The 24th February 2022

No.-08 न०वि०/भ०उ०वि०संशोधन–05/2021-**646**—In exercise of the powers conferred under Clause 321 of the Bihar Municipal Act, 2007 and section-81(2)(w) of the Bihar Urban Planning and Development Act. 2012 and in suppression and modification of all the existing rules on the subject, the Governer of Bihar hereby makes the following amendments in the Bihar Buildings By-Laws, 2014: -

Amendments

(1) Short title, extent and commencement: - (1) These By-Laws may be called the Bihar Building (Amendments) By-Laws, 2022.

(2) The following new Byelaw 1.(2) va. shall be added after Bylaw 1.(2) v.: -

"All industrial areas falling under BIADA, Department of Industries or any other Industrial area declared by any statute of the Government."

(3) Amendment in the By-laws-2 Definitions (I) of the said By-laws: -

(i) **Clause-(9) shall be substituted by the following: -**

"(9) "Apartment" whether called block, chamber, dwelling unit, flat, office, showroom, shop, godown, premises, suit, tenement, unit or by any other name, means a separate and self-contained part of any immovable property, including one or more rooms or enclosed spaces, located on one or more floors or any part thereof, in a building or on a plot of land, used or intended to be used for any residential or commercial use such as residence, office, shop, showroom or godown or for carrying on any business, occupation, profession or trade, or for any other type of use ancillary to the purpose specified;"

(ii) **Clause-(13) shall be substituted by the following: -**

"(13) "Authority" - The Authority which has been created by a statute and which, for the purpose of administering the Code/Part/Byelaw. Authority can be any Municipality, Planning Authority, Industrial Development Authority or any other authority as notified by the State Government as the case may be.;"

(iii) **The following new Clause (19A) shall be added after Clause (19): -**

"(19A) "Building Envelope" - The horizontal spatial limits up to which a building may be permitted to be constructed on a plot above ground level."

(iv) **Clause-(20) shall be substituted by the following: -**

"(20) "Building Height" means the vertical distance measured, in the case of flat roofs from the average level of the ground around and contiguous to the building to the terrace of last livable floor of the building adjacent to the external walls; and in the case of pitched roofs up to the point where the external surface of the outer wall intersects the finished surface of the sloping roof, and in the case of gables facing the road, the 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.

In case the contiguous ground level of the building is above the average level of the centre line of the adjoining street the height of the building shall be measured from such contiguous ground level or plinth, subject to limit of 0.90 m from the existing average level of the centre line of the adjoining street.

In case of basement, the height of the building shall be measured from the ceiling level of the basement, not exceeding 1.20 m from the average level of the ground around and contiguous to the building;"

(v) **The following new Clause (22A) shall be added after Clause (22): -**

"(22A) "Cabin"- A non-residential enclosure constructed of non-load bearing partitions;"

(vi) **The following new Clause (23A) shall be added after Clause (23): -**

"(23A) "Carpet Area" – The net usable floor area of an apartment, excluding the area covered by the external walls, area under service shafts, exclusive balcony or verandah and exclusive open terrace area, but includes the area covered by the internal partition walls of the apartment.

(vii) **Clause-(58) shall be substituted by the following: -**

"(58) "Floor Area Ratio (FAR)" means the quotient obtained by dividing the combined covered area (plinth area) of all floors, excepting areas specifically exempted under these by-laws, by the total area of the plot;"

(viii) **Clause-(71) shall be substituted by the following: -**

"(71) "Heritage Zone" means the area as delineated in Development Plan or delineated as such under the concerned central or state statute;"

(ix) **The following new Clause (77A) shall be added after Clause (77): -**

"(77A) "Layout" – means the laying out a parcel of land into building plots with laying of roads or streets with formation, leveling, metalling or black topping or paving of the roads and footpaths, and laying of the services such as water supply, drainage, street lighting, open spaces and includes land sub-division for the purpose of building in such plots;"

(x) **The following new Clauses (78A) and (78B) shall be added after Clause (78): -**

"(78A) "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';

(78B) "Lobby"- means a covered space in which all or some of the adjoining rooms open;"

(xi) **Clause-(82) shall be substituted by the following: -**

"(82) "Licensed Technical Person" means Architect registered with the Council of Architecture or Civil Engineer/Structural Engineer/ Town Planner/Supervisor licensed by the Urban Development and Housing Department, Government of Bihar;"

(xii) **Clause-(85) shall be substituted by the following: -**

"(85) "Mixed Land Use/ Mixed use" - refers to an area or zone as per the development plan / master plan where residential, commercial, institutional or mixed use of premises can be co-located in an integrated way as per provisions made in these By-Laws or development plan DCR;"

(xiii) **The following new Clause (85A) shall be added after Clause (85) : -**

"(85A) "Mixed occupancy of premises/ building" is where a compatible secondary use may be permissible in the premises/ building apart from its principal use as per provisions made in these By-Laws or development plan;"

(xiv) **Clause-(96) shall be substituted by the following: -**

"(96) "Parapet" means a low wall or railing built along the edge of a roof or a floor having a height as periscribed from the finished floor level;"

(xv) **The following new Clause (99A) shall be added added after Clause (99): -**

"(99A) "Person" includes, —

(i) an individual;
(ii) a Hindu undivided family;
(iii) a company;
(iv) a firm under the Indian Partnership Act, 1932 or the Limited Liability Partnership Act, 2008, as the case may be;
(v) a competent authority;
(vi) an association of persons or a body of individuals whether incorporated or not;
(vii) a co-operative society registered under any law relating to co-operative societies;
(viii) any such other entity as the appropriate Government may, by notification, specify in this behalf;"

(xvi) **The following new Clauses (103A), (103B), (103C) and (103D) shall be added after Clause (103): -**

"(103A) "Principal use of land/ premises", in the case of an area where Master plan has been notified, means the use defined for that area in the Master plan and in case of an area where Master plan has not been notified, means the existing predominant use of the land/ premises.

(103B) "Prohibited area" means any area specified or declared to be a prohibited area under Clause 20A of the AMASR Act, 2010 or any other prevailing statutes.

(103C) "Protected monument" means an ancient monument which is declared to be of national importance by or under the AMASR Act, 2010.

(103D) "Regulated area" means any area specified or declared under Clause 20B under the AMASR Act, 2010 or any other prevailing statutes;"

(xvii) **Clause (106) shall be deleted.**

(xviii) **The Clauses (107), (108) and (109) shall be substituted by the following respectively: -**

"(107) "Registered Architect" means an Architect registered with the Council of Architecture. They will get empanelled with the Urban Development and Housing Department, Bihar and they shall be provided an online platform for getting empanelled at the state level.

(108) "Registered Builder/ Developer" means a builder empanelled/ registered with the Urban Development and Housing Department, Bihar. The empanelment/registration shall be applicable for all Planning Authorities/ Municipalities. Builder/ developer shall be provided an online platform for getting registered at the state level.

(109) "Registered Engineer" means an engineer empaneled/registered with the Urban Development and Housing Department. The

registration shall be provided for a period of 5 years in the process notified by the department or as per the online platform provided;"

(xix) **Third and Fourth paragraphs of Clause (111) shall be deleted and in place of that the following new paragraph shall be added: -**

"Existing road width for a plot is the minimum width of road available and in existence throughout, from the connecting wider road access point to the road abutting the plot."

(xx) **The following new Clause (120A) shall be added after Clause (120): -**

"(120A) "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 Clauses of the Administration Chapter;"

(xxi) **Clause-(122) shall be substituted by the following: -**

"(122) "Service Floor" means a floor dedicated to building services (not to be used for any inhabitation) in any type of high rise building with height of ceiling from finished ground level between 1.8 to 2.2 m and it shall not be counted in FAR."

(4) By-law-2 Definitions (II) shall be substituted by the following: -

"(II) Word and expressions used, but not defined in these by-laws, shall have the same meaning as respectively assigned to them in the Act/Municipal Act/respective Rules/ Real Estate (Regulation & Development) Act 2016 and the latest National Building Code of India amended from time to time."

(5) Amendment in By-laws 3 of the said By-laws, 2014: -

The following Clauses (7), (8) and a Note shall be added after Clause (6) of the By-laws respectively: -

"(7) Change of use / occupancy: - Where use of a building is changed, except where otherwise specifically stipulated, these Building By-Laws shall apply to all parts of the building affected by the change.

(8) Where any building has been constructed partly before the notification of these by-laws, and the validity period has lapsed, then the provisions of these by-laws shall be insisted upon the construction of the remaining portion, after extension of the validity. (These by-laws shall also be applicable even if the construction has not started and the validity period has lapsed).

Note: - A separate guideline may be issued by the concerned department of the State Government for sanctioning of project within the Gram Panchayat area but falling outside the jurisdiction of any Planning Authority."

(6) The following new By-laws 4A shall be added: -

"**4A. Exemption from permission** -(1) No permission or notice shall be required for the works related to the following alterations and the like which do not otherwise violate any provisions regarding general building requirements, structural stability and fire and health safety requirements of the latest National Building Code: -

(i) Opening and closing of a window or door or ventilator;
(ii) Providing intercommunication doors;
(iii) Providing partitions;
(iv) Providing false ceiling;
(v) Gardening;
(vi) White washing;
(vii) Painting;
(viii) Re-tiling and reproofing;

(ix) Plastering and patch work;
(x) Re-flooring; and
(xi) Construction of sunshades on one's own land.

(2) No permission shall be necessary for works carried out by Central Government and State Government Departments/ Bihar State Housing Board if the plans are signed approved by Government Architects/ Engineers (Architects/ Engineers working in the concerned Government departments). However the Government Architects/ Engineers shall ensure that the plans are prepared as per the provision of these bye laws and the master plan/ development plan wherever applicable. In case of approval by government engineers, the plans shall be approved by a level higher than the level competent to grant technical approval/ sanction for the concerned project."

(7) Amendment in By-laws-5 of the said By-laws, 2014: -

(i) **Sub-By-laws (1) of By-laws-5 shall be substituted by the following: -**

"(1) Any person who intends to develop land, erect, re-erect or make additions or alterations in any building, demolish any building or subdivide a plot for development shall apply to the Competent Authority in Form – I or II as applicable or through the Online Single Window Building Permit System."

(ii) **Sub-By-laws (2) of By-laws-5 shall be substituted by the following: -**

(2) Colouring of plans- Plans shall be shown as specified in Table 1. Where items of work are notified, the coloring notation used shall be indexed (However separate guidelines may be issued for preparation of drawings in a format to adapt to the Online Single Window Building Permit System)."

(iii) **In the title and Table 1 of Sub by-laws (2) of By-laws-5, the following shall be added: -**

Drawing sheet sizes		
Sl. No.	Designation	**Trimmed Size (mm)**
1	A 0	841 X 1189
2	A1	594 X 841
3	A 2	420 X 594
4	A 3	297 X 420
5	A 4	210 X 297
6	A 5	148 X 210

(iv) **Sub-By-laws (3) of By-laws-5 shall be substituted by the following: -**

"**(3) Application for development permit (Land Development or Layout plan)-**The application shall be made to the Competent Authority in Form-I or through the Online Single Window Building Permit System (Refer e-Governance chapter and guidelines issued by the Department in case of online single window building permit system). The following shall accompany the application for development permit in the case of development or re-development of land into plots, sub-divisions or land use zones. The documents shall be submitted in 4 copies along with a soft copy in PDF and CAD format along with scrutiny fees/ shelter fund (applicable as per Affordable Housing and Slum Redevelopment & Rehabilitation Housing Policy 2017)/labour cess/ other fees as applicable.

(v) In (3) (i) Key Plan of By-laws-5 bracket and word: - "(Shall include attested copy of the Revenue Survey sheet/Municipal Survey sheet with Khesra no. or mutation record.)" shall be added.

(vi) In sub-By-laws (3) (ii) (e) of By-laws-5 the word "/UDHD" shall be added after the word "of the Authority"

(vii) **Sub-By-laws (3) (v) of By-laws-5 shall be substituted by the following:-**

"**(v) Ownership title-** Every application for development permit shall be accompanied by the following for verifying proof of ownership-

(a) Self-Attested or certified copy of the ROR/ original sale/lease deed/ partition deed/ court decree, and

(b) Self-Attested or certified copy of updated revenue receipt (Malguzari receipt) and

(c) Land possession certificate or Mutation order. and

(d) Registered Development Agreement between land owner and developer if applicable."

(viii) **Sub-By-laws-(4) of By-laws-5 shall be substituted by the following: -**

"**(4) Application for building permit**- Application shall be made to the Competent Authority in Form-II or through the Online Single Window Building Permit System (Refer e-Governance chapter and guidelines issued by the Department in case of online single window building permit system). The following shall accompany the application for building permit in the case of permission for erection, re-erection of making material alternation. The documents shall be submitted in 4 copies along with a soft copy in PDF and CAD format along with scrutiny fees/ shelter fund (applicable as per Affordable Housing and Slum Redevelopment & Rehabilitation Housing Policy 2017)/ labour cess/ other fees as applicable**.**"

(ix) **Word "with plot dimensions" shall be added after word "boundary of the site" used in clause-(a) of clause-(i) Site Plan of the sub-By-laws-(4) of By-laws-5.**

(x) **Word "and proposed buildings with dimensions" shall be added after word "under the site" in clause-(d) of sub-By-laws-(i) Site Plan of the clause-(4) of By-laws-5.**

(xi) **Following clause-(ia) shall be added after Clause-(i) of sub-By-laws (4) of By-laws (5)** : -

(ia) Key Plan- This shall show the location of land where the building is proposed. This shall also show the North point and scale used. (Shall include attested copy of the Revenue Survey sheet/Municipal Survey sheet with Khesra no. or mutation record.)

(xii) **Sub-clause-(f) of clause-(ii) Building Plan of the sub-By-laws-(4) of By-laws-5. Shall be Substituted by the following: -**

"(f) Show two sectional elevations of all street (levels) with existing and proposed ground level of plot; Show building elevations on all streets with existing and finished ground levels."

(xiii) **Clause-(v) Ownership Title of the sub-By-laws-(4) of By-laws-5 shall be substituted by the following: -**

"(v) Ownership Title- Every application for building permit shall be accompanied by the following for verifying proof of ownership.

(a) Self-Attested or certified copy of the ROR/ original sale/lease deed, /partition deed/ court decree, and

(b) Self Attested or certified copy of updated revenue receipt (Malguzari receipt) or

(c) Updated Municipal Holding Tax receipt (applicable in urban areas) with khesra/holding no.
(d) Land possession certificate or Mutation order
(e) Registered Development Agreement between land owner and developer if applicable."

(xiv) **Amendments in sub By-laws-(5) of By-laws-5: -**

The title of sub by-law (5) shall be replaced by the following: "(5) Additional documents and information required for Building Plan for Multi-storied/special buildings (Under High Risk classification; see Byelaw 8).:"

The word "health," shall be added before the word "educational" and the word "covered" shall be substituted by the word "coverage".

(xv) **Following clauses–(t) and (u) shall be added after clause-(s) in Sub-By-laws-(5) of the By-laws-(5).**

(t) Location and details of provisions for Gas supply and other related equipment.
(u) Location and details of provisions for solid waste management, differently abled, children and elderly, rainwater harvesting, green building & sustainability provisions made under these By-laws if applicable.

(xvi) **Clause-(iii) of Sub-By-laws-(5) of the By-laws-(5) shall be substituted by the following: -**

"(iii) **Specifications: -** Specifications, both general and detailed, giving type and grade of materials to be used shall be jointly signed by the registered architect, / engineer, structural engineer and shall accompany the application."

(xvii) **Clause–(iv), (v) and (vi) of Sub-By-laws-(6) of the By-laws-(5) shall be substituted by the following : -**

(iv) Necessary environmental clearance from the appropriate authority wherever applicable. The NoC can be obtained from the Online Single Window Building permit System wherever fully functional.[refer to provisions laid down in the latest notifications by Ministry of Environment and Forest, Government of India. The Department of Environment and Forest, Government of Bihar may also prescribe norms for environment clearance. (Refer APPENDIX 1)

(v) For all buildings with a height of 15.0 meters and above or ground coverage more than 500 sq m, NoC from the fire authority as notified under Chapter VI of the Bihar Fire Service Act 2014, shall be submitted. The NoC can be obtained from the Online Single Window Building permit System wherever fully functional. Refer the By-laws for requirement of fire safety provisions. Authority shall decide the requirement of fire safety provisions even in large public buildings below 15. 0 meters height.

(vi) NOC from Airport Authority of India shall be furnished wherever applicable as per the proposed CCZM (Colour Coded Zone Map). The NoC can be obtained from the Online Single Window Building permit System wherever fully functional.

(xviii) Word "empaneled" shall be inserted after word "registered" in clause-(vii).

(xix) Word "structural" shall be inserted before word "design" in clause-(viii).

(xx) Word "architect" shall be inserted before word "technical"and Word "/applicant" shall be added after word "technical person" in clause (x).

(xxi) **Following clauses–(xi) shall be added after clause-(x) in Sub-By-laws-(6) of the By-laws-(5).**

"NOC from the concerned Executive Engineer, Water Resource Department in case the plot is affected by the provisions made in the By-Laws-22(1)(iii) and 22(2)".

(8) Amendment in By-laws-6 of the said By-laws : -

(i). **Sub-By-laws-(1) of the By-laws-(6) of the said By-laws, 2014 shall be substituted by the following: -**

"**Signing the Plans**

(1) All the plans shall be prepared and duly signed by an Architect duly registered with the Council of Architecture, registered/empanelled technical person as specified in **Annexure**-I as applicable (viz. Engineer/ Structural Engineer/ Town Planner/ Supervisor) and Builder who shall indicate their names, addresses, registration numbers on the body of the plan and in all other relevant documents. The concerned owner of the land shall also sign the plans. The Architects, Engineers and Builders shall use the centralized online platform at the department level to register themselves and get empanelled. There shall not be any need for any of the aforementioned professionals to get registered or empanelled at the Municipality/ Planning Authority. They will also be provided with a login id (exclusive empanelment no.) and password for the online single window building permit system where they can maintain and update their profiles as needed.

(ii). **The word** "empanelled Architect/ Technical person" shall be substituted by word "empanelled Architect/ empanelled Technical person as per competence defined in Annexure-I" in sub-By-laws-(2) of the By-laws-6 **Signing the Plans.**

Full stop shall be deleted and following word "and alternate appointment is done. Even in case of termination the earlier Architect/Technical Person shall be responsible for all points mentioned above till the appointment/ arrangement of a new Architect/Technical Person" shall be added in Note-1 of sub-By-laws-(2)."

(iii). **Note-2 of Sub-By-laws-(2) of the By-laws-6 Signing the Plans shall be substituted by the following: -**

"2- Wherever required under these By-Laws, the empanelled Structural Engineer, who has prepared the structural design, shall put his seal, and address on all the documents signed by him and shall also furnish a certificate to the effect that he shall supervise the structural part of the construction and shall be responsible for any structural failure except caused by unprecedented natural calamities in Form-IV (Certificate for structural stability) and except if the owner/ developer intimates that the services of the Structural Engineer have been terminated and alternate appointment is done. Even in case of termination the earlier Structural Engineer shall be responsible for all points mentioned above till the appointment/ arrangement of a new Structural Engineer."

Word "2005" shall be deleted and word "latest" shall be added in **Note-3**.

(iv). **Sub-By-laws-(3) of the By-laws-6 Signing the Plans shall be substituted by the following: -**

"(3)- The technical personnel and builder as specified in sub-bye law (1) & (2) above shall have to be registered/ empanelled with the Urban Development and Housing Department. (Through the state level Online Single Window Building permit portal maintained by the Department. Their qualifications and competence shall be as per Annexure I. The application form shall be as per Form-VII A & Form-VII B. (Till the online platform is completely developed and becomes fully functional.")

(v). **Sub-By-laws-(4) of the By-laws-6 Signing the Plans shall be substituted by the following: -**

"(4)- No plans for construction of apartment building, group housing and commercial building shall be entertained unless the builder is registered with the Urban Development and Housing Department, Bihar. However, for land area less than or equal to 500 sq.m, or less than or equal to 8 apartments/ flats, registration of builder is not mandatory."

(vi). **Sub-By-laws-(5) of the By-laws-6 Signing the Plans shall be substituted by the following: -**

"(5)- When it comes to the notice of the Planning Authority/ Municipalities/ Urban Local Bodies or any other person that a plan signed by technical personnel or builder referred to under sub-bye law (1) & (2) is in violation of the norms of these By-laws, notice shall be served by the authority to the owner/ concerned applicant."

(vii). The word "or website" shall be added after The word "notice board" and the word "UDHD" shall be added after the word "authority" in the **sub-By-laws-(6**).

(9) Amendment in By-laws-7 of the said By-laws, 2014: -

(i) **Clause-(I) of sub-By-laws-(1) of the By-laws-7 Fees shall be substituted by the following: -**

(I). Every application for permission for building operation or development shall be accompanied with such fee(s) as specified in these bye laws such as scrutiny fees, shelter fund, labour cess, building permit fees (for building construction) and development permit fees (for development of land and layout approval) as applicable."

(ii) The word "(see Section 340 of Municipal Act, 2007)", "(Notification of change land use policy to be done by the department)" and "(land use change fees, infrastructure development fees, labour cess etc. whenever notified)" shall be added in clause-(iv), (v) and (vi) of sub-By-laws-(1) of the By-laws-7 respectively.

(iii) The following note shall be added after Table-3 of sub by-law-(3) :

"Note:- In premises where more than one building block is being constructed, Development Permit Fees over and above the Building permit fees shall be applicable as per Table-2."

(10) By-laws-8 of the said By-laws, 2014 shall be substituted by the following: -

"8- Procedure for permission: -

(1) **Risk based classification of Buildings for fast tracking building plan approvals: -**

For fast-tracking building permission procedures, buildings are hereby classified on the basis of risk parameters/ risk-based classification. This classification shall be used for fast tracking the sanction of building plans, which shall facilitate regulated and faster construction permits.

Not all buildings pose equal health or safety burdens– some buildings may be lower or higher risk in nature, depending on the proposed usage, the proposed occupancy, the height and a variety of other factors. A risk-based building classification enables the introduction of a fast-track mechanism i.e. Trust & Verify (T&V) for low-risk buildings, thereby freeing up time of ULB officials to spend more time thoroughly reviewing and ensuring structural and public safety of moderate or higher risk buildings.

The following risk matrix for residential buildings may be referred: -

Risk Matrix for different Residential Buildings: - *

Risk Parameter	Low	Moderate	High
Height of the building	Up to 10 m (G+2)	Above 10 m and up to 15 m	Above 15 m
Area of the plot	Up to 300 sq.m.	300-500 sq.m.	Above 500 sq.m.
Use of the premise	Residential	Residential	Group Housing
Means of access	The means of access should conform to the provisions of By-laws 33 and Table 6 of the Bihar Building By-laws 2014		

**Note: - For the risk matrix given above, if a building can be construed as belonging to more than one risk-based classification, it will be considered under the higher risk based classification.*

(2) **Trust and Verify (T & V) Procedure: -** For all buildings that satisfy the low risk classification criteria, a procedure of Trust and Verify will apply. Under this procedure, the owner should submit all the requisite plans, documents, fees and charges etc. as defined in the By-laws and the owner can commence construction as per these plans without waiting for any approval from the Authority. A scrutiny fee of Rs 1000 (for building permit) and Rs 10000 (for development permit) is to be deposited through online/ offline means as applicable. This procedure is based on the principle of trust therefore, the owner as well as the architect/licensed engineer are fully responsible for adhering to the provisions of the By-laws in both the building plan as well as in the actual construction. This procedure does not absolve the Urban Local Authority of the responsibility of inspection and the Authority will have to get the inspection done within 15 days of the date of submission of the plans. In case it is found that the permission has been secured through misrepresentation or fraud, the permission may be suspended or revoked by the Authority under **Sub-By-laws 363 (3) of the Bihar Municipal Act 2007** and/or cancelled under **By-laws 14 of the By-laws.**

Risk Matrix for different Industrial Buildings: -

Risks	Low	High
Height of the building	Up to 11 m (G+2)	Above 11 m
Area of the plot	Up to 1000 sq.m.	Above 1000 sq.m.
Minimum abutting road width	12 m	12 m
Environmental concern	No use of water and hazardous chemicals or raw materials,	Use of water and hazardous materials, chemicals etc.

Risks	Low	High
	effluents or by-products etc.	

(3) **Additional requirement for Trust and verify (T&V) procedure for low risk buildings: -**

For all the buildings that satisfy the low risk classification criteria, the applicants are lead to the T&V procedure and they avail the fast track sanctioning procedure subject to the following conditions: -

(A) The applicant shall submit an application to the Authority as prescribed in bye law 5(4) along with a certificate from the registered Engineer that the building plan and the design complies with the Earthquake Safety requirements as stipulated in the बिहार में, भूकम्पीय खतरो से न्यूनीकरण के लिये, भवनों के निरूपण एवं निर्माण का परिपत्र, बिहार राज्य आपदा प्रबंधन प्राधिकरण, पत्रांक–10 /विविध /आ०प्र०प्रा०–13 /2011–2253 /आ०प्र०, बिहार सरकार, बिहार राज्य आपदा प्रबंधन प्राधिकरण (आपदा प्रबंधन विभाग: as in Appendix A).

(B) The road, drainage, sewerage and other infrastructure have been developed as per the approved layout plan or provisions for their development has been made in the building plan,

(C) All other conditions of the bye laws are met;

(D) The owner shall have to submit a copy of the completion certificate as required.

(E) The owner and the builder shall remain responsible for any violation of the norms prescribed under the Bye laws. Nothing in this provision will enable the owner and the builder to violate any of the provisions of the By-laws

(F) Confirmation of Land use as per the Master plan or provisions made in these By-laws should be strictly followed.

(G) An affidavit cum undertaking that the construction shall be carried out as per the submitted plans and the authority may take suitable action under the provisions of these By-laws and 8(2) above, if found otherwise during the T&V inspection.

(H) Any other certificates & NoCs if applicable like AAI, NMA etc.(Online single window building permit system can also ensure this).

(4) **For moderate and high risk buildings: -**

1. A scrutiny fee (Rs 5000 for Moderate Risk buildings and Rs 10000 for High Risk buildings) shall be deposited with the application. (Online provision to be developed)
2. All clarifications with respect to deficiency in the plan, documents will be sought for from the applicant in one go within 15 days. The site inspection of all concerned bodies as required should also be conducted within this period.
3. Once the plan has been scrutinized and all the objections have been pointed out in one go, the applicant shall modify the plan to comply with the objections raised and re-submit it within 7 days alongwith any further documents that may have been asked for. The Competent Authority shall scrutinize the re-submitted plan and convey its final decision on the submitted plan and documents within 7 days of the receipt of the plan and/ or documents.
4. Any rejection of submitted plan should be accompanied by a speaking order of the competent authority.

5. The Applicant will have to deposit building permit fee after receiving communication of approval of plan but before issue of formal sanction letter. (Online provision to be developed)
6. The Competent Authority shall communicate either approval in Form-VIII A or refusal in Form-IX within 30 days from date of receipt of application under Bye Law-5 In case the permission is refused an appeal can be filed before the Tribunal. (Online provision to be developed)

(11) By-laws-9 of the said By-laws, 2014 shall be substituted by the following: -

9 Duration of permission

Every permission granted under these bye laws shall remain valid up to five years from the date such a permission is granted. The notice of completion shall have to be submitted within this period. However in case of failure to submit the notice of completion within the prescribed period the permission shall have to be revalidated before the expiry of the above period on payment of such fee as specified in these bylaws (7.(4)(iii)) and such revalidation may be valid for another two years.

If the building/development works is not completed within the above mentioned seven years period, the applicant shall make a fresh application for approval of building plan."

(12) By-law-10 "Notice for commencement of work" of the said By-laws, 2014 shall be substituted by the following: -

The owner/applicant, upon commencement of his work under the building permit or for development of land shall give notice in Form-X to the Authority that he would start the construction on a specified date and the Authority shall cause inspection of the work to be made within 14 days following the receipt of notice to verify that the building has been allocated and development work is being carried out in accordance with the sanctioned plans. If, however, the authority fails to make the inspection within the specified period, it shall be presumed that the Authority has no objection to the construction. The process of submission of such notice shall be made easy through an online process.

(13) Amendment in By-laws-11 "Information at the site of construction" of the said By-laws, 2014: -

(i) The word "(cube test and soil test report)" shall be added after the word "tests data" in sub-By-laws-(1).

(ii) Following new sub by-lawss-(3) and (4) shall be added after the sub by-laws- (2): -

"(3) Copy of the periodic progress report, maintained register (FORM XI and IV).

(4) The names and contact details of representatives of developers/ owners and site supervisors/ technical persons etc."

(14) Amendment in By-laws-12 "Periodic report of Construction" of the said By-laws, 2014: -

The Word "in case of high rise buildings" shall be deleted and the word "developer" shall be added before word "builder" in the **By-laws-12**.

(15) Amendment in By-laws-13 "Inspection." of the said By-laws, 2014: -

(i) The word "authority" shall be substituted by the word "concerned agencies" in the sub by-laws –(1).

(ii) The word "/ owner through an online/ offline process" shall be added after the "developer" in the sub by-laws –(2).

(iii) Following sub by-laws -(3) to (8) continuously shall be added after the sub by-law –(2).

(3) A computerized system for identifying buildings/area that need to be inspected based on risk assessment shall be designed and implemented. A computerized system of allocation of inspectors shall be designed and implemented which shall be linked to the online application & approval system.

(4) A single joint inspection shall be carried out by all the concerned authorities such as Bihar Fire Services, AAI, SEIAA, Bihar etc. (as per their prescribed norms) which will be intimated and managed by the concerned ULB on a fixed date. In case of absence of representation from a department, the same would be reported to the higher authority of the concerned department/ authority.

(5) Computerized random allocation of the personnel authorized for inspection from the concerned authority shall be done through an online process.

(6) Provision is available for e-intimation to respective authorities of completion of construction of all levels for which inspection is required as per these By-laws. It may be updated if required.

(7) A mobile application shall be developed for inspection and a checklist of documents to be made for offline inspection process. The inspection report should be submitted (signed & uploaded) online within 24 hours (and in no case beyond 48 hours) of the inspection by the inspectors to the Authority (on the designated portal). A separate checklist shall be used in case of offline inspection process till the availability of a fully functional online process.

(8) Provision has been made for making the certificate of inspection electronically available to the applicant/owner. This should be strictly followed. The inspection reports of past two years should be made available for view and download by the concerned officials of the Authority as well as the applicant/ owner.

**The above system shall be made applicable for all inspections required for T&V inspection, sanctioning of building plans, during construction: - periodic inspections, as well as for occupancy certificates."*

(16) **By-laws-15 of the said By-laws, 2014 shall be substituted by the following: -**

"15 Completion of construction

(1) The Authority shall permit an empanelled Architect/ Engineer to certify completion of building for residential buildings designed by them or for Trust & verify cases. The responsibility of compliance with respect to provisions of these bye laws shall rest with registered architect/engineer/owner.

(2) For all buildings, the owner/concerned architect/registered technical person will submit the notice/ certificate of completion in Form-XII to the Authority that the building has been completed in all respects as per the approved plan and provision of the By-laws. The said notice shall be accompanied by the following documents: -

(a) Three copies of completed building plans. (CAD drawings in case of online; as the online single window building permit system requires)

(b) A fee of Rs.1000/-. (Online transaction in Building permit module)

(c) Copy of approved plan and approval letter.

(d) Certificate of establishment of fire safety appliances by the nominated authority wherever applicable or the Fire consultant empanelled by the concerned authority.

(e) Environmental clearance related NoC from the concerned agecy.

(f) Evidence to the effect of all public utility services, and in particular, sewerage, drainage, water supply, and electricity have been linked to the main public utility system or adequate on site infrastructure has been developed and in-situ provisions for the same has been made.

(3) The deviations shall also be brought to the notice of the Authority (with relevant documents including periodic progress reports submitted earlier).

(4) The team of officials from the concerned departments shall jointly visit the site within 7 days of submission of notice of completion and the team will verify the following facts

(a) Number of floors
(b) Building height
(c) External Setbacks including projections
(d) Obstructions or construction in the setback area
(e) Building Line
(f) Parking space provision
(g) Abutting road width
(h) FAR
(i) Basement (extent and height)
(j) Tree Cover and green strip
(k) Water harvesting structures
(l) Land if required to be surrendered through deed of transfer in favour of authority.
(m) Removal of structures, as required according to the sanctioned plan
(n) Energy efficiency, green building, solar water heating, disabled-friendly, rain water harvesting, segregated public toilet provisions etc. as per applicability.
(o) Provisions for fire-fighting wherever applicable
(p) STP provisions wherever applicable.
(q) Provisions to connect to CGDN (City Gas distribution Network) if applicable.

The team shall record the deviations made from the approved plan.

(5) Implementation of Life Safety provisions as mentioned in latest National Building Code shall be complied wherever applicable.**"**

(17) Amendment in By-laws-16 of the said By-laws, 2014: -
"Certificate for occupancy"

(i) Words "30 days" shall be substituted by words "15 days" in sub by-laws – (1) of By-laws-16.
The word "(online on the portal or offline)**"** shall be added after the word "notice" in sub by-laws -(1).

(ii) The word "Architect/**"** shall be added before the word "Licensed" in sub by-laws-(2).

(iii) Following sub by-laws -(3A) shall be added after sub by-laws -(3).
"(3A) The procedure to be followed: - The owner/ engaged Professional for building plan design, shall submit the notice/ certificate of completion along with all the documents, completion plans and the processing fees/charge as per byelaw 15 as applicable.
Verification shall be done by one Architect and a structural engineer (for Trust and verify cases: - Low risk).

An architect and a structural engineer, an electrical and civil engineer or any other service engineer with minimum 10 years' experience (for moderate and high risk buildings) from a list of professionals empanelled with the ULBs for this purpose, certifying that the completion plans are in accordance to the sanctioned building plans and in accordance to building bye laws. The fee for this certification shall be Rs 3 per square meter for Trust and verify cases (low risk buildings) and Rs 6 per square meter for moderate and high-risk buildings."

(iv) The word "and its team of professionals" shall be added after the word "authority" and word "all" and "the latest" shall be added before the word "the provision and "national building code" respectively and at the end bracket and letters 2005(Group-I Part IV Fire and Life Safety 4) shall be deleted in sub-By-laws –(4)

(v) Following sentence shall be added at the end of the sub by-laws –(5): -

In case the building use is changed or unauthorized construction is made, the Authority is authorized to discontinue such services or cause discontinuance of such services.

(18) Following By-laws –(16A) and (16B) shall be added after By-laws-16 "Certificate for occupancy" of the said By-laws, 2014: -

"16A. Penal Action

(i) 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 By-Laws and the sanctioned building plans.

(ii) If the sanctioning Authority finds at any time any violation of the building By-Laws or misrepresentation of facts, or construction at variance with the sanction or building By-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 department.

16B. Unauthorized Development (construction without map sanctioning)

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."

(19) Amendment in By-laws-17 "Construction not according to plan" of the said By-laws, 2014: -

(i) The word "and misrepresentation and fraud in Trust and verify cases (Low risk)" shall be added after the word "deviation of the layout" in sub by-laws –(4).

(ii) Following sub by-laws –(6) shall be added after sub by-laws –(5) : -

"(6) Monthly advertisement of the projects where the construction has been barred, to be displayed on the website of the Authority with a separate link."

(20) Amendment in By-laws-18 "Single Window Clearance" of the said By-laws, 2014 :-

The word "UDHD" shall be added before word "Planning Authority" and the word "with automated tool for plan approval (Online Single Window Building permit system)" shall be added after word "Single Window Clearance system" and at the end of the para a sentance 'A separate guidelines may be issued by the Urban Development and Housing Department in this regard" shall be added in the sub by-laws –(1).

(21) Amendment in By-laws-20 "Construction near protected monuments" of the said By-laws, 2014: -

(i) The word "NMA (national monuments authority)" shall be added before word "ASI" in sub by-laws –(3).

(ii) The word "and subsequent amendments in 2010 or futher" shall be added after word "Archaeological Sites and Remains Act, 1958" in sub by-laws –(4).

(22) Following By-laws–(20A) shall be added after By-laws-20 of the said By-laws, 2014: -

"20A Conservation of heritage sites including heritage buildings, heritage precincts and natural feature areas: -

Conservation of heritage sites shall include buildings, artefacts, 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.

(1) **Applicability**

These regulations shall apply to heritage sites which shall include those buildings, artefacts, 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 byelaw 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 By-Laws prepared and notified by the Competent Authority (National Monuments 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**.**

(I) Definitions

a) ***"Heritage building"*** means and includes any building of one or more premises or any part thereof and/or structure and/or artefact 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.

(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.

(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 Commissioner, Municipal Corporation /CEO, Planning Authority. 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 Commissioner, Municipal Corporation/ CEO, Planning Authority 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

(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 Commissioner, Municipal Corporation/ CEO, Planning Authority.

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.

(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 Commissioner, Municipal Corporation / CEO, Planning Authority 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 By-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 Commissioner, Municipal Corporation/CEO Planning Authority/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.

(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, the Commissioner, Municipal Corporation / CEO, Planning Authority shall follow the procedure as per the BUPD Act 2012, read with Rules 2014 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.

(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 Commissioner Municipal Corporation/ CEO, Planning Authority 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 Commissioner, Municipal Corporation / CEO, Planning Authority / 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.

(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.

(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.

(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 Commissioner, Municipal Corporation / CEO, Planning Authority on the advice of the Heritage Conservation Committee or separate regulations / guidelines, if any, prescribed for respective zones by Municipal Corporation / Planning Authority.

(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 of the city/town or by Planning Authority 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.

(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 of Grading of Listed heritage

Grade-I	Grade-II	Grade-III
(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.	Heritage Grade-II (A&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.	Heritage Grade-III comprises building and precincts of importance for townscape; that evoke architectural, aesthetic, or sociological interest though 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
(B) Objective: - Heritage Grade-I richly deserves careful preservation.	Heritage Grade-II deserves intelligent conservation.	Heritage Grade-III deserves intelligent conservation (though on a lesser scale than Grade-II and special protection to unique features and attributes)
(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	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	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.

Grade-I	Grade-II	Grade-III
be allowed and they must be in conformity with the original.	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 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) **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.

(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.

(15) **Signs and outdoor display structures / including street furniture on heritage sites**
Commissioner, Municipal Corporation/ CEO, Planning Authority 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.

(16) **Composition of the Heritage conservation committee**
The Heritage Conservation Committee shall be appointed by the State Government comprising of: -

(i) Principal Secretary (Urban Development and Housing Department) - Chairman
(ii) 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

	A) Architect having 10 years experience	- Member
	B) Urban Designer	- Member
	C) Conservation Architect	- Member
(iv)	Environmentalist having in-depth knowledge and experience of 10 years of the subject .	- Member
(v)	Historian having knowledge of the region having 10 years experience in the field	- Member
(vi)	Natural historian having 10 years experience in the field	- Member
(vii)	Chief Town Planner, Municipal Corporation	- Member
(viii)	Chief Town Planner, Planning Authority	- Member
(ix)	Chief Architect, Development Authority	- Member
(x)	Representative of State Archeological Department	- Member
(xi)	Chief Town Planner, State Town & Country Planning Department	- Member-Secretary

(a) The Committee shall have the powers to co-opt upto 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 advice the Commissioner, Municipal Corporation/ CEO, Planning Authority whether development permission is to be granted under the Building By-Laws and the conditions of permission.

(ii) To prepare a supplementary list of heritage sites, which include buildings artefacts, 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 ByeLaw would apply.

(iii) To advise whether any relaxation, modification, alteration, or variance of any of the Building By-Laws;

(iv) To frame special regulations / guidelines for precincts and if necessary for natural feature areas to advise the Commissioner, Municipal Corporation/ CEO, Planning Authority regarding the same;

(v) To advise whether to allow commercial / office/ hotel use in the heritage areas and when to terminate the same.

(vi) To advise the Commissioner, Municipal Corporation/ CEO, Planning Authority in the operation of this Building By-law to regulate or eliminate/erection of outside advertisements/bill boards/street furniture;

(vii) To recommend to the Commissioner, Municipal Corporation/ CEO, Planning Authority 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 Commissioner, Municipal Corporation / CEO, Planning Authority / 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 Commissioner, Municipal Corporation / CEO, Planning Authority in cases of Appeals under Development Authority/Municipal Corporation Act in cases of listed buildings / heritage buildings and listed precincts / heritage precincts and listed natural feature areas.

(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 Commissioner, Municipal Corporation/ CEO, Planning Authority and Heritage Conservation Committee from heritage point of view.

(18) **Ownership not affected**

Sale and purchase of Heritage Buildings does not require any permission from Municipal Corporation of the city/town/ Planning Authority/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 30 days."

(23) The By-laws-22 of the said By-laws, 2014 shall be substituted by the following: - "22 Construction near river front

(1) (i) No construction or re-construction of any building, within a strip of land of 15 metres in (Towards Country Sides)of theTown Protection wall along the river Ganges shall be permitted except for repair and renovation work of existing buildings.

(ii) No construction or re-construction of any building, within a strip of land of 25 meter in country side from the Toe of the Embankment made along the river Ganges shall be permitted except for repair and renovation work of existing buildings.

(iii) No construction or re-construction of any building, within a strip of land of 30 meters from the Maximum Oscillated River Edge of Ganges shall be permitted except for repair and renovation work of existing buildings. In case of Maximum Oscillated Edge, attach NOC by concerned Executive Engineer of Water Resources Department, Bihar along with Application.

(2) In case of rivers other than the Ganges, no construction or re-construction of any building shall be allowed, within a strip of land of 30 metres, from the Maximum Oscillated River Edge of the river shall be permitted except for repair and renovation work of existing buildings. In case of Maximum Oscillated River Edge, attach NOC by concerned Executive Engineer of Water Resources Department, Bihar along with Application.

(3) No construction shall be allowed within the boundary of the river.

(4) Notwithstanding the above provision, any Planning Authority or Government Body shall be able to undertake development and beautification work of riverfront, ghats or any other planned development on reclaimed lands with the approval of the Government.

Note : - provisions of Notification No.- 2458 dated 07.10.2016 of clause-(3L) and 6(3) by the water resources, river development & ganga rejuvenation, government of India shall also apply."

(24) Amendment in the By-laws-25 "Responsibility and Duty of the owner" of the said By-laws, 2014: -

(i) Following words shall be added at the end of clause-(A) of the sub-by-laws-(2): -
"and be present personally or through representatives with all relevant maps and certificates during inspection with full cooperation."

(ii) Words "more than 12m in height" shall be substituted by words "all buildings" in clause-(C) of the sub-by-laws -(2) and at the end bracket and words (Online provisions to be developed) shall be added.

(iii) The word "part/ full", "as applicable" shall be substituted before and after the word "occupancy certifate" of clause-(D) of the sub-by-laws -(2).

(iv) Following sub-bylaws-(3), (4), (5), (6) and (7) shall be added: -

3- Approval of plans and acceptance of any statement or document pertaining to such plan shall not exempt the owner or person or persons under whose supervision the building is constructed from the responsibilities imposed under these bye laws, or under any other law for the time being in force.

4- Approval of plan would mean granting of permission to construct under these bye laws only and shall not mean among other things: -
   (A) The title over the land or building;
   (B) Easement rights;
   (C) Variation in area from recorded area of a plot or a building;
   (D) Structural stability;
   (E) Workmanship and soundness of materials used in the construction of the buildings
   (F) Quality of building services and amenities in the construction of the building,
   (G) The site/ area liable to flooding as a result of not taking proper drainage arrangement as per the natural lay of the land, etc. and
   (H) Other requirements or licenses or clearances required for the site / premises or activity under various other laws.

5- The approval or permission shall not bind or render the Authority liable in any way with regard to the matter specified in sub-bye laws (4) (A.) to (H.) above.

6- **Maintenance of Register Record.-**A register in Form-XIV containing the necessary particulars including information as

to the manner in which applications for permission have been dealt with by the Authority shall be maintained.

7- During construction, set-up of measures like screen and barricade shall be necessary to prevent dust, smoke and debris on construction site also trucks bringing sand and materials on site shall be necessarily cover with plastic/ Trapaulin sheets.

(25) By-laws-26 "Responsibility of Authority" of the said By-laws, 2014 shall be deleted.

(26) The word "Land" shall be added after the word "various" in sub by-laws–(1) of By-laws-27 of the said By-laws, 2014.

(27) By-laws-28 "Different use of land" of the said By-laws, 2014 shall be substituted by the following: -

(i) The word "ground" shall be added before the word "coverage" in clause-(B) of the sub-bylaw-(4).

(ii) Following shall be substituted with sub-by-laws -(6), (8) & (9) respectively.

6- Mixed use of building/ premisesmay be permitted in a particular zone on the basis of theTables 4A for Mixed use regulations for Commercial and Residential Zones.

8- In case of Government and Government Sponsored projects for example – Affordable Housing projects or Slum Rehabilitation and Redevelopment Housing projects, hospitals, educational institutions etc. the State Government may relax the land use criteria mentioned in table 4.

9- Where Development Plan/Master Plan has not been notified or its is in the process of being prepared, the existing predominant land use of the surrounding area shall be the land use for a particular premise and the regulations as per the Table 4 and 4A shall be applicable.

(iii) Following sub-bylaw-(10) shall be added after sub-by-laws -(9).

10- If a proposed project lies in multiple land use zones or the total project area incorporates land pockets of different uses, then the use with atleast 60 percent dominance in the project area shall be applicable to the whole project and all other parameters of these by-laws shall be applicable accordingly.

(iv) Table-4A shall be added before Table-4

Table 4A Regulations for Mixed occupancy of building/ premises in Commercial and Residential Zones (New area and Old area)

Regulations for Mixed occupancy of building/ premises in Commercial and Residential Zones (New area and Old area)	
Commercial Zone / Commercial Strip	
Cases where Minimum 40 ft wide road is available (Sufficient Road width condition for commercial, certain public buildings) ▪ At least one floor (lowest usable floor above the ground) shall be used for commercial activities, rest may be used for residential purpose	**Cases where less than 40 ft wide road is available (Insufficient Road width condition for commercial, certain public buildings)** ▪ Fully residential may be allowed subject to the condition that setback, FAR, building fee for commercial development is satisfied
Residential Zone	
Cases where Minimum 40 ft wide road is available (Sufficient Road width	**Cases where less than 40 ft wide road is available (Insufficient Road width**

condition for commercial, certain public buildings) ▪ Maximum one floor (lowest usable floor above the ground) shall be allowed for commercial use subject to the condition that setback, building fee, parking for commercial development is satisfied (Refer Table 4).	**condition for commercial, certain public buildings)** ▪ ***No commercial activities permitted***
Note – In mixed use of building/ premises, the use with higher setback and building fee will be applicable. Parking area requirement shall be proportionate to the type of use of the building.	

(v) Amendment in Table-4 –

(a) Sl. NO. 1, The following shall be added after word Residential Use Zone "(Cases where Minimum 40 ft wide road is available: Maximum one floor (lowest usable floor above the ground) shall be allowed for commercial use subject to the condition that setback, building fee, parking for commercial development is satisfied)."

(b) Heading of Table-4 shall be substituted by the following: -
Uses/Activities permitted/prohibited in different land use zones.

(c) Sl.No.-6 "Marriage and community halls" shall be deleted and shall be added in column-3 as Sl. No.-18 of column-2 in the Sl. No.-1(**Land Use Zone)** of Table -4.

(d) The word "(low risk, non-polluting)" shall be added after the word "House hold industry" in Sl. No.-14 of column-2 in the Sl. No.-1(**Land Use Zone)** of Table -4.

(e) Sl.No.-16 "Bus stops, taxi stands, 3-wheeler/auto stands, rickshaw stands" shall be deleted and shall be added in column-3 as Sl. No.-17 of column -2 in the Sl. No.-1 (**Land Use Zone)** of Table -4.

(f) Sl. No.-19 "Sports training centers" shall be added in column-3 in the Sl. No.-1 (**Land Use Zone)** of Table -4.

(g) Sl. No.-20 "Multilevel parking" shall be added in column-2 in the Sl. No.-1 (**Land Use Zone)** of Table -4.

(h) Sl. No.-1 "Associated residential uses" shall be deleted in column-3 of the Sl. No.-2 (**Retail Commercial and Business Use Zone)** of Table -4.

(i) Sl. No.-1A. "Residential, apartment, group housing " shall be added in column-2 of the Sl. No.-2 (**Retail Commercial and Business Use Zone)** of Table- 4.

(j) Sl.No.-5 "Sewage treatment plants and disposal sites, solid waste treatment plants and dumping grounds" of column -4 shall be deleted and shall be added in column-3 as Sl. No.-17 of column -2 in the Sl. No.- 2 (**Retail Commercial and Business Use Zone)** of Table -4.

(k) Sl.No.-9 "Transit visitor's homes" of column -3 shall be deleted and shall be added in column-3 as Sl. No.-21 of column -2 in the Sl. No.- 2 (**Retail Commercial and Business Use Zone)** of Table -4.

(l) Sl.No.-9 "Sports training centers" of column -4 shall be deleted and shall be added in column-3 as Sl. No.-18 of column -3 in the

Sl. No.- 2 (**Retail Commercial and Business Use Zone)** of Table -4.

(m) Sl.No.-15 "Residential, apartment, group housing" of column -3 shall be deleted and also Sl.No.-16 "Picnic hut" of column -3 shall be deleted and shall be added as Sl. No.-22 of column -2 in the Sl. No.- 2 (**Retail Commercial and Business Use Zone)** of Table -4.

(n) The word "Multilevel parking" shall be added after Sl.No.-18 "Parking lots" of column -2 in the Sl. No.- 2 (**Retail Commercial and Business Use Zone)** of Table -4.

(o) Sl.No.-23 "Service centers, garages, workshops (LMV, LCV only)" shall be added in column-2 in the Sl. No.-3 (**Retail Commercial and Business Use Zone)** of Table -4.

(p) Sl.No.-4 "Service centers, garages, workshops" of column -3 shall be deleted and shall be added in Sl. No.-12 of column -2 in the Sl. No.-3 (**Wholesale Commercial Use Zone)** of Table -4.

(q) Sl.No.-8 "Major oil depot and LPG refilling plants" of column -4 shall be deleted and shall be added in Sl. No.-15 of column -3 in the Sl. No.-4 (**Industrial Use Zone)** of Table -4.

(r) Sl.No.-5 "Entertainment and recreational complexes" of column -3 shall be deleted and shall be added in Sl. No.-21 of column -2 in the Sl. No.-5 (**Public & Semi-public Use Zone)** of Table -4.

(s) Sl.No.-22 "Associated Residential uses" in column -2 shall be added in the Sl. No.-5 (**Public & Semi-public Use Zone)** of Table -4.

(t) The word "Police station" shall be added after the word "Post office" in Sl.No.-1 in column -3 in the Sl. No.-6 (**Utility and Services Use Zone)** of Table -4.

(u) Sl.No.-4 "Information/Payment kiosk" of column -3 shall be deleted and shall be added in Sl. No.-11 of column -2 in the Sl. No.-6 (**Utility and Services Use Zone)** of Table -4.

(v) The word "Shooting range" of Sl.No.-5 of column -2 shall be deleted and shall be added in Sl. No.-11D of column -3 in the Sl. No.-7 (**Open space Use Zone)** of Table -4.

(w) Sl.No.-12 "Yoga and meditation centres" of column -3 shall be deleted and shall be added in Sl. No.-10 of column -2 in the Sl. No.- 7 (**Open space Use Zone)** of Table -4.

(x) The word "High rises" shall be added after the word "Multistories" of Sl.No.-2 of column -4 in the Sl. No.-11 (**Special Heritage Zone)** of Table -4.

(28) Amendment in the By-laws-30 of the said By-laws, 2014: -

(i) The word "there" shall be deleted before word "from" and added after word "from" in the sub-By-laws-(A).

(ii) The word "horizontal distance" shall be added after "(9) meters" and "small local water body" shall be added after "tank" in the sub-By-laws-(B).

(iii) The word "premises of" shall be substituted as word "cartilage" after word "building" in the sub-bylaw-(D).

(iv) Sub-By-laws-(E) shall be deleted.

(v) Following sub-by-laws -(F) and (G) shall be added after sub-by-laws -(E): -

F. 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.

G. 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.

(29) The word "National Building Code, 2005" shall be substituted with the word "latest provisions of the National Building Code" in the Byelaw-31 "Distance from Electric lines" of the said By-laws, 2014.

(30) Amendment in the By-laws-33 of the said By-laws, 2014: -

(i) The word "Authority/ Planning" shall be added after word "Regional Development" in the second Paragraph of sub-by-laws -(1).

(ii) Table 6: Length of road limitation shal be substituted by the following table:

Old Area

Sl. No.	Maximum Length of the road in Meter	Minimum width of road or street in Meter
(i)	(ii)	(iii)
1	Up to 25 meter	3.6 meter or 12 feet
2	Exceeding 25 meter and up to 100 meter	4.8 meter or 16 feet
3	Exceeding 100 meter	6.10 meter or 20 feet

Note-On less than 20 feet wide roads any existing structures (temporary or permanent) on both sides will be removed by measuring 10 feet from the centre line of the width of roads declared by or belonging to Road Construction Department, Government of Bihar, any Municipalities, any Planning Authorities, Housing Board, Co-operative Societies, Government and Semi-Government Organizations to make it 20 feet wide.

In other cases maximum 10 feet land from revenue plots on either side will be taken into account to make it 20 feet wide road and the construction falling in between the said width of road will be removed as an encroachment. Similarly 6 feet and 8 feet land from each Revenue plot on either side will be taken into account to make it 12 feet and 16 feet wide road correspondingly.

New Area (Residential)

The residential plots shall abut on a public means of access like street/road. Plots which do not abut on a street/road shall abut/front on a means of access, the width and other requirements of which shall be as follows:

Sl. No.	Maximum Length of the road in Meter	Minimum width of road or street in Meter
1	75	6.10 (20 ft.)
2	250	9.10 (30 ft.)
3	400	12.20 (40 ft.)
4	1000	18.30 (60 ft.)
5	above 1000	24.40 (80 ft.)

Note- If the development exists only on one side of the means of access, the prescribed widths maybe reduced by 1.0 meter in each case. In no case, development on plots shall be permitted unless it is accessible by a public street of width not less than 6 m.

For all assembly buildings like, theatres, cinema houses, assembly halls, stadia; educational buildings; markets, hospitals; industrial buildings and other buildings which attract large crowd, the means of access shall not be less than the following:		
New Area (Non residential)		
Sl. No.	Maximum Length of the road in Meter	Minimum width of road or street in Meter
1	200	12.20 (40 ft.)
2	400	15.00 (50 ft.)
3	600	18.30 (60 ft.)
4	above 600	24.40 (80 ft.)

(iii) Sub-By-law (2) shall be substituted by the following:
"No building construction activity shall happen on a road with a width of less than 12 ft. (Including Road Widening) in old area. However in special cases, plots abutting road width below 12 feet (in no case below 8 feet of existing road width), a maximum Building Height of 7 meters and 1.2 FAR shall be allowed."

(iv) Bracket with word and letter "(40 feet)" shall be added after word "meters" of the sub-By-laws-(5).

(v) Following sentence shall be added at the end of sub-By-laws-(6) : -
The portion surrendered by the owner for required road widening shall be handed over to the Government by a registered deed (Format to be Annexed) of transfer. In case of Master Plan roads, the owner will be provided an additional FAR/ TDR based on the width of the proposed road, only after he/she surrenders his/her portion of the area for the proposed road widening".

(vi) Sub-By-law (7) shall be substituted by the following : -
While calculating the width of the street for the purpose of sanctioning the building plan, the existing road width (maximum variation of 20% from the existing width) will be taken into consideration. The building plan shall be approved on the basis of the existing road width as defined in the definition of Road width at Byelaw 2 (I) (111).

(31) Amendment in the By-laws-34 "Minimum size of plots and road width" of the said By-laws, 2014: -

(i) Following shall be substituted by Table-7 (Category wise size of plots) of sub-bylaw (1): -

Category	**Min. road width(m)**		**Min. size of plot in Sq. m.**
Marriage Halls	12.20 (Old Area)	18.3 m (New Area)	1000
Cinema, Multiplex, Shopping Malls, Convention centers, Game centers, (Specific law to be made)	18-30		2000
Social clubs and allied amenities	12.20		1000
Multi level car parking	12.20		1000
Office buildings	12.20		300
Primary/Upper Primary school	12.20		500
High School, Residential school	12.20		As per sector specification
+2 College / Junior college	12.20		As per sector

Category	Min. road width(m)	Min. size of plot in Sq. m.
		specification
Degree College	12.20	As per sector specification
Technical educational institution	12.20	As per sector specification
Petrol pumps / Filling stations	12.20	As per sector specification
Restaurant	12.20	
LPG storages	12.20	As per sector specification
Places of congregation	12.20	500
Public libraries	12.20	
Conference hall	18.30	1000
Community hall	12.20	500
Nursing homes/polyclinics	12.20	300
Hotel (below three star)	12.20	500
Hotel (three star and above)	18.30	As per sector specification
Group Housing (To be revised)	12.20	4000

(ii) Notes (i) and (ii) and sub-By-laws-(2) is deleted.

(32) Amendment in the By-laws-35 "Minimum setbacks for non-high rise buildings" of the said By-laws, 2014: -

(i) The word "Building Height Up to G+4 Maxmimum-15m" shall be substituted by "Building Height Up to G+4 Maxmimum-16m" in Heading of last Column of Table-8 (Minimum setbacks and height of residential buildings) of the sub by-laws –(1).

(ii) Word "no construction shall be permitted" shall be substituted by "3.0 m" and "2.0 m" respectively in Column –(vii) and (viii) of S.no. -2 in Table-8 (Minimum setbacks and height of residential buildings) of the sub by-laws –(1).

(iii) The word "Building Height Up to G+4 Maxmimum-15m" shall be substituted by "Building Height Up to G+4 Maxmimum-16m" in Heading of last Column of Table-9 (Minimum side setbacks for residential buildings) of the sub by-laws –(1).

(iv) The word "no construction shall be permitted" shall be substituted by "1.8 m" and "1.8 m" respectively in Column –(vii) and (viii) of S.no. -2 in Table-9 (Minimum side setbacks for residential buildings) of the sub by-laws –(1).

(v) Following Notes shall be added in Table-9 of sub by-laws-(1): -

Note: - In case of multi storied buildings (Building above 15 m) the driveway (minimum width 3.66 m) in the exterior open space around a building shall be of hard surface capable of taking load of fire engine weighting up to 45 tonnes.

(vi) The word "Building Height Up to 15m" shall be substituted by "Building Height Up to 16m" in Heading of last Column of Table-10 (Minimum front and rear setback for commercial/mercantile buildings) of the sub-By-laws –(1)

(vii) The word "Building Height Up to 15m" shall be substituted by "Building Height Up to 16m" in Heading of last Column of Table-11 (Minimum side setbacks for commercial/mercantile buildings) of the sub-By-laws–(1)

(33) Amendment in the By-laws-36 "Minimum setbacks for high rise buildings" of the said By-laws, 2014: -

(i) Following shall be substituted in sub-By-laws-(3): - In case of multi storied buildings (Buildings above 15 m.) the driveway (minimum width 3.66 m) in the exterior open space around a building shall be of hard surface capable of taking load of fire engine weighting up to 45 tonnes.

(ii) Table 14 shall be substituted by the following:

Table -14: Minimum exterior open spaces around all type of high rise buildings unless otherwise specified

S. No.	Height of Building	Exterior open spaces to be left out on all sides in m.	
		(front setback)	(side and back)
1	More than16 and up to 19	6.5	4.5
2	more than 19 and up to 22	7.5	4.5
3	More than 22and up to 25	8.0	5.0
4	More than 25 and up to 28	9	6
5	More than 28 and up to 31	10	7
6	More than 31 and up to 36	11	7
7	More than 36 and up to 41	12	8
8	More than 41and up to 46	13	8
9	More than 46 and up to 51	14	9
10	More than 51	15	9

(34) Amendment in the By-laws-37 "General Conditions for Setback" of the said By-laws, 2014: -

(i) Clause -(E) "Commercial and Storage buildings" of the sub by-laws-(2) is deleted.

(ii) Following shall be added at the end of clause-(H) "Slum Improvement" of the sub by-laws-(2): - (For e.g. under Affordable Housing and Slum Rehabilitation and Redevelopment Housing Policy 2017).

(iii) The words "R/W or more R/W" shall be substituted by words "road width or more" in clause I of the sub-bylaw (2).

(iv) The word "bigger road width" shall be substituted by word "wider road width".

(v) The word "1 meter" shall be substituted as the word "0.6 meter" of the sub by-laws-(6)

(35) Amendment in the By-laws-38 "Floor Area Ratio(F.A.R)" of the said By-laws, 2014 : -

(i) Table-15: - **Road width and FAR table for (OLD AREA)** of sub by-laws-(1) shall be substituted as following: -

Category	Road Width (in meter)	FAR		Maximum no. of Floors	Maximum Height (in meter)	Conditions
		Residential	Non residential			
O-I	3.60 (12 ft.)	1.5	Nil	G+2	10	Parking shall be allowed on any floor. Under no circumstances the parking floors or provision for parking shall be used for any other purposes. Mezaninine floors or
O-II	4.80 (16 ft.)	1.8	Nil	G+2	10	
O-III	6.10 (20 ft.)	2.0	Nil	S+3 G+3	12	
	7.60 (25 ft.)	2.0	Nil	S+4 G+4	16	
O-IV	9.10 (30 ft.)	2.5	Nil	S+6	22	

Category	Road Width (in meter)	FAR		Maximum no. of Floors	Maximum Height (in meter)	Conditions
		Residential	Non residential			
				G+6		any floor partition shall be computed under FAR and counted as a floor.
O-V	12.20 (40 ft.)	2.5	2.0	No restriction on height and number of floors however it may be regulated by the master plan/development plan/zonal plan Ground coverage in no case shall increase beyond 40 percent.		
O-VI	18.30 (60 ft.) and above	2.5	2.5			Even in cases where a road terminates in to a plot, the Road width of the road shall be considered for deciding FAR and Maximum height. .
G – Ground floor S – Stilt foor						

(ii) After Table-15: - **Road width and FAR table for (OLD AREA)** of sub by-laws-(1) following Note shall be added : -

Note: - In case of multi storied buildings (Building above 15 m) the driveway(minimum width 3.66m) in the exterior open space around a building shall be of hard surface capable of taking load of fire engine weighting up to 45 tonne.

(iii) Table-16: - **Road width and FAR table for (NEW AREA)** of sub by-laws-(1) shall be substituted as following: -

Category	Road Width (in meter)	FAR		Maximum no. of Floors	Maximum Height (in meter)	Conditions
		Residential	Non residential			
N-I	6.10 (20 ft.)	2.0	Nil	G+3, S+3	12	Parking shall be allowed on any floor. Under no circumstances the parking floors or provision for parking shall be used for any other purposes. Mezzanine floors or any floor partition shall be computed under FAR and counted as a floor. Even in cases where a road terminates in to a plot, the Road width of the road shall be considered for deciding FAR and Maximum
	7.60 (25 ft.)	2.0	Nil	G+4, S+4	16	
N-II	9.10 (30 ft.)	2.5	Nil	S+6 G+6	22	
N-III	12.20 (40 ft.)	2.5	2.0	No restriction on height and number of floors however it may be regulated by the master plan/development plan/zonal plan Ground coverage in no case shall increase beyond 40 percent.		
N - IV	18.30 (60 ft.)	2-5	2-5			
N-V	24.40 (80 ft.)	3.00	2.5			
N-VI	27.40 (90 ft.)	3.25	3.0			
N-VII	30.50 (100 ft.)	3.50	3.50			

Category	Road Width (in meter)	FAR		Maximum no. of Floors	Maximum Height (in meter)	Conditions
		Residential	Non residential			
						height.
G – Ground floor S – Stilt foor						

(iv) Sub-By-laws-(3) shall be substituted as following: -
"Additional FAR for dwelling units meant exclusively for LIG/EWS in a group housing scheme shall be defined as per the prevalent Affordable Housing and Slum Rehabilitation and Redevelopment Policy."

(v) Sub by-laws-(4) shall be substituted as following: -
"In case of Educational, Institutional and Assembly building the maximum permissible FAR shall be 1.50."

(vi) After Sub by-laws-(7) following shall be added: -
"Where strip of the land is handed over to the Government by registered deed and possession for widening of road as per Master Plan roads and the existing road is at least 18.3 m wide, the area of land handed over will also be considered for the grant of FAR and calculation of permissible built-up area as per proposed Master plan road. Setbacks and other parameters will be as per net plot area."

(vii) Sub by-laws-(9) shall be substituted as following: -
"Exclusive multistory/ multilevel parking blocks can be provided within the required setback area without reducing the driveway for the fire tender and other required circulation spaces, to the extent of minimum 3.66 meters. This will not be included in the calculation of FAR."

(viii) The word "Service floor" shall be added before the word "Basement" in clause-(A) of the sub by-laws-(10) and word "Cabin" shall be added after word "watchman booth" in clause_(D) also word "12 sq. mtr." shall be substituted by word "20 sq.mtr."

(36) Amendment in the By-laws-39 "Height of a building" of the said By-laws, 2014: -

(i) Following shall be substituted as clause-(A) of the sub by-laws-(1): -
"The maximum height of a building shall in no case exceed [1.5 times X (the width of the road on which the plot abuts + the front setback)]. It shall be applicable only in case of plots abutting on road of average existing width not less than 9.10 m wide."

(ii) The word "Provided that the roads on the other sides shall also conform to provision made under bye law33" in clause-(B) of the sub by-laws –(1) shall be deleted.

(iii) Sub-By-laws-(2) shall be substituted as following: -
"Any height restrictions imposed by the Airport Authorities shall be adhered to as per the latest CCZM (Colour Coded Zoning Map)"

(iv) Sub-By-laws-(3), (4), Table-17 and 18 shall be deleted.

(37) Amendment in the By-laws-40 "Off Street Parking Space" of the said By-laws, 2014: -

(i) Clause –(G) Podium parking shall added in the sub by-laws-(2)

(ii) The word "(Floor area above 300 sq.m.)" shall be added in column-2 of sl.no. 1,2 and (Built up area above 300 sqm) in sl.no. 3 in the Table -19.

(iii) After Table-19 following Note and table shall be added: -
"Note: - Service area, maximum up to 15 percent of Built-up area (BUA) shall be decreased from BUA for calculation of Parking area. 1 Equivalent Car space (ECS)* for BUA up to 200 sqm and 2 ECS for BUA between

200-300 sq.m. for Residential Buildings and 2 ECS for every 100 sqm of floor area for Commercial and Public buildings up to floor area 300 sqm. These buildings fall in the Low risk classification and Trust and verify principle also applies to it."

* Space standards for Parking

S. No.	Type of Parking	Area in sqm per ECS
1	Open	23
2	Groun floor covered	28
3	Basement	32
4	Multi-level with ramps	30
5	Automated multi-level with lifts	16

(iv) Following sentence shall be added at the end of the sub by-laws-(6) : - "however, on ground parking space will be considered for determining required parking space in the setback after leaving 3.66 m for fire tender movement."

(v) The word " 1:10 slope" shall be substituted by the word "1:8 slope" and the word "3.6 meter" shall be substituted by the word "3.66 metre" of the sub by-laws-(8).

(vi) Sub by-laws-(9) is deleted.

(vii) The word "or large public buildings (plot area above 500 sq.m.)" shall be added after word "All buildings with a height of 15 m and above" of the sub by-laws-(11).

(viii) Sub-By-laws-(12) is deleted.

(ix) Following new sub by-laws-(13) shall be added :-
"Podium parking
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."

(38) Amendment in the By-laws-41 "Requirement of Parts of Building" of the said By-laws, 2014 : -

(i) The word "or covered parking space" shall be added after word "interior courtyard" in clause- (B) of the sub by-laws-(1).

(ii) The word "1.0 mtr." Shall be substituted with word "1.2 mtr." And word "1.2 mtr." Shall be substituted with word "1.5 mtr." in Parapet of the sub by-laws-(5)

(39) Amendment in the By-laws-42 "Staircase/Exit Requirements" of the said By-laws, 2014 : -

(i) The word "rooms or space" shall be substituted with word "rooms or usable space" in the sub-clause-(D) in sub by-laws-(B) Explanation of the sub by-laws-(3).

(ii) Sub-clause –(e), (f) and (g) of clause-(ii) Stairways of the sub by-laws-(5) shall be deleted.

(iii) After Sub-clause –(h) of clause-(ii) Stairways of the sub by-laws-(5) following new sub-clause-(i) shall be added: -
Minimum clear width

The following minimum width shall be provided for staircases for respective occupancies: -

Sl.No.	Building Occupancy	Minimum Width
(A)	Residential buildings (low rise): - (NOTE: - For row housing with 2 storeys, the minimum width shall be 0.75 m.)	1.00 m
(B)	Other Residential buildings (like Flat, Hostel, Group housing, Guest house, etc.)	1.25 m
(C)	Assembly buildings like auditoria, theatre and cinemas: - NOTE . The width of stairs may be accepted to be 1.50 m in case of assembly occupancy having less than 150 persons.	2.0 m
(D)	All Other Buildings including Hotels	1.5 m
(E)	Institutional Building (like Hospital)	2.0 m
(F)	Educational Building (like school, collage, etc.)	1.5 m

Minimum tread

The minimum width of tread without nosing shall be 300 mm. However, for one- or two-family dwelling, it may be reduced to not less than 250 mm.

Maximum riser

The maximum height of riser shall be 150 mm. However, for one- or two-family dwelling, it may be increased to not more than 190 mm. The number of risers shall be limited to 12 per flight.

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.

(iv) clause-(f) of the sub by-laws-(iii) shall be substituted with following: -
"Fire escape stairs shall have straight flight not less than 100 cm. wide with minimum 25cm. treads and riser not more than 19 cm. The number of riser shall be limited to 12 per flight."

(v) clause-(g) of the sub by-laws-(iii) shall be substituted with following: -
"Handrails shall be of a height not less than 90 cm."

(vi) The word "maximum" shall be added before word "height" in the sub by-laws-(iv).

(vii) clause-(a) of the sub by-laws-(v) shall be substituted with following: -
"Ramps with a slope of not more than 1: 12 may be substituted for and shall comply with all the requirements of required stairway as to enclosure, capacity and limiting dimensions; large slopes shall be provided for special uses but in no case greater that 1: 10. The ramp with a slope between 1: 12 to 1: 10 shall be allowed only upto height of 2.4 Meter."

(viii) clause-(c) of the sub by-laws-(v) shall be substituted with following: -
"For all slopes exceeding 1:12 and where the use is such as to involve danger of slipping the ramp shall be surfaced with approved non-slipping materials."

(ix) clause-(e) of the sub by-laws-(v) shall be substituted with following: -
"After providing 3.66 m for fire tender ramps may be provided within required minimum setbacks."

(40) By-laws-42A shall be added after the By-laws-42 of the said By-laws, 2014: -

"Roofs

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.

The Authority 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.

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 Authority.

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 the latest edition of NBC."

(41) Amendment in the By-laws-43 "Interior open space" of the said By-laws, 2014: -

(i) Sub-By-laws-(1) shall be substituted with following: -

"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 in height, and in case of buildings above 15 m it shall have mandatory mechanical ventilation in addition."

(ii) For ventilating the spaces for water closets and bathrooms ventilation shafts shall be "provided with size as provided under latest National Building Code of India (Published by Bureau of Indian Standards) as bye laws for ventilation shaft."

(iii) Following sub by-laws-(3) shall be added in the Byelaw-43: -

"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**.**

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"

(42) By-laws-(43A) shall be added after the By-laws-(43) of the said By-laws, 2014:-

"Lighting and ventilation of rooms :

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].

Lighting loads of various spaces of -

i. Industrial buildings shall be determined as per Clause 1, Sub by-laws 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 Clause 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 Sub by-laws 2 of SP 32 (1986)

ii. Non-Industrial buildings shall be determined as per Clause 4 of Part 3 of SP 41 (1987)

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 openable 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 15. m. in height.

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 latest 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 By-Laws.

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.

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.

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 of Size of Ventilation Shaft

Height of Building (m)	Size of ventilation shaft (sq m)	Minimum size of shaft (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."*

(43) The sub-By-laws-(D) of the By-laws-44 "Height exemption of a building" of the said By-laws shall be substituted by the following: -

Chimneys and parapet walls not exceeding 1.5m. in height.

(44) The word "0.9 meters" in sub-By-laws-4 of the By-laws-45 "Exemption in Open space" of the said By-laws, 2014 shall be substituted by the word "1.2 meters".

(45) By-laws (45A), (45B), (45C), (45D) and (45E) respectively shall be added after the By-laws-45 of the said By-laws, 2014: -

(i) 45A 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.

(ii) 45B **Ledge or Tand/Loft/ Store room / Garage**

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.

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.

Store Room

Height

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

Garage

Height

The height of a garage shall be not less than 2.4 m

(iii) **45C Boundary wall**

The requirements of the boundary wall shall be as follows: -

(a) Except with the special permission of the Authority, 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 Authority.

(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-Clauses 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 Authority.

(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 sanitoria, 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 Authority.

(iv) **45D 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.

a. "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.

(2) "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.

(3) "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.

(4) "Lighting and Wiring": - Where submarine lightning is used, not less than 0.5 watts shall be employed per sq. ft. of pool area.

(5) "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.

(6) "Over Head Wiring": - No electrical wiring for electrical or power shall be permitted to pass over within 20 feet of the pool enclosure.

(7) "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

(8) "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.

(9) "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.)

(v) **45E Septic tanks**

Where a septic tank is used for sewage disposal, the location, design and construction of septic tank shall conform to requirements of the latest NBC.

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.

(46) Amendment in the By-laws-47 "Basement / Cellar" of the said By-laws, 2014: -

(i) Following **Note** shall be added after (D) of sub by-laws –(3): -

Note: - The basement shall not be used for residential purpose or any inhabitation.

(ii) The word "Individual residential and small commercial buildings plot size minimum 500 Sq. Meter may have one basement" in sub by-laws- (4) shall be substituted by "Individual residential and small commercial buildings of plot size minimum 100 Sq. Meter may have one basement".

(iii) The word "**2.5 meter**" of clause-(A) of sub by-laws-(6) shall be substituted by the word "**2.4 meter**".

(iv) The word "**surrounding ground level**" of clause-(C) of sub by-laws-(6) shall be substituted by the word "**surrounding contiguous ground level**".

(v) The word "**6.0 meters**" of clause-(H) of sub by-laws-(6) shall be substituted by the word "**3.66 meters**".

(vi) Following new sub by-laws- (I) and (J) shall be added after sub by-laws-(H) of sub by-laws-(6) -

(I). Up to 10% of cellar may be utilized for utilities and non-habitation purpose like A/C plant room, Generator room, Electrical installations, laundry etc.

(J). Apart from use of Basement for Services/Parking/ Storage, it may be used for other activities like library, Study Room, Games Room and Laundry only in case of Residential and Institutional Buildings.

(47) Amendment in the By-laws-48 "Provision of Lift" of the said By-laws, 2014: -

(i) The word "**Latest**" shall be added before the word "**National Building Code"** in the sub by-laws-(2).

(ii) sub by-laws-(3) shall be deleted.

(iii) The word "**or the latest NBC**" shall be added after the word "**By-laws"** in the sub by-laws-(4).

(48) By-laws-(48A) shall be added after the By-laws-48 of the said By-laws, 2014: -

"48A Watchman Cabin/ Guard Room: -

The size of cabins shall not be less than 3-4 m2 and maximum up to 10 m2 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. 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. The Cabin is allowed in the Setback Area and shall not be included in the FAR. It should strictly be a non-residential, non-commercial entity and can be used as a guard room/ watchman cabin."

(49) Amendment in the By-laws-49 of the said By-laws, 2014: -

"(See Byelaw 20A) shall be added at the end of the Sub by-laws- (1) and (2)."

(50) By-laws-50 "Barrier free access for the physically challenged person" of the said By-laws, 2014 shall be substituted by the following: -

A. 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.

B. 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

(2) *"Manual on Barrier Free Environment"*, (2002), O/o the Chief Commissioner for Persons with Disabilities, Ministry of Urban Development, GoI.

(3) *Latest "National Building Code"*, 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.

C. Barrier free environment is one, which enables people with disabilities to move about safely and freely and to use all facilities within the built environment. The goal of barrier free design is to provide an environment that supports the independent functioning of individuals so that they can get into and participate in all activities without assistance.

The main purpose is to integrate disabled and elderly persons fully into the society. In view of the above, the Government of India has enacted the Disabilities Act, 1955. Sub by-laws 44, 45 and 46 of the said Act stipulates that the appropriate Governments, local authorities to ensure provisions of barrier free facilities in all new Government buildings and public utilities roads and transport. Also, in 1996 Government of India enacted another person with Disabilities (Equal Opportunity, Protection of Rights and Full Participation) Act for the Barrier Free Environment for differently abled persons.

(1) Site development: -

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

(2) Access Path/ Walk Way: -

Access path from plot entry and surface parking to building entrance shall be a minimum of 1800 mm. wide having even surface without any steps. Slope, if any, shall not have gradient greater than 5%.

Selection of floor materials 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 emit different sound to guide visually impaired persons hereinafter referred to as "guiding floor material"). Finishes shall have non slip surface with a texture traversable by a wheel chair. Curbs wherever provided should blend to a common level.

(3) Parking: -

For parking of vehicles of handicapped people the following provisions shall be made: -

(A). Surface parking for two car spaces shall be provided near entrance for the physically handicapped persons with maximum travel distance of 30 meter 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 handicapped persons 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.

(4) Building requirements: -

The specified facilities for the buildings for handicapped persons shall be as follows: -

(A). Approach at plinth level: - Every building must have at least one entrance accessible to the handicapped and shall be indicated by proper signage. This entrance shall be approached through a ramp together with stepped entry.

(B). Ramp Approach: - Ramp shall be finished with non-slip material. Minimum width of ramp shall be 1800 mm. with maximum gradient1: -12, length of ramp shall not exceed 9 meter having 800 mm 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.

(C). Stepped Approach: - For stepped approach width of tread shall not be less than 300 mm. and maximum riser shall be 150 mm. Provision of800 mm. high hand rail on both sides of the stepped approach similar to the ramp approach shall be made.

(D). 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 12 mm.

(E). Entrance Landing: - Entrance landing shall be provided adjacent to ramp with the minimum dimension 1800mm X 2000 mm. The entrance landing that adjoins the top end of a slope shall be provided with floor materials to attract the attention of visually impaired persons (limited to colored floor material whose color 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 to as "guiding floor

material"). Finishes shall have a non-slip surface with a texture traversable by a wheel chair. Curbs wherever provided must blend to a common level.

(F). Corridor connecting the entrance/exit for the handicapped: - The corridor connecting the entrance/exit for handicapped 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: -

i. Guiding floor materials, shall be provided or devices that emit sound to guide visually impaired persons,

ii. The minimum width shall be 1250 mm.

iii. In case there is a difference of level, slope ways shall be provided with a slope of 1: -12

iv. Hand rails shall be provided for ramps/slope ways at a height of800mm.

v. 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. 1.25 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, Educational etc. 2.40 m.

(5) Stair ways: - One of the stairways near the entrance/exit for the handicapped shall have the following provisions: -

(A) The minimum width shall be 1350 mm.
(B) Height of the riser shall not be more than 150mm and width of the tread300mm. The steps shall not have abrupt (square) nosing.
(C) Maximum number of risers on a flight shall be limited to 12.
(D) Hand rails shall be provided on both sides and shall extend 30mm on the top and bottom of each flight of steps.

(6) Lifts: - Wherever lift is required as per By-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 capacity by Bureau of Indian Standards.

Clear internal depth: - 1100mm
Clear internal width: - 2000mm.
Entrance door width: - 900 mm.

(A) A handrail not less than 600 mm. 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 1800mm or more.
(C) The time of an automatically closing door shall be minimum 5secondsand the closing speed should not exceed 0.25 meter/sec.
(D) The interior of the cage shall be provided with a device that audibly indicates the floor the cage has reached and indicates that the door of the cage for entrance/exit is either open or closed.

(E) The control panel shall have marking in Braille to help visually impaired.

(7) Toilets: - One special Water Closet, in a set of toilets shall be provided for the use of handicapped with essential provision of washbasin near the entrance for the handicapped.

(A) The minimum size shall be 1500 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 50mmclearance from wall shall be made in the toilet.

(D) The Water Closet seat shall be 500 mm from the floor.

(8) Drinking Water: - Suitable provision of drinking water shall be made for handicapped near the special toilet provided for them.

(9) ***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.

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.

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.

b) 900 mm 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.

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 1500 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.

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 1750 mm for 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.

(10) Designing for Children: - In a building meant for the predominant use of the children, it is necessary to suitably alter the height of the handrail and other fittings and fixtures.

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.

Drinking Water: -

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

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.

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.

Public Building regulations

In case of design regulations in ***Public buildings*** (excluding domestic buildings), provisions for differently-abled shall be adopted as per ***latest NBC***.

(51) By-laws-51 of the said By-laws, 2014 shall be substituted by ythe following: - "Rainwater harvesting system"

(1) **Rainwater harvesting system (RWH)**

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 catchmet
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.

(2) **Rainwater harvesting technique: -**

There are two main techniques of rain water harvestings.

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

The technical aspects and options of Rainwater harvesting from which the city authorities can assess and choose to adopt are placed at *Appendix to the By-Laws.*

(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 of 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 Strom 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 Strom 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 Tables of Environmental **Conditions for Building and Construction** *of* ***Appendix 1***

(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

(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 Authority with the involvement of community based organizations like Resident Welfare Associations.

(6) **Enforcement and Monitoring: -**

a. The Authority 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 Authority 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 Authority 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 authority.
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 NonGovernmental Organizations.
f. The Authority 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 authority based on best practices. Authority shall design its own incentive and penalty systems, considering the water level and scarcity.

(52) By-laws-55 of the said By-laws, 2014 shall be substituted by the following: -

"Reference to the standards: -

(1) The following standards shall be referred while preparing the design of the building :

(a) The standards relating to water and sanitation requirements for various occupancies and uses, shall be referred to as per latest NBC of India
(b) Construction of energy efficient building shall be referred to the latest Energy Conservation Building Code.

(c) Guidelines for installation of solar water heating system shall be referred to at Byelaw 55(2) (ii)d.

(2) **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.

(i) **Provisions and Applicability: -**

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

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

Plot Category	Applicable plot area (sq.m)	Provisions for Residential	Provisions for Non-Residential
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 Byelaw 55(B) (ii).*

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

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

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,*

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

(ii) **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 byelaw 55(B) (ii)c below)
    b. Installation of Solar Assisted Water Heating Systems
3. Energy Efficiency (Concept of *passive solar design of buildings*) (Ref. Tables of Appendix I)
    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 any other incentive may be availed as and when notified by the department.

(ii) a Provisions for City and Site level greening : -

In alignment with ***National Sustainable Habitat Mission***, the Authority shall encourage augmentation of green cover in the city/plot, by following: -

The Urban Greening Guidelines, 2014 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 tress 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 Sub by-laws 8 of the *Urban Green Guidelines, 2014*.

(iv) The unpaved area shall be more than or equal to 20% of the recreational open spaces.

(ii) b Water Re-use and Recycling : -

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.

(ii) c 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 below stipulates the Norms for Roof Top Solar PV Installation.

Table of Norms for Roof Top Solar PV Installation and generation

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

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

** *"available roof area"* = 70% of the total roof size, considering 30% area reserved for residents' amenities.

(ii) d 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: --

(a) Hospitals and Nursing Home.

(b) Hotels, Lodges, Guest Houses, Group Housing with a plot area of 4000 sq m.

(c) Hostels of Schools, Colleges and Training Centres with more than 100 Students.

(d) Barracks of armed forces, paramilitary forces and police.

(e) Individual residential buildings having more than 150 sq m. plinth area.

(f) Functional Buildings of Railway Stations and Air Ports like waiting rooms, retiring rooms, rest rooms, inspection bungalows and catering units.

(g) 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 Authority for clearance.
iv)	"Existing building"	Such buildings, which are licensed to perform their respective business.

(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.

(ii)e Sustainable Waste Management: -

Zero Waste is a concept of waste management and planning approaches that emphasize waste prevention as opposed to end waste management. This means restructuring production and distribution systems, designing and managing products and processes to systematically follow the 3R rule of Reduce, Re-use and Re-cycle the volume of waste, to conserve and recover all used resources, and therefore eliminating all discharges to landfills, and prevent air, water and land pollution.

Zero Waste/ land-fill can be achieved by adopting systematic approach of segregation at source by planning, by collection facilitation and most importantly by creating public awareness.

The green waste can be converted into fuel cakes, kitchen waste into manure, construction & demolition waste into bricks, plastic waste into oil, paper, glass and steel back into the same and all residual inert materials can also be converted into bricks. Achieving zero land-fill is more conveniently possible, if

(a) The collection is made from house to house and some segregation is done at household level and

(b) Separate wet and dry bins must be provided at the ground level.

(c) The recycling is done at decentralized, say, ward or even lower levels.

For more than 200 dwelling units (residential) or for group housing or commercial, institutional or other non-residential premises on plot area above 5000 square meters, provision and earmarking of separate place for segregation, storage and decentralized processing of solid waste is mandatory in development plan.

(ii) f 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. Tables of Appendix I)

(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.

(iii) **Various Guidelines for Green Rating systems : -**

The department may prepare separate ***Green Rating*** systems for buildings by selectively combining/ adopting/amending the provisions between the following guidelines: -

2. IGBC guidelines by the Confederation of Indian Industries.
3. 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 Authority shall encourage the provisions of the following Energy efficiency guidelines by certain mandatory provisions and incentives-

4. Latest ECBC code/ guidelines/ Eco-Niwas Samhita prepared by Bureau of Energy Efficiency, Ministry of Power. GoI or corresponding rules notified by the state government.
5. Model Energy Efficiency guidelines. (NSMH Sub report by Bureau of Energy Efficiency)."

(iv) Provisions as per the amendments related to Electric Vehicle Charging Infrastructure in Model Building Bye-laws 2016 may be referred.

(53) By-laws-56 of the said By-laws, 2014 shall be substituted by the following : -

"Life Safety: - Fire protection and fire safety requirements -

(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.

(2) **Procedure for clearance from fire service : -**

(i) The concerned Authority shall refer the building plans to the Chief Fire Officer for obtaining clearance in respect of buildings identified in byelaw 5(6) (v).

(ii) The Authority 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.

(This process can also be done through online single window building permit system when fully functional)

(iii) 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 as per Annexure 'V' along with details.

(iv) 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 By-Laws and shall forward two sets of plans duly signed for implementation to the building sanctioning Authority.

(v) 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 Authority for obtaining clearance from fire safety and means of escape point of view. The concerned Authority shall ensure that clearance from Chief Fire Officer has been obtained for the building identified in Byelaw 56 (1) before granting the completion certificate.

(vi) 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.

(vii) Any deficiencies observed during the course of inspection shall be communicated to the Authority for rectification and a copy of the same shall be forwarded to the concerned building owner /builder.

(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

(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 concerned Authority.

(5) **Fire Consultant: -**

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

(6) **Terminology: -**

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

(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 latest National Building Code of India.

(i) **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 latest NBC.

Building elements/components such as walls, columns, beams and floors shall have the requisite fire resistance rating in accordance with the accepted standards at the latest NBC.

(ii) **The following By-laws: -**

As provided in Building By-Laws 33, 35, 36, 38, 40 and 42

(iii) **EXIT REQUIREMENT: -**

As provided in latest NBC.

Type of Exits: - As provided in latest NBC.

Number of Size of Exits: - As provided in latest NBC.

Arrangements of Exits: - As provided in latest NBC.

Occupant Load: - As provided in latest NBC.

Capacity of Exit: - As provided in latest NBC.

Staircase Requirements: - As provided in latest NBC.

Minimum Width Provision for Stairways: - As provided in latest NBC.

Minimum Width Provision for Passageway/Corridors: - As provided in latest NBC.

Doorways: - As provided in latest NBC.

Stairways: - As provided in latest NBC.

(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.

(i) **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.

(ii) **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 Clauseal area of the enclosure and openable sashes at each floor level with area equal to 1 to 15% of the cross Clauseal 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.

(iii) **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.

(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.

(i) 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.

(ii) 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 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 word *'F1RE 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.

(10) **Basement: -**

As provided in these Building By-Laws.

(i) **Requirement: -**

(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 By-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-Clauseal 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.

(11) **Provision of helipad: -**

All high-rise buildings of height 200 m. and above shall have provision for a Helipad. The same shall be approved by the Authority.

(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 form exits.

(c) Refuge chutes shall not be provided in staircase walls and A/C shafts etc.

(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 then 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.

(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.

(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.

(i) **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.

(ii) **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.

(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.

(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.

(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 non- implementation of By-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-stationspace 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.

(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 l5 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 Authority.

(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 By-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.

(19) **Fire protection requirements: -**

Buildings shall be planned, designed and constructed to ensure fire safety and this sha1l be done in accordance with latest NBC of India, unless otherwise specified in these By-Laws. In the case of buildings (identified in By-Laws No. 5(6) (v).) the building schemes shall also be cleared by the Chief Fire Officer.

(i) **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 as indicated below shall be as per Annexure 'III-A' 'III-B' & 'III-C'.

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.

(i)**a** Note for Annexure 'III-A' 'III-B' & 'III-C'.

1. Where more than one riser is required because of large floor area, the quantity of water and pump capacity recommended in these Annexure 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 By-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.

(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 in Annexure-II' 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.

(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 By-Laws, if provided with sprinkler installation following relaxation may be considered.

(i) Automatic heat/smoke detection system and M.C.P. need not be insisted upon.

(ii) The number of Fire Extinguisher required shall be reduced by half.

(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.

(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 By-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 By-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.

(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.

(25) **Fire drills and fire orders: -**

The guidelines for fire drill and evacuation etc. for high-rise building may be seen in latest NBC. 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.

(g) 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.

(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 classI of the standard specification. The framework of the entire false ceiling would be provided with metallic Clauses 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.

(27) **Liquefied Petroleum Gas (LPG) : -**

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.

(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.

(i) **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.

(ii) **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.

(iii) **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.

(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/packets, 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.

(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 latest NBC, shall be referred. Norms and standards of the latest NBC shall be overriding in any instance of variance of standards."

(54) **In sub-By-laws (5) of "By-law 57** Restriction on construction of Multi-storied building" **of the said By-laws, 2014, the word** "part-4 Fire and Life Safety of latest National Building Code of India 2005(Group 1)" shall be substituted by "Fire and Life Safety of latest National Building Code of India."

(55) **In sub-By-laws of "By-laws-59 Structural Safety Design, Standards and other Services requirements"** shall be substituted by the following: -

(1) All buildings shall comply with the standards as mentioned below

Structural Design: - The structural design of foundation, elements of masonry, timber, plain concrete, reinforced concrete, pre-stressed concrete and structural steel shall be carried out in accordance with latest National Building Code of India taking into consideration all relevant Indian Standards prescribed by Bureau of Indian Standards including the Indian Standard as given below for structural safety. In case of High-Rise Buildings, a Certificate of Under Taking for Hazard Safety Requirement shall be submitted in Form-XVI.

For General Structural Safety

1. IS:-456: -2000 "Code of Practice for Plain and Reinforced Concrete
2. IS:- 800-1984 "Code of Practice for General construction in Steel

3. IS: - 801-1975 "Code of Practice for Use of Cold Formal 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
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: -1966 "Code of Practice for Design of Structural Timber in Building
9. IS: - 1904: -1987 "Code of Practice for Structural safety of Buildings: - Foundation"
10. IS 1905: -1987 "Code of Practice for Structural Safety of Buildings: - Masonry Wall
11. IS 2911 (Part 1): - Clause 1: - 1979 "Code of Practice for Design and Construction of Pile Foundation Sub by-laws 1

For Earthquake Protection

12. IS: - 1893-2002 "Criteria for Earthquake Resistant Design of Structures (Fifth Revision)"
13. Is: - 13920-1993 "Ductile Detailing of Reinforced concrete Structures subjected to Seismic Forces – Code of Practice"
14. IS: -4326-1993 "Earthquake Resistant Design and Construction of Buildings- Code of Practice (Second Revision)"
15. IS: -13828-1993 "Improving Earthquake Resistance of Low Strength Masonry Buildings – Guidelines"
16. IS: -13827-1993 "Improving Earthquake Resistance of Earthen Buildings – Guidelines",
17. IS: -13935-1993 "Repair and Seismic Strengthening of Buildings – Guidelines"

(2) **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.

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.

(3) **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.

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.

(4) **Control of signage & outdoor display structures, cellphone towers and telephone towers.**

Signage and outdoor display structure as per the latest advertisement policy enforced in the state

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.

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

(5) Quality of Materials and Workmanship: - All material and workmanship shall be of good quality conforming generally to the accepted standards of Public Works Department and Indian standard specification and codes as included in Part-5 of Group-1 Building Materials and Part-7 of Group-3 Construction practices and safety of National Building Code of India.

(6) Alternative Materials, Methods of Design and Construction and Tests: - The provisions of these bye laws are not intended to prevent the use of any material or method of design or construction not specifically prescribed by these bye laws 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.

(7) **Building Services**

(A). The Planning design and installation of electrical installations, air conditioning installation of lifts and escalators can be carried out in accordance with Part-8 of Group-4 Building Services, Clause1-Lghting and Ventilation, Clause-2 Electrical and Allied Installations, Clause-3, Air conditioning and heating, Clause-4 acoustics, sound insulation and noise control, Clause-5 installation of lifts and escalators of National Building Code of India, 2005.

(B). The requirements of electric sub-station and the provision of electric sub-station shall also require approval from the concerned Authority.

(8) **Plumbing Services : -**

The planning, design, construction and installation of water supply, drainage and sanitation and gas supply system shall be in accordance with latest National Building Code of India. Sewage treatment plant of capacity of treating 100% waste water to be installed. Requirement of water supply for various occupancies in buildings and requirement of sanitary fittings and installations for different occupancies in buildings shall be as give in the subsequent table.

(9) **Segregated sanitation for Visitors in Public Buildings : -**

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

**This Clause 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.

(ii) 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.

(iii) The site shall be earmarked on Site Plan or a Layout plan. The Authority shall clearly state advantages and disadvantages of the location for the owner/ engaged Competent Professional for building plan design (as per Annexure I) to make an informed decision on the siting.

(iv) 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.)

(v) **Other factors to be considered: -**

a) Waste water 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-

i. 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 Clauses 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.

Note: - Table of Segregated sanitation for Visitors in Public Buildings may be referred for number of seats / urinals for this Clause.

(vi) **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.

(vii) **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.

Table of Per Capita water requirement for various Occupancies/Uses

Sl. No.	Type of Occupancy	Consumption per head per day (in lt.)
1.	Residential	
	a) In living units	135
	b) Hostels	135
	c) Hotels with lodging accommodation (per bed)	180
	Hotels (5 star and above)	340
2.	Educational	
	a) Day schools	45
	Boarding Schools	135
3.	Institutional (Medical Hospitals)	
	a) No. of beds not exceeding 100	340
	b) No. of beds exceeding 100	450
	Medical quarters and hostels	135
4.	Assembly- Cinema theatres, auditoria, etc. (per seat accommodation)	15
5.	Government or Semi public business	45
6.	Segregated toilet facilities for Visitors in Public Buildings	
	a) Each use of toilet (including washing hands and floors)	7
	Flushing urinals	0.20
7.	Mercantile (Commercial)	
	a) Restaurants (per seat)	70
	Other business building	45

8.	Industrial a) Factories where bath-rooms are to be provided Factories where bath-rooms are not to be provided	 45 30
9.	Storage (including Warehouses)	30
10.	Hazardous	30
11.	Intermediate Stations (excluding mail and express stops).	45 (25)*
12.	Junction Station	70 (45)*
13.	Terminal Stations	45
14.	International and Domestic Airports	70

* The values in parenthesis are for such stations, where bathing facilities are not provided.

Note: - *The number of persons for Sl. No. 11 to 14 shall be determined by the average number of passenger handled by the station daily with due consideration given to the staff and workers likely to use the facilities.*

Table of Flushing Storage Capacities

Sl. No.	Classification of Building	Storage Capacity
1.	For tenements having common convenience	900 lt. net per w.c. seat
2.	For residential premises other than tenement having common conveniences	270 lt. net for one w.c. seat each and 180 lt. for each additional seat in the same flat.
3.	For factories and workshops	900 lt. per w.c. seat and 180 lt. per urinal.
4.	For cinemas, public assembly hall, etc.	900 lt. per w.c. seat and 350 lt. per urinal.

Table of Domestic Storage Capacities

Sl. No.	No. of Floors	Storage Capacity	Remarks
For premise occupied tenements with common conveniences: -			
1.	Ground floor	Nil	Provided down take fittings are installed
2.	Floors 2, 3,4, 5 and upper floors	500 litre per tenement	
For premises occupied as flats or blocks			
1.	Ground floor	Nil	Provided down take fittings are installed
2.	Floors 2, 3, 4, 5 and upper floors	500 litre per tenement	

Note: - *1. If the premises are situated at a place higher than the road level in front of the premises, storage at ground level shall be provided on the same lines as on floors.*

2. The above storage may be permitted to be installed provided that the total domestic storage calculated on the above basis is not less than the storage

calculated on the number of down take fittings according to scale given below: -

Down take taps	*70 l. each*
Showers	*135 l. each*
Bathtubs	*200 l. each*

Table of Sanitation requirements for Shops and Commercial Offices		
Sl. No.	Sanitary Unit / Fittings	For Personnel
1.	Water closet	One for every 25 persons or part thereof exceeding 15 (including employees and customers). For female personnel 1 for every 15 persons or part thereof exceeding 10.
2.	Drinking Water Fountain	One for every 100 person with a minimum of one on each floor.
3.	Wash Basin	One for every 25 persons or part thereof.
4.	Urinals	Same as Sl. No. 3 of Table 4.14
5.	Cleaners' Sink	One per floor minimum, preferably in or adjacent to sanitary rooms.

Note: - *Number of customers for the purpose of the above calculation shall be the average number of persons in the premises for a time interval of one hour during the peak period. For male-female calculation a ratio of 1: - 1 may be assumed.*

Table of Sanitary Requirements for Hotels				
Sl. No.	Sanitary Unit	For Residential Public staff	For non-residential Staff	
			For male	For female
1.	Water Closet (W.C.)	One per 8 Persons omitting occupants of the attached water closet minimum of 2 if both sexes are lodged	1 for 1-15 persons 2 for 16-35 persons 3 for 36-65 persons 4 for 66-100 persons	2 for 1-12 persons 4 for 13-25 persons 6 for 26-40 persons 8 for 41-57 persons 10for 58-77 persons 12 for 78-100 persons Add 1 for every 6 persons or part thereof.
2.	Ablution Taps	One in each W.C.	One in each W.C.	One in each W.C.
3.	Urinals	Nil	Nil upto 6 persons 1 for 7-20 persons 2 for 21-45 persons 3 for 40-70 persons for 71-100 persons	Nil
4.	Wash Basins	One per 10 persons omitting each basin installed in the room / suite	1 for 15 persons 2 for 16-35 persons 3 for 36-65 persons for 66-100 persons	1 for 1-12 2 for 13-25 3 for 26-40 for 41-57
5.	Baths	One per 10 persons, less occupants of room with bath in suite	Nil	Nil
6.	Cleaner's Sinks	One per 30 Bed rooms (one per floor	Nil	Nil

		minimum)		
7.	Kitchen Sink	One in each Kitchen	One in each Kitchen	One in each Kitchen

Table of contd.: - For Public Rooms			
Sl.No	Sanitary Unit	For Male	For Female
1.	Water Closet	One per 100 persons upto 400 persons; for over 400 add at the rate of one per 250 persons or part thereof.	Two for 100 persons upto 200 persons; over 200 add at the rate of one per 100 persons or part thereof.
2.	Ablution Taps	One in each W.C.	One in each W.C.
3.	Urinals	One for 50 persons or part thereof.	Nil, upto 6 persons 1 for 7-20 persons 2 for 21-45 persons 3 for 46-70 persons 4 for 71-100 persons
4.	Washbasins	One per WC/Urinal	One per WC
5.	Kitchen Sink	One in each Kitchen	One in each Kitchen
6.	Baths (showers)	One per 10 persons	
7.	Cleaner's Sinks	One per 30 Bed rooms (one per floor minimum)	

Note: - *i) It may be assumed that the two-thirds of the number are males and one- third females. ii) One water tap with drainage arrangements shall be provided for every 50 persons or part thereof in the vicinity of water closet and urinals.*

Table of Sanitation Requirements for Educational Occupancy					
Sl. No.	Sanitary Unit	Boarding Institution		Other Educational Institution	
		For Boys	For Girls	For Boys	For Girls
1.	Water Closet (W.C.)	One for 8 boys or part thereof	One for 6 girls or part thereof	One for 40 boys or part thereof	One for 25 girls or part thereof
2.	Ablution Taps	One in each W.C.	One in each W.C.	One in each W.C.	One in each W.C.
3.	Urinals	One per every 25 pupils or part thereof	--	One per every 20 pupils or part thereof	--
4.	Wash Basins	One for every 8 pupils or part thereof	One for every 6 pupils or part thereof	One for every 60 pupils or part thereof	One for every 40 pupils or part thereof
5.	Baths	One for every 8 pupils or part thereof	One for every 6 pupils or part thereof	--	--
6.	Drinking Water Fountains	One for every 50 pupils or part thereof	One for every 50 pupils or part thereof	One for every 50 pupils or part thereof	One for every 50 pupils or part thereof

7.	Cleaner's Sink	One per Floor minimum	One per Floor minimum	One per Floor minimum	One per Floor minimum

TableContd: - Nursery Schools		
Sl. No.	Sanitary Unit	Requirement
1.	Water Closet	One for 15 boys, one for 6 girls
2.	Ablution Taps	One in each W.C.
3.	Urinals	One for 12 boys
4.	Wash Basins	One for every 15 pupils or part thereof
5.	Baths	One bath per 40 pupils
6.	Drinking Water Fountains	One for every 50 pupils or part thereof
7.	Cleaner's Sink	One per Floor minimum

Note: -

1. *One water tap with draining arrangements shall be provided for every 50 persons or part thereof, in the vicinity of water closets and urinal.*
2. *For teaching staff, the schedule of sanitary units to be provided shall be the same as in case of office buildings (Table 5.10).*

Table of Sanitation Requirements for Institutional (Medical) Occupancy- Hospital				
Sl. No.	Sanitary Unit	Hospitals With indoor Patient Ward For Males & females	Hospitals With outdoor Patient Wards	
			For Males	For Females
1.	Toilet Suite (1WC+1Washbasin+ 1shower)	Private room upto 4 persons	For upto 4 patients	
2.	Water Closet (W.C.)	One for every 8 beds or part thereof	One for every 100 persons or part thereof	One for every 25 persons or part thereof
3.	Ablution taps	One in each W.C.	One in each W.C.	One in each W.C.
4.	Wash Basins	Two upto 30 bed; add one for every additional 30 beds; or part thereof	One for every 100 persons or part thereof	One for every 25 persons or part thereof.
5.	Baths with Shower	One bath with shower for every 8 beds or part thereof.	--	--
6.	Bed pan washing sink	One for each ward	--	--
7.	Cleaner' Sinks	One for each ward	One per floor minimum	One per floor minimum
8.	Kitchen sinks & dish Washers (where Kitchen is provided)	One for each ward	--	--
9.	Urinals	One for 30 beds (male wards)	One for every 50 persons or part thereof	--

Table of Sanitation Requirements for Institutional (Medical) Occupancy- Hospital				
Sl. No.	Sanitary Unit	Hospitals With indoor Patient Ward For Males & females	Hospitals With outdoor Patient Wards	
			For Males	For Females
10.	Drinking water fountain	One for each ward	One for 500 persons or part thereof	

Table of contd. Administrative Buildings			
Sl. No.	Sanitary Unit	For Males	For Females
1.	Toilet Suite (1WC+1Washbasin+ 1shower)	For individual doctor's/officer's rooms	
2.	Water Closet (W.C.)	One for every 25 persons or part thereof	Two for every 25 persons or part thereof
3.	Ablution Taps	One in each W.C.	One in each W.C.
4.	Wash Basins	One for every 25 persons or part thereof	One for every 25 persons or part thereof
5.	Baths with Shower	One on each floor	One on each floor
6.	Cleaner's Sink	One per floor minimum	One per floor minimum
7.	Kitchen sinks & dish Washers (where Kitchen is provided)	One for each floor	One for each floor
8.		Nil upto 6 persons 1 for 7-20 persons 2 for 21-45 persons 3 for 46-70 persons 4 for 71-100 persons From 101 to 200 persons add at the rate of 3%; for over 200 persons add at the rate of 2.5%.	--
9.	Drinking water fountain	One for 100 persons or part thereof	

Table of Sanitation Requirements for Institutional (Medical) Occupancy- (staff quarters and Hostels)				
Sl. No.	Sanitary Unit	Nurses Hostel		Nurses Hostel
		Nurses Hostel	Nurses Hostel	
1.	Water Closet	One for 4 persons	One for 2 persons	One for 2 persons or part thereof Two for 13-25
2.	Ablution Taps	One in each W.C.	One in each W.C.	One in each W.C.
3.	Wash Basins	One for every 8 persons or part thereof	One for every 8 persons or part thereof	One for every 8 persons or part thereof

Table of Sanitation Requirements for Institutional (Medical) Occupancy- (staff quarters and Hostels)				
Sl. No.	Sanitary Unit	Nurses Hostel		Nurses Hostel
		Nurses Hostel	Nurses Hostel	
4.	Bath