at appropriate levels, establishing an online application process for time bound delivery, creating public awareness about their requirements, reviewing the restrictions and reducing them, sharing the data and norms with local authorities to be incorporated in DCR etc. Recognizing the concern for streamlining the procedures for clearances to be obtained from various departments in least possible number of procedures and number of days, the following model is given which suggests that the entire process of Pre and Post-Construction approvals should be completed within one month:

**Table 14.2 Timelines of clearances from various agencies**

S.No.	Type of approval	Approving Authority	Stage of project	Normal Duration (Days)	Reduced Duration (Days)	Activity Sequence
A	Intimation of Disapproval (IoD)	Municipal Authority	Pre construction	30	5	Start Activity
B	Site & Building Layout approval	Municipal Authority	Pre construction	30-60	5	Following A
C	NOC (if near sea/coastal areas)	Coastal Zone Management Authority	Pre construction	30-60	10	Following B
D	Road access	NHAI/PWD	Pre construction	30	10	Following B
E	Ancient Monument approval	Archaeological Survey of India (ASI)	Pre construction	30	10	Following B
F	Environment Clearance	Ministry of Environment	Pre construction	180	Only for Large project	Following B
G	Borewell Registration Certificate	Central Ground Water Authority	Pre construction	15	5	Following B
H	Fire Fighting Scheme	Fire Department	Pre construction	30	15	Following B

	Approval					
I	AAI Height NoC	Civil Aviation Department	Pre construction	30-60	10	Following B
J	Defence Clearance	Ministry of Defence	Pre construction	180	10	Following B
K	Building Permit Issue (All NOCs)	Municipal Authority	Pre construction	-	1	Max of After C-J
	<b>Sub total</b>				<b>26 (Max)</b>	
L	Electric Substation NoC (substation /transformers in the building)	Electricity Distribution Authority	During construction	15	5	After K
M	Damp Proof Certificate (On Site)	Municipal Authority	During construction	7	3	After K
N	Pollution Clearance	Punjab Pollution control Board	During construction	30-60	5	After L
Ø	<b>Construction Complete</b>	<b>Construction Time depends on the project Scale and Size</b>				
O	Building completion Certificate	Municipal Authority	Post construction	30-60	5	After Ø
P	Service Plan Clearance and Service Connections	Service Departments / Parastatals	Post construction	30	10	After O
Q	Occupancy Certificate	Municipal Authority	Post construction	15	2	After P
	<b>Sub total</b>				<b>17 (Max)</b>	

**Explanatory Notes:**

1. The above Table and Chart indicates that the processes after the applicant applies for building approval with clear land title and possession of land. Hence, clearances related to CLU and Land Title has not been considered.
2. The table illustrates the duration of clearances obtained in Normal course and suggests the reduced duration of 26 days (Pre- Construction) if the Approving Municipal Corporation/Council/Nagar Panchayat **adopts online sanctions**.
3. Clearances indicated at S Nos. C-J are concurrent with applications at the pre-construction stages, wherein their process of approval can be taken up simultaneously.
4. Clearances indicated at S Nos. L-N are concurrent with applications during-construction stage, wherein their process of approval can be taken up simultaneously.
5. S No. P has to be linked with S No. O, once applicant receives the **Completion Certificate**, service plan clearances and connections would be deemed to be sanctioned.

**14.3 Clearances at the Local Authorities**

The Urban Local Bodies / Authorities shall ensure clearances in minimum possible time. Clearances indicated at Sl. No. A,B,H,K,L,M,N,O,P, and Q have to be obtained at the local level and all efforts have to be made to sanction the building plan using online application procedures.

#### 14.4 Options for reducing the timelines for approvals:

The above suggested model is only indicative, however, there is scope for streamlining the procedures for clearances to be obtained from various departments in the least possible number of procedures and number of days. The model should serve as a guide to Urban Local Bodies /Authorities for adoption. Since the number of procedures and duration varies from state to state, as per the local conditions, the model would require modifications to suit a specific city. Some of the options which can reduce the time taken for various procedures are:

- (a) **Online sanctions:** Some of the ULBs/Development Authorities like Pune Municipal Corporation and West Bengal Housing and Industrial Development Corporation have introduced online sanction for issuing building plan and completion certificate. This process reduces the time taken to a large extent. The example of Pune and West Bengal may be considered in other States. The process involves use of software tools for scrutiny of building plans. All the documents are required to be submitted electronically using a portal. In case the building plans do not conform to the DCR the deviations are listed out in form of a report and intimated to the applicant/engaged Competent Professional for building plan design, vide an online ID in his account.
- (b) **Empowering Professionals:** Empowering Competent Professionals as prescribed for building plan design will facilitate to streamline the procedure for obtaining approvals. The Municipal Corporation/Council/Nagar Panchayat shall empanel such professionals based on their track record. The empowered professionals can, also on behalf of Developers/builders submit the documents required at the time of various clearances. Signing Municipal Corporation/Council/Committee/Nagar Panchayat of Architects and Town planners for different size and type of layout shall be followed as per bye-laws. The process of obtaining “**Completion Certificate**” can also be initiated by the owner by submitting “as-built drawings”.
- (c) **Outsourcing procedures:** Countries like USA, Australia and New Zealand have outsourced work pertaining to clearances and have appointed firms /companies to undertake the work on behalf of Authorities. This has been working very successfully and the procedure for obtaining clearances is free of any hassles and the same has become transparent and streamlined. The example of Passport office is a good case to study to build confidence in favor of outsourcing non discretionary activities in order to support limitations of capacity and manpower at the Municipal Corporation/Council/Nagar panchayat.
- (d) **Creating a Cell in ULBs:** There is a need for creating a specialized cell in Municipal Corporation/Council/ Nagar Panchayat which is manned by qualified personnel conversant with the procedures and the interpretation of development regulations. The Cell should be headed by a qualified Town Planner who should lead a team of Architects, Engineers, Environment Specialist and Legal Experts among others. The cell should have the dedicated provision for online submissions and conveying the on line approvals as well. This will require robust software and hardware system capable of handling large digital files.
- (e) **Single Window System:** This is a requirement that is growing popularity among the Authorities. All agencies involved in the process need to be integrated in a single electronic facility with proper coordination and monitoring of timelines. The Municipal Corporation/Council/Nagar panchayat needs to constitute teams comprising of experts from various agencies to be formed under the overall supervision of a Town Planner designated to assist developers/ builders with complex projects and to constantly improve the sanction process by cutting down delays.
- (f) **Integration of agencies outside the ULBs** for online clearances: Various agencies like AAI, NMA, SUAC, Fire Services, Department of Industries, Ministry of Defense, Metro Rail etc grant NOC clearance to the building plans in certain specific cases. This may be streamlines in the spirit of *Ease of Doing Business* by following 2 directions as given below -
  - i. Building permission for specific areas /sizes are to be examined by the external agencies. These areas should be plotted on GIS based colour-coded map which may be made available in the public domain on the agency’s website, with clearly identified co-ordinates so that building

falling only in these areas need to approach the concerned agencies for obtaining clearances. These maps may also be made available on the website of the concerned Local Bodies.

- ii. The external agencies also need to develop online clearance/NOC application systems which should suitably be integrated with the online building approval systems of the Local bodies. The two systems should be so compatible that the building plans submitted to the local bodies may after scrutinizing with colour-coded zoning maps shall be e-transmitted to the external agencies. The agency concerned should give clearance within a period of maximum of 10 days with no requirement of applicant to physically visit the offices of the agencies. The NOC may again be e-transmitted to the concerned local body on the building permission system so that the ULB shall use those for final approval.

#### 14.5 Risk Based Classification of building proposals

There is a need to make provisions for fast-tracking building permission procedures for all non-automatic approvals. Therefore, in the spirit of ‘Ease of Doing Business’, the buildings have been classified further on the basis of risk parameters/ risk based classification to clear the building permits on fast track system. This kind of classification shall be used for fast tracking the sanction of building plans, which shall facilitate regulated and faster construction permits, and also aid in improving the rating of the country in World Bank’s assessment in ‘Ease of Doing Business’.

Further, the ULB in consultation with all parastatal bodies involved, shall identify risk based classification of industrial, commercial and institutional buildings and prepare risk based matrix, in-line with those proposed in MBBL for residential and storage buildings/ warehouses/ godowns and accordingly prescribe the fast tracking approval system. This exercise shall be done within a period of 3 months from the date of publication of the Local Building Bye-laws. On the basis of above-mentioned risk matrix prepared by each of the agencies involved in approving building plans, State Government shall design and notify necessary legal instructions to implement risk based mechanism with a view to **fast track building permissions based on their risk classification**. These instruments may include, but are not limited to, delegation of powers, outsourcing, empowering architects, self certifications, etc. These notifications shall be done within 3 months from the date of notification of risk matrix by each competent Municipal Corporation/Council/ Nagar Panchayat / agency as mentioned above.

##### 14.5.1 Residential Buildings

For approval of the residential plotted and group housing buildings, risk based classification shall be as per Table 14.3 -

**Risk Matrix for different Residential buildings**

Risks		Very Low	Low	Moderate	High
Criteria	Parameters				
Size of the Plot	Square Meters	Below 105 m <sup>2</sup>	105 - 500 m <sup>2</sup>	Above 500 m <sup>2</sup>	All sizes
Height of building	Meters	Below 15 m	Below 15 m	Below 15 m	15 m and above
Use of the premise	Various Categories	Residential Plotted	Residential Plotted	Residential Plotted	Group Housing

Note:

- i. Considering no other issue like Monuments, Metro, DUAC, Airports etc. are involved. In case the property lies within the regulated zone of metro rail, airport etc. the online clearance from the local body concerned shall be taken
- ii. The Urban Local Body shall empanel professionals as per Bye-laws.
- iii. The Urban Local Body shall work out and prescribe fees for submitting the building plans
- iv. The fees shall be derived by an automated built-in calculator in the online system of submission.

**Suggested Fast Tracking Tools:****For Very Low Risk Buildings:**

The process prescribed in bye-laws shall be followed.

**For Low Risk Buildings:**

A Competent professional shall be empowered to issue the building permit, but only after submitting the plan along with requisite documents and fees to the concerned local body. If the owner/ professional desires to get the building plan sanctioned by the local body, building plans prepared by a qualified architect/ engineer will have to be submitted to the concerned local body along with the fees and other requisite documents and the local body shall grant the building permit within 10 days.

**For Moderate risk Buildings:**

Building plans will have to be prepared by a competent professional and the building plans will have to be submitted to the concerned local body along with the fees and other requisite documents. The local body shall grant the building permit within 20 days.

**For High risk Buildings:**

Clearance from Fire department and other necessary clearances from AAI, NMA and other agencies have to be obtained. Building plans will have to be prepared by a competent professional and the building plans will have to be submitted to the concerned local body along with the fees and other requisite documents. The local body shall grant the building permit within 20 days.

**14.5.2 Storage/Warehouse Buildings**

For approval of the buildings meant for use as storage buildings/ warehouses/ godowns, risk based classification shall be as per Table 14.4 -

**Table 14.4 Risk Matrix for Storage/Warehouses**

<b>Risks</b>	<b>Very Low</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>
Covered Area on all floors/ Built-up area	Up to 250 m <sup>2</sup>	Above 250 m <sup>2</sup> and up to 2000 m <sup>2</sup>	Up to 2000 m <sup>2</sup>	Above 2000 m <sup>2</sup>
Height of building	Below 15 m	Below 15 m	Below 15 m	Below 15 m
Abutting Road width	Min. 12 m	Min. 12 m	Min. 12 m	Min. 12 m
Type of Material storage	Category A	Category A	Category B (Stacking height - Medium)	Category B (Stacking height -High)

*Note:*

- i. The level of Risk is classified according to the material stored in the warehouse/storehouse. Material shall be classified according to the Categories defined in Appendix "I".*
- ii. Building application of buildings listed in the bye-laws shall be dealt in accordance with this table for building plan approvals.*
- iii. The Urban Local Body shall empanel professionals as per bye-laws.*
- iv. The building application processing fees shall be derived by an automated built-in calculator in the online system.*

**14.5.3 Industrial Buildings**

For approval of the buildings meant for use as storage buildings/ warehouses/ godowns, risk based classification shall be as per Table 13.5

**Table 14.5 Risk Matrix for Industries**

<b>Risks</b>		<b>Low</b>	<b>Moderate</b>	<b>High</b>
<b>Criteria</b>	<b>Parameters</b>			
Size of the Plot	Square Meters	upto 350 m <sup>2</sup>	Above 350 m <sup>2</sup>	All sizes

Height of building	Meters	Less than 15 m	Less than 15 m	15 m and above
Abutting Road width	Meters	Min. 12 m	Min. 12 m	Min. 12 m

*Note:*

- i. The level of Risk is classified according the size and height of the industrial building proposed.*
- ii. The Urban Local Body shall empanel professionals as per bye-laws.*
- iii. The building application processing fees shall be derived by an automated built-in calculator in the online system.*

#### **14.6 Other Suggestions to enhance ease of doing business:**

Some other suggestions, regarding Fast-Track construction permits are:

##### **14.6.1 Citizens' Charter**

A *Citizens' charter* lists out the timelines and upper limits of time for the delivery of citizen services of the organization. The objective of issuing the charter is to improve the quality of public service in terms of timely delivery. Such charters should be brought out by all municipalities to maintain high standards of accountability and transparency. The standards of service to be provided, the maximum number of days required for building approvals and the standards procedures should be listed out in the citizens' charter. Some states have gone a step further and introduced a **citizen service delivery guarantee act** whereby the time lines prescribed by a citizen charter are made statutory and binding on officials.

##### **14.6.2 Capacity building**

Capacity building measures are to be adopted for such functionaries to identify Training Needs (TNA) and other technical requirement of duties that they are required to discharge. Fresh recruitments commensurate to the technical qualification/ experience are to be made by the State Government, if there is complete absence of the technical expertise needed for the said services.

##### **14.6.3 Empowered Committees**

The Authorities may also consider constituting 'Empowered Committees' or 'Peer Expert Groups' for undertaking scrutiny and approval. This committee can be manned as per the requirement and area of more than one municipality can be put under its jurisdiction.

##### **14.6.4 Simplification of bye-laws**

The building Bye-Laws need to be simplified for easy comprehension of lay person as well as professionals involved in developmental activities. The simplification process should also include the process of application, the filling up of forms and streamlining the process of application.

## CHAPTER-XV

### CLIMATE RESILIENT CONSTRUCTION – INTEGRATION OF ENVIRONMENTAL CLEARANCE WITH SANCTION

Land, Air, Noise, Water, Energy, biological/ socio-economic/ solid / other waste management are the main facets considered in relation to *Pre, During and Post* Building Construction for Sustainable Environment Management. Therefore, it is necessary for the building process to ensure compliance to various conditions laid down by the Ministry of Environment, Forest and Climate Change. The building construction sector is a major contributor towards carbon footprints which affects climate change. India is committed towards mitigating the effects of climate change and moving towards internationally accepted norms for environmental friendly building construction. Currently this objective of environmental safeguard is achieved through obtaining a specific environmental clearance (EC) for any construction project having a size of more than 20,000 sq mts. This is administered under notification of Ministry of Environment, Forest and Climate Change. With rapid urbanisation and growth of Indian economy, it is anticipated that the construction activity will experience a proportionate growth. Government is also committed towards streamlining of clearances for buildings and real estate sector and empowering the urban local bodies with an objective of Ease of Doing Business.

#### **15.1 Environmental conditions for compliance during Building approvals**

The Ministry of Environment, Forest and Climate Change has now decided to integrate the environmental concerns into building plan approval process and empowering the concerned local body/Municipal Authority to approve and certify compliance of stipulated requirements. The new building construction proposals are classified in the following 3 categories:-

- 1) Conditions for **Category ‘A’** Buildings: Built-up Area 5000 sqmt – 20000 sqmt
- 2) Conditions for **Category ‘B’** Buildings: Built-up Area 20000 sqmt – 50000 sqmt
- 3) Conditions for **Category ‘C’** Buildings: Built-up Area 50000sqmt – 150000 sqmt

The Municipal Corporation/Council/Nagar panchayat shall approve the building plans by ensuring the stipulated conditions in Table 15.1, 15.2 and 15.3 for the respective categories of buildings. The State will approach M/o Environment, Forest and Climate Change alongwith the Draft notification for amendment of Byelaws incorporating these stipulated conditions for seeking clearance that the requirements have been met and after getting the clearance from M/o EFCC, the State shall issue notification of Building Bye-laws along with stipulated conditions. Copy of the notification shall be forwarded to Ministry of Environment, Forest and Climate Change so that they may notify the particular State or part thereof for which conditions have been suitably integrated to delegate the powers to the Local Municipal Corporation/Council/Nagar panchayat. Thereafter, for such notified area no separate prior Environmental clearance will be required. This shall be applicable:

- i. For building plans with a total built-up area between 5,000 sqm and 1,50,000 sqm, environment clearance will be required to be synchronized with the bye-laws.
- ii. The concerned Urban local body, authorized to sanction building plans, shall ensure at the time of sanctioning a building plan that the environmental requirements stipulated in Table 15.1 (for above 5,000 sqm and up to 20,000 sqm), Table 15.2 (for above 20,000 sqm and up to 50,000 sqm) and Table 15.3 (for above 50,000 sqm and up to 1,50,000 sqm), as the case may be, are complied with.
- iii. No plan for building of constitution over 10,000 Sq. Mtrs. Area which will cover for construction of any commercial, industrial and even residential area would be sanctioned by any authority unless such sanction plan duly provided for setting up of an STP which shall bring sewage and domestic discharge within the prescribed parameters. Further such plan should duly provided for a complete and comprehensive system of collection, transportation and disposal of Municipal solid waste strictly in accordance with the Solid Waste Management Rule, 2016. This direction shall apply to all the pending sanction as of today and to all cases without exception in future.

**Table 15.1: Environmental Conditions for Building and Construction  
(Category “A”: 5000 sqmt - 20000 sqmt)**

S.No.	Medium	Environmental conditions	PMBBL Ref. Clause
1	Natural Drainage	The inlet and outlet point of natural drain system should be maintained with adequate size of channel for ensuring unrestricted flow of water.	-
2	Water conservations – Rain Water Harvesting and Ground Water Recharge	A rain water harvesting plan needs to be designed where the recharge bores (minimum one per 5000 sqm of built-up area) shall be provided. The rain water harvested should be stored in a tank for reuse in household through a provision of separate water tank and pipeline to avoid mixing with potable municipal water supply. The excess rain water harvested be linked to the tube well bore in the premise through a pipeline after filtration in the installed filters.	Table 10.1
2(a)		The unpaved area shall be more than or equal to 20% of the recreational open spaces.	11.2.1 (iv)
3	Solid Waste Management	Separate wet and dry bins must be provided at the ground level for facilitating segregation of waste.	11.2.5 (b)
4	Energy	In common areas, LED/ solar lights must be provided.	11.2 3(c)
5	Air Quality and Noise	Dust, smoke and debris prevention measures such as screens, barricading shall be installed at the site during construction. Plastic/ tarpaulin sheet covers must be used on trucks bringing in sand and material at the site.	-
5 (a)		The exhaust pipe of the DG set, if installed, must be minimum 10m away from the building. In case it is less than 10m away, the exhaust pipe shall be taken up to 3m above the building.	-
6	Green cover	A minimum of 1 tree for every 80 sqm of land shall be planted and maintained. The existing trees will be counted for this purpose. Preference should be given to planting native species.	11.2.1 (i)
6(a)		Where the trees need to be cut, compensatory plantation in the ratio of 1:3 (i.e. planting of 3 trees for every 1 tree that is cut) shall be done with the obligation to provide continued maintenance for such plantations.	11.2.1 (ii)

**Table 15.2: Environmental Conditions for Building and Construction  
(Category “B”: 20000 sqmt - 50000 sqmt)**

S.No.	Medium	Environmental conditions	PMBBL Ref. Clause
1	Natural Drainage	The inlet and outlet point of natural drain system should be maintained with adequate size of channel for ensuring unrestricted flow of water.	-
2	Water conservations – Rain Water Harvesting and	A rain water harvesting plan needs to be designed where the recharge bores (minimum one per 5000 sqm of built-up area) shall be provided. The rain water harvested should be stored in a tank for reuse in	Table 10.1

	Ground Water Recharge	household through a provision of separate water tank and pipeline to avoid mixing with potable municipal water supply. The excess rain water harvested be linked to the tube well bore in the premise through a pipeline after filtration in the installed filters.	
2(a)		The unpaved area shall be more than or equal to 20% of the recreational open spaces.	11.2.1 (iv)
3	Solid Waste Management	Separate wet and dry bins must be provided at the ground level for facilitating segregation of waste.	11.2.5 (b)
4	Energy	In common areas, LED/ solar lights must be provided.	11.2 3(c)
4(a)		At least 1% of connected applied load generated from renewable energy source such as photovoltaic cells or wind mills or hybrid should be provided.	11.2
4(b)		As per the provisions of the Ministry of New and Renewable energy solar water heater of minimum capacity 10 litres/4 persons (2.5 litres per capita) shall be installed.	11.2.4 - IV
4(c)		Use of flyash bricks: Fly ash should be used as building material in the construction as per the provisions of Fly Ash Notification of September, 1999 and as amended from time to time.	11.2.6 (b)
5	Air Quality and Noise	Dust, smoke and debris prevention measures such as screens, barricading shall be installed at the site during construction. Plastic/ tarpaulin sheet covers must be used for trucks bringing in sand and material at the site.	-
5(a)		The exhaust pipe of the DG set, if installed, must be minimum 10m away from the building. In case it is less than 10m away, the exhaust pipe shall be taken up to 3m above the building.	-
6	Green cover	A minimum of 1 tree for every 80 sqm of land shall be planted and maintained. The existing trees will be counted for this purpose. Preference should be given to planting native species.	11.2.1 (i)
6(a)		Where the trees need to be cut, compensatory plantation in the ratio of 1:3 (i.e. planting of 3 trees for every 1 tree that is cut) shall be done with the obligation to provide continued maintenance for such plantations.	11.2.1 (ii)

**Table 15.3: Environmental Conditions for Building and Construction  
(Category “C”: 50000 sqmt - 150000 sqmt)**

S.No.	Medium	Environmental conditions	PMBBL Ref. Clause
1	Natural Drainage	The inlet and outlet point of natural drain system should be maintained with adequate size of channel for ensuring unrestricted flow of water.	-
2	Water conservations – Rain Water Harvesting	A rain water harvesting plan needs to be designed where the recharge bores (minimum one per 5000 sqm of built-up area) shall be provided. The rain water harvested should be stored in a tank for reuse in household through	Table 10.1

	and Ground Water Recharge	a provision of separate water tank and pipeline to avoid mixing with potable municipal water supply. The excess rain water harvested is to be linked to the tube well bore in the premise through a pipeline after filtration in the installed filters.	
2(a)		The unpaved area shall be more than or equal to 20% of the recreational open spaces.	11.2.1 (iv)
2(b)		The ground water shall not be withdrawn without approval from the competent Municipal Authority.	
2(c)		Use of potable water in construction should be minimized.	
2(d)		Low flow fixtures and sensors must be used to promote water conservation.	
2(e)		Separation of grey and black water should be done by the use of dual plumbing system.	
3	Solid Waste Management	Separate wet and dry bins must be provided at the ground level for facilitating segregation of waste.	11.2.5 (b)
3(a)		All non-biodegradable waste shall be handed over to authorized recyclers for which a written tie-up must be done with the authorized recyclers.	
3(b)		Organic waste composter/ vermiculture pit with a minimum capacity of 0.3 Kg/tenement/day must be installed wherein the STP sludge may be used to be converted to manure which could be used at the site or handed over to authorized recyclers for which a written tie-up must be done with the authorized recyclers.	
4	Energy	In common areas, LED/ solar lights must be provided.	11.2 3(c)
4(a)		At least 1% of connected applied load generated from renewable energy source such as photovoltaic cells or wind mills or hybrid should be provided.	11.2
4(b)		As per the provisions of the Ministry of New and Renewable energy solar water heater of minimum capacity 10 litres/4 persons (2.5 litres per capita) shall be installed.	11.2.4 - IV
4(c)		Use of flyash bricks: Fly ash should be used as building material in the construction as per the provisions of Fly Ash Notification of September, 1999 and as amended from time to time.	11.2.6 (b)
4(d)		Use of concept of passive solar design of buildings using architectural design approaches that minimize energy consumption in buildings by integrating conventional energy-efficient devices, such as mechanical and electric pumps, fans, lighting fixtures and other equipment, with the passive design elements, such as building orientation, landscaping, efficient building envelope, appropriate fenestration, increased day lighting design and thermal mass.	11.2 (3)
4(e)		Optimize use of energy systems in buildings that should maintain a specific indoor environment conducive to the functional requirements of the building by following mandatory compliance measures (for all applicable buildings) as recommended in the Energy Conservation Building Code (ECBC) 2007 of the Bureau of Energy	11.2 (3)

		Efficiency, Government of India.	
5	Air Quality and Noise	Dust, smoke and debris prevention measures such as screens, barricading shall be installed at the site during construction. Plastic/tarpaulin sheet covers must be used for trucks bringing in sand and material at the site.	-
5 (a)		The exhaust pipe of the DG set, if installed, must be minimum 10m away from the building. In case it is less than 10m away, the exhaust pipe shall be taken up to 3m above the building.	-
6	Green cover	A minimum of 1 tree for every 80 sqm of land shall be planted and maintained. The existing trees will be counted for this purpose. Preference should be given to planting native species.	11.2.1 (i)
6 (a)		Where the trees need to be cut, compensatory plantation in the ratio of 1:3 (i.e. planting of 3 trees for every 1 tree that is cut) shall be done with the obligation to provide continued maintenance for such plantations.	11.2.1 (ii)
7	Sewage Treatment Plant	Sewage treatment plant with capacity of treating 100% waste water shall be installed. Treated water must be recycled for gardening and flushing.	5.32.4
8	Environment Management Plan	The environment infrastructure like Sewage Treatment Plant, Landscaping, Rain Water Harvesting, Power backup for environment, Infrastructure, Environment Monitoring, Solid Waste Management and Solar and Energy conservation, should be kept operational through Environment Monitoring Committee with defined functions and responsibility.	-

## 15.2 OTHER ENVIRONMENTAL ISSUES FOR COMPLIANCE DURING BUILDING APPROVALS

### 15.2.1 Construction and Demolition (C&D) Waste Management:

- i. The C&D waste shall not be stacked on the roads/ open, littered, stacked uncovered.
- ii. The C&D waste shall not be transported in uncovered vehicles.
- iii. The C&D waste shall be dumped only at the designated low lying areas or areas designated by Municipal Corporation/Council/Nagar panchayat.
- iv. Municipal Corporation/Council/Nagar panchayat shall designate such areas within 6 months of coming into force these byelaws.
- v. Municipal Corporation/Council/Nagar panchayat shall notify a service facility to collect, transport and properly dispose of C&D waste.
- vi. Municipal Corporation/Council/Nagar panchayat shall take an undertaking from the applicant/owner that he shall abide by the terms and conditions mentioned at byelaw no.15.2.1 and in case of default, he/she shall be liable to pay fine/compensation as prescribed by the Government.

15.2.2 The construction activity shall not cause to create or create dust and the owner/ developer/promoter shall put curtains/ water curtain/film to avoid dust during construction activity.

### 15.2.3 ENERGY CONSERVATION:

The provisions of Punjab Energy Conservation Building Code(Punjab-ECBC) notified on dt.24/06/16 shall be complied with, in the defined buildings in the code.

**CHAPTER – XVI**  
**MISCELLANEOUS**

16.1 RELAXATION:

Government may relax any of the provision of these building bye-laws for reasons to be recorded in writing.

16.2 REPEAL OF EXISTING BYELAWS:

The existing Building Byelaws of the Municipal Corporation/Council/Nagar Panchayat in the state of Punjab, shall stand repealed after the date of coming into force the new Building Byelaws.

16.3 The provisions of these Building Byelaws shall have effect provided it is not inconsistent with any provisions contained in any other law for the time being in force.

16.4 The provisions of these Building Byelaws shall have effect provided it is not inconsistent with any provisions contained in Master Plan notified or to be notified under the PRTPD Act.

\*\*\*\*\*

**FORM – A**

Notice to build under Building Bye-laws framed by Municipal Corporation/Council/Nagar Panchayat.

To,

The Commissioner/Executive Officer,  
Municipal Corporation/Council / Nagar Panchayat,

\_\_\_\_\_.

Sir,

I / We hereby apply for permission to execute work of erecting / re-erecting a building of the following description:

\_\_\_\_\_

\_\_\_\_\_

The following papers are accompanying the application:

Site Plan: Two copies on tracing film & Four sets of Prints.  
Building Plan: Two copies on tracing film & Four sets of Prints.  
Service Plan: Two copies on tracing film & Four sets of Prints.  
Specifications: Form – B

The construction of the building will be supervised by \_\_\_\_\_, registered as A / B class Architect / Building Designer / Supervisor with Municipal Corporation/Council / Nagar Panchayat vide license No. \_\_\_\_\_ .

Yours faithfully

Signature of Registered Architect /  
Building Designer and Supervisor.

(Signature of Owner or his / her  
authorized agent)

Full Address:

License No.:

(For Office Use Only)

Serial No. of building application:

Date of receipt of completed application:

Last date for final orders of sanction or rejection:

Situation of building:

Particulars of building:

**FORM – B**

Form for Specifications of Proposed Buildings as required under Bye-laws

A	The Purpose for which the building is intended to be used			
B	Details of coverage on respective floors as given below :			
		Existing	Proposed	Total
	Basement Floor			
	Ground Floor			
	Mezzanine Floor			
	First Floor			
	Second Floor			
	Third Floor			
C	Approximate Number of inhabitants proposed to be accommodated			
D	The number of latrine/WC, urinals, kitchen, baths to be provided			
E	The source of water to be used in the construction			
F	Distance from public sewer			
G	The material to be used in construction			
	Foundations			
	Walls			
	Columns			
	Roof			
	Floors			
	Finishes			
Signature of Registered Architect / Building Designer and Supervisor.  License No.:			Yours faithfully  (Signature of Owner or his / her authorized agent) Full Address:	

**FORM – C**

Form of Notice of commencement of the erection of building of the execution of work under  
Bye-law

I hereby certify that the erection, re-erection of below mentioned building/ execution of work  
will be commenced on \_\_\_\_\_:

Plot Number / House Number:

Street Number / Road:

Colony:

Locality/Village:

Sanctioned Vide      B.A. Number:

Date:

\_\_\_\_\_  
Signature of Owner  
Name & Address of Owner:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date:

**FORM – D**

NOTICE OF COMPLETION AND PERMISSION TO OCCUPY  
(Under Building Bye-Laws)

To

The Commissioner/Executive Officer,  
Municipal Corporation/Council / Nagar Panchayat,

\_\_\_\_\_.

SUB: NOTICE OF COMPLETION AND PERMISSION TO OCCUPY

Sir,

I/We beg to apply for permission to occupy building/part of the building sanctioned vide B.A. No. \_\_\_\_\_ Dated \_\_\_\_\_ situated \_\_\_\_\_ . The building / part of the building has been completed in all respects according to the sanctioned plan and is fit for use for which it had been erected.

Certificate in form 'E' from the registered Architect / Building Designer / Supervisor who supervised the construction of the building is submitted herewith.

Yours faithfully,

Date :

Signature of owner.  
Name & Address of the Owner.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Description of building / part of building

House No. \_\_\_\_\_

Road \_\_\_\_\_

Street \_\_\_\_\_

Description of building \_\_\_\_\_

\_\_\_\_\_

(For office Use Only)

1. Date of receipt of notice \_\_\_\_\_
2. Date of issue of (a) permission to occupy \_\_\_\_\_  
(b) refusal to occupy \_\_\_\_\_

**FORM - E**

(Certificate required under building Bye-laws)

**TO WHOM SO EVER IT MAY CONCERN**

I /We do hereby certify that the building / part of the building sanctioned vide B.A. No. \_\_\_\_\_ Dated \_\_\_\_\_ has been supervised by me and has been completed to my satisfaction in accordance with the sanctioned plan and Building Bye-laws, that the workmanship and the whole of the materials used are of the requisite quality; and that no provision of the PM Act-1911/PMC Act-1976 & the bye - laws and no requisition made /conditions prescribed or orders issued there under, has been transgressed in the course of the work.

Date:

Registered Architect / Building  
Designer / Supervisor  
License No. \_\_\_\_\_

**FORM – F**

PERMISSION FOR OCCUPANCY OR USE OF BUILDING

From

The Commissioner/Executive Officer,  
Municipal Corporation/Council / Nagar Panchayat,

To

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

No. \_\_\_\_\_ dated \_\_\_\_\_

Reference No.

Whereas ..... has given notice of completion of the building described below, the building / part of building has been completed as per sanctioned plan or is in deviation from the sanctioned plan and has deposited the composition fee Rs ..... vide receipt no ..... dated .....

I hereby:-

1. Grant permission for the occupation and/ or use of the said building/ part of building; or
2. Refuse permission for the occupation and / or use of the said building/ part of building for reason give below:-

Description of building

Area ..... Name of road .....

Site No ..... House No. (if any) .....

COMPETENT AUTHORITY

**Building Permit/Sanction**

File/B.A. No.....

Dated.....

To

Subject: Sanction u/s.....of PMC Act,1976/PM Act,1911.

Dear Sir or Madam,

With reference to your application dated ..... for the grant of sanction to erect/re-erect/add to/alteration in the building to carry out the development specified in the said application relating to Plot/Site No ..... Ward no.....situated in/at..... I have to state that the Authority subject to the following conditions and corrections done in the plans has sanctioned the same on..... The plans are valid up to.....day.....Months.....year.....

1. The construction will be undertaken as per sanctioned plan only and no deviation from the bye-laws will be permitted without prior sanction. Any deviation done against the bye-laws is liable to be demolished and the supervising Architect/Professional engaged on the job will run the risk of being black listed.
2. Violation of building bye-laws will not be compounded.
3. It will be the duty of the owner of the plot and the Architect/Professional preparing the plans to ensure that the sanctioned plans are as per prevalent Master Plan/Zonal Plan/Building Bye-laws. If any infringement of bye-laws remain unnoticed, the concerned Authority reserves the right to amend the plans as and when infringement come to the notice and concerned Authority will stand indemnified against any claim on this account.
4. A notice in writing shall be sent to Authority before commencement of the construction of the building as per bye-laws. Similar notice will be sent to Authority when the building has reached up to plinth level.
5. The owner shall not occupy or permit to occupy the building or use or permit to use the building or any part thereof affected by any such work until occupancy certificate is issued by the concerned Authority.
6. Concerned Authority will stand indemnified and kept harmless from all proceedings in court and before other authorities of all expenses /claims which the concerned Authority may incur or become liable to pay as a result or in consequences of the sanction accorded by it to these building plans.
7. The doors and window leaves shall be fixed in such a way that they shall not, when open project on any street.
8. The owner will not convert the house into more dwelling units on each floor then the sanctioned.
9. The building shall not be constructed within minimum distance as specified in Indian Electricity Rules from voltage lines running on side of the site.
10. The land left open as a consequence of the enforcement of the setback rule shall form part of the public street.

11. The owner shall ensure that the public areas like road, parks and other public opens spaces are not used for stacking the building materials or machineries to avoid public inconvenience and nuisance.
12. The sanction will be void if auxiliary conditions mentioned above and other conditions whatsoever imposed are not complied.
13. The owner will use the premises for the use, which has been sanctioned.
14. The owner will not proceed with the construction without having the supervision of an Architect/Professional as the case may be. If he\she changes his Architect/Professional, he\she shall inform the Authority about the appointment of new Architect/Professional within 48 hours, with a proper certificate from him.

Yours Faithfully For

.....

Encl: A set of sanctioned plan.

**Form for Refusal of Building Permit**

To

File/B.A. No ..... Dated  
.....

Sir.

With reference to your application No.....dated..... .  
for the grant of sanction for the erection of building/execution of work in House  
/Site No ..... .Ward No.....Situating at..... .I have to inform you that building permit under  
relevant provisions of the Act has been refused on... .. on the following grounds.

- 1
- 2
- 3
- 4
- 5

Yours faithfully

For .....

Authority.

**Form of Revalidation**

File/B.A. No .....

Dated .....

Shri /Madam .....

.....

.....

**Subject: Revalidation of Building Plan relating to plot/site No .....**

**Ward No ..... Scheme/Location.....**

Dear Sir / Madam,

1. With reference to your application dated .....on the subject cited above, I am directed to inform you that your building plan which were sanctioned on..... vide file/B.A.No..... have been revalidated up to .....
2. Original sanctioned plan submitted by you is also returned herewith.
3. Please acknowledge receipt.

Yours Faithfully,

For .....

Authority

Encl: As above.

**Qualification and Competence of Technical Personnel for Preparations of Schemes  
for Building Permit and Supervision**

**10 General**

Building/Development work for which permission is sought, shall be planned, designed and supervised by registered professionals. The registered professionals for carrying out the various activities shall be:

Architect, Engineer, Structural engineer, Town planner, Landscape architect, Urban designer, Supervisor. Requirements of registration/license for these professionals by the Authority or by the body governing such profession and constituted under a statute, as applicable to practice within the local body's jurisdiction, are given in items 1 to 7 of the following table:

(items 7-9 Plumber, Electrician and Fire Consultant may not need registration)

Sl No	Professional	Qualifications	Competence / Functions
<b>1</b>	<b>Architect</b>	A person holding a graduate degree in Bachelor of Architecture from any institute recognized by the Council of Architecture (COA) and has his/her name entered in the register of COA for the time being, with a valid COA Registration number, under the Architect's Act 1972.	The registered architect shall be competent to carry out the work related to the building/development permit as given below: <ul style="list-style-type: none"> <li>a. Prepare and sign all plans, sub-division/layout plans and information connected with building permit.</li> <li>b. Layout Plans of plots measuring upto 1 Ha. in size.</li> <li>c. Issuing certificate of supervision and completion of all buildings.</li> <li>d. Issuing certificate of supervision for development permit of Layout Plans of plots measuring upto 1 Ha. in size.</li> </ul>
<b>2</b>	<b>Engineer</b>	Graduate in Civil Engineering from recognized Indian or foreign university.  Registered with valid membership(Civil) of the Institution of Engineers, India or Associate / Fellow Member of the Institute of Engineers (India) – Civil.	The registered engineer shall be competent to carry out the work related to the building/development permit as given below: <ul style="list-style-type: none"> <li>a. Prepare and sign building plans of plots upto 500 sq.m.(for all types of Buildings), structural drawings and service plans and information connected with building permit; Preparation of structural drawings, details and calculations of buildings on plot up to 500 m<sup>2</sup> and up to 5 storeys or 16 m in height, all service plans and related information. Issuing certificate of supervision and completion of plots upto 500 sq.m.(for all types of Buildings) pertaining including structure and building services.</li> </ul>

3	<b>Structural Engineer</b>	<p>Graduate in Civil engineering from recognized Indian or foreign university, or Corporate Member (Civil) of Institution of Engineers (India), minimum 3 years experience in structural engineering practice with designing and field work.</p> <p>NOTE — The 3 years experience shall be relaxed to 2 years in the case of post-graduate degree of Recognized Indian or foreign university in the branch of structural engineering. In case of doctorate in structural engineering, the experience required would be one year.</p>	<p>The registered structural engineer shall be competent to prepare the structural design, calculations and details for all buildings and undertake their supervision. In case of buildings having special structural features, as decided by the Authority, they shall be designed only by Structural engineers.</p>
4	<b>Town Planner</b>	<p>Graduate or Post graduate degree in Town and country planning with valid Associate Membership of the Institute of Town Planners, India.</p>	<p>The registered town planner shall be competent to carry out the work related to the development permit as given below:</p> <ol style="list-style-type: none"> <li>a. Preparation of plans for land sub-division/ layout and related information development permit for all areas more than 1 Hectare.</li> <li>b. Issuing of certificate of supervision for development of land of all areas.</li> <li>c. Prepare and sign building plans of plots up to 500 sq.m.(for all types of Buildings), structural drawings and service plans and information connected with building permit; Issuing certificate of supervision and completion of plots upto 500 sq.m.(for all types of Buildings).</li> </ol> <p><i>NOTE — However, for land layouts for development permit above 5 hectare in area, landscape architect shall also be associated, and for land development infrastructural services for roads, water supplies, sewerage / drainage, electrification, etc, the registered engineers for utility services shall be associated.</i></p>

5	<b>Landscape Architect</b>	Bachelor or Master's degree in landscape architecture or equivalent from recognized Indian or foreign university.	The registered landscape architect shall be competent to carry out the work related to landscape design for building/development permit for land areas 5 hectares and above. In case of metro-cities, this limit of land area shall be 2 hectares and above.  NOTE — For smaller areas below the limits indicated above, association of landscape architect may also be considered from the point of view of desired landscape development.
6	<b>Urban Designer</b>	Master's degree in Urban Design or equivalent from recognized Indian or foreign university.	The registered urban designer shall be competent to carry out the work related to urban design for city areas more than 5 hectares and campus area more than 2 hectares. He/She shall also be competent to carry out the work of urban renewal for all blighted/congested areas.  NOTE — For smaller areas below the limits indicated above, association of urban designer may be considered from the point of view of desired urban design.
7	<b>Plumber</b>	licensed by the concerned Authority through examination of candidates - Certificate of training from ITI, with min. 2yrs experience of execution of sanitary and plumbing works under any govt. Dept./ Local body or a qualified Architect / Engineer. Knowledge of working drawings and dimensioned sketches.	A plumber shall be competent to do the following jobs: a. Execution / supervision of sanitary works up to 500 sq mt plot size and 4 storeyed buildings.
8	<b>Electrician</b>	As prescribed by the concerned electricity company	
9	<b>Fire Consultant</b>	As prescribed by Local Fire Officer, Town/City Fire Service.	

**Information for Intimation of Completion of Work up to Plinth Level To**

The .....  
..... Authority,

Sir,

The construction up to plinth/column up to plinth level has been completed in Building No ..... on/in Plot No..... Scheme No ..... Road/Street ..... Ward ..... in accordance with your permission No ..... dated..... under my supervision and in accordance with the sanctioned plan.

Yours faithfully,

Signature of Engaged Professional ,

Name .....

(In Block letters)

Address.....

**Inspection Report**

I ..... working as a ..... with .....  
have carried out the inspection of Building No .....on/in Plot No.....  
Scheme No..... Road/Street..... ward ..... in accordance  
with permission No .....dated .. . The following deviation from the sanctioned plans have been  
noticed which are against the provision of Master Plan / Bye-laws are of non-compoundable  
nature.

Description of deviations noticed: .....

.....

.....

.....

You may not proceed with further work till such time the deviations made are rectified and  
construction brought in conformity to sanction plans.

Yours Faithfully

For.....  
.....  
..... Competent Authority

Office No .....

Office Stamp.....

Date.....

**Form for Certificate of Architect/Engineer/Town Planner**

(To be submitted along with notice of completion)

To

The

.....Authority,

Dear Sir,

We hereby certify that the erection, re-erection or material alteration in/at building No..... on in Plot No.....

Ward No ..... Scheme.....situated at..has been supervised by me and has been completed on according to the plans sanctioned, vide office communication No dated . The work has been completed to our best satisfaction, the workmanship and all the materials (type & grade) have been used strictly in accordance with general and detailed specifications. All the drainage/Sanitary/Water Supply work has been executed under our supervision and as per Building Bye-laws. No provisions of the Building Bye-laws and condition prescribed or order issued there under have been transgressed in the course of the work. The building is fit for use for which it has been erected /re-erected or altered/constructed and enlarged.

2. Certificate:

- i) Certified that the building(s) has been constructed according to the sanctioned plan and structural design (one set of structural drawings as executed is enclosed) which incorporate the provisions of structural safety as specified in relevant prevailing NBC and IS codes standards/Guidelines.
- ii) Further certified that water harvesting as well as waste water re-cycling systems have been provided as per the sanctioned building plan.
- iii) It is also certified that construction has been under our supervision and guidelines and adheres to the drawings submitted and the records of supervision have been maintained by us.

3. Permission to occupy of use the building may be granted.

4. Any subsequent change from completion drawings will be the responsibility of the owner(s)

- a) Signature of the owner
- b) Signature of the Architect/Engineer/Town Planner

with date

wth date

Name in Block letters

Name in Block letter

Licence No.

Address

Address

- c) Signature of the Structural Engineer

with date (for certificate 1)

(as defined in NBC of India)

Name in Block Letters

Address

Date:.....

**SCHEDULE – VI**  
**INDEMNITY BOND FOR BASEMENT**

This indemnity bond is executed by Sh. \_\_\_\_\_  
S/o Sh. \_\_\_\_\_ R/o \_\_\_\_\_ (herein  
after called the owner) in favour of \_\_\_\_\_ Municipal  
Corporation/Council / Nagar Panchayat, \_\_\_\_\_ (hereinafter called the Municipal  
Corporation/Council / Nagar Panchayat.

Whereas the owner has submitted to the Municipal Corporation/Council / Nagar  
Panchayat, Building plans for sanction of basement over Plot No./Address \_\_\_\_\_ under  
the provisions of the P.M.C.Act,1976/ P.M.Act,1911 and the Bye - laws made there under.

And where as the Municipal Corporation/Council / Nagar Panchayat has agreed to  
sanction the aforesaid construction subject to the condition that the owner shall indemnify the  
Bond in the event of any loss or damage being caused to the adjoining building on account of the  
construction of the said basement either at the time of digging of the foundation and also against  
any claim of any concern thereto.

And whereas the owner has agreed to execute an indemnity bond to the above  
effect and also to abide by the terms by the Municipal Corporation/Council / Nagar Panchayat to  
the grant of sanction of the basement.

**NOW THIS DEED WITNESSED**

1. That consideration of the sanction of the plans of the owner of construction of the basement,  
the owner undertakes that he/she shall at all times keep the Basement harmless and free from  
any liability less or damage following from any injury or damage caused to either properties,  
adjoining basement or to any person as a consequence of the construction or at the time of  
digging of its foundation or during the course of its construction or at any time there after.
2. The owner agrees and undertake that in the event of any claim being made by any person or  
persons against the \_\_\_\_\_ either in respect of the sanction granted by the  
Municipal Corporation/Council / Nagar Panchayat to the owner for the construction of  
basement by the owner or the consequences following from the said sanction the owner shall  
be responsible and liable and not the Municipal Corporation/Council / Nagar Panchayat.
3. The owner agrees and undertake to indemnify the Municipal Corporation/Council / Nagar  
Panchayat fully in respect of any amount which the owner may be required to pay to any  
person either by way of construction of damages or on any other account as a result of any  
claim or suit or any other proceedings concerning the sanctioning of the construction of the  
basement of the making there of and which the Municipal Corporation/Council / Nagar  
Panchayat may incur on defending any action.
4. Without prejudice to above the undertaking the owner hereby binds itself to apply to the  
\_\_\_\_\_ to the full extent any amount which the  
\_\_\_\_\_ may be required to pay to any person in connection with  
relating to or concerning the sanctioning of the basement or the making there of.
5. The owner further agrees and undertakes that this bond shall remain in full force and effect  
till the owner faithfully observes & performs the undertaking herein before contained.

IN WITNESS WHEREOF THE owner above named has signed this bond on this \_\_\_\_\_ day  
of \_\_\_\_\_ at \_\_\_\_\_

WITNESS 1:

Name :

Address :

WITNESS 2:

Name :

Address :

INDEMNIFIER

## SCHEDULE – VIII

### **Enforcement of Building Byelaws and monitoring of building activities as per sanctioned plans and checking of unauthorized construction activities**

1. In order to monitor the building activities as per the sanctioned building plans and to ensure checking of unauthorized construction activities within the municipal Limits, the enforcement of the building byelaws and the monitoring of building activities may be strictly carried out by the concerned officials / officers involved for the enforcement of the same. For this purpose, the following instructions may be followed and quarterly report be submitted to the Govt. for proper review of this vital aspect concerning the ULBs:-

All building works for which permission is required shall be subject to inspection by the enforcement authority of ULB.

- a. The applicant shall permit authorized officers of the concerned municipal authority to enter the plot for which the building permission has been granted at any reasonable time for the purpose of ensuring development as per sanctioned building plans.
- b. The applicant shall keep during carrying out of building construction, a copy of the approved plan on the premises where the development is permitted to be carried-out.
- c. The applicant shall keep a board at site of development mentioning the area, plot No. etc. Name of owner and name of architect/engineer/owner/surveyor.

1. Recognized stages for progress certificate and inspection / checking:

Following shall be the recognized stages in the erection of every building or the execution of every work: -

- (i) Excavation
- (ii) Construction of foundation
- (iii) Plinth
- (iv) First Storey
- (v) Each subsequent stories
- (vi) Completion certificate / occupancy certificate.

2. The execution of construction of Multiplex Buildings, Commercial Complexes more than 1000 square yards and Group Housing Projects shall be video graphed at the recognized stages.
3. Before commencement of the erection or execution of work, the person concerned is to give a notice to the Commissioner / EO, MC of the proposed date of commencement of the erection of the building or the execution of the work. Accordingly, it may be ensured that before commencement of the construction, demarcation as per sanctioned plan be given by the ULB to ensure that the set backs, spaces left for parking or otherwise shall be kept intact and excavation will be as per the sanctioned building plan. This shall be authenticated by the MTP/ATP or officer authorized for the purpose. The building inspector concerned shall submit a report on alternate days that the excavation is being done as per demarcation given / sanctioned plan.
4. At the time of laying out / construction of foundations, the building inspector shall give a certificate that the foundations have been constructed as per the sanctioned plan. The Building Inspector shall submit a report on alternate days, that the construction of foundations is going on as per the sanctioned plan/demarcation given at site. When the construction reaches up to plinth level, the building inspector shall give a certificate to this effect that the construction has been raised as per the sanctioned plan. This will also be authenticated by the MTP/ATP or officer authorized for the purpose.
5. Thereafter report shall be submitted by the building inspector once a week that the construction is going on as per the sanctioned plan/demarcation given at the site till the first storey is completed. On completion of first storey and each subsequent storey a certificate shall be given by the building inspector that the construction has been raised as

per the sanctioned plan. This will also be authenticated by the MTP/ATP or officer authorized for the purpose and reported to the enforcement authority.

6. No building shall be allowed to be occupied without obtaining the completion certificate.
7. Since the set backs (sides, rear and front) and parking area of the individual building and FAR are of utmost importance, it may be ensured that no construction against the building byelaws/sanctioned plan is allowed to be raised where set backs and parking area covered or uncovered has not been provided as per the sanctioned plan/building byelaws and where the construction is going to be raised beyond the permissible building envelope. This monitoring be carried out and also supervised by the designated enforcement authority every month.
8. As far as detection of unauthorized building activities taking place in various areas/ zones of the city is concerned enforcement staff/Building Inspectors and the Assistant Town Planners should regularly monitor and supervise their respective areas and as soon as any construction is noticed right in the beginning, it should be dealt in accordance with the provisions of the Municipal Acts. Unauthorized building construction activities should be personally monitored by the MTP's every week and also reviewed at the level of the designated enforcement authority fortnightly.

These instructions may be strictly adhered to and the Commissioners/Executive Officers of the Municipalities may kindly ensure that the enforcement staff is geared up for controlling all kinds of unauthorized construction activities taking place in the ULBs.

Chandigarh  
Dated- 09.11.2018

A. Venu Prasad, IAS  
Principal Secretary to Government of Punjab,  
Department of Local Government, Punjab

Endst.No. CTP(LG) – 2018 / 3549

Dated Chandigarh the 22.11.2018

A copy is forwarded to the Controller, Printing & Stationary Department, Punjab, SAS Nagar(Mohali) with a request to get this notification published in the Punjab Government Gazette Extra ordinary and supply ten spare copies for record.

Sd-  
Under Secretary Local Government

Endst.No. CTP(LG) – 2018 / 3550-3554

Dated Chandigarh the 22.11.2018

A copy of the above is forwarded to the following for information and further necessary action:-

1. Mayors/Commissioners of All Municipal Corporations in Punjab.
2. All Regional Deputy Directors, of Local Government Department in Punjab.
3. EOs of All Municipal Councils/Nagar Panchayats in Punjab.
4. All Officers in the Local Government Department.
5. All Superintendents in the Local Government Secretariat / Directorate.

Sd/-  
Under Secretary Local Government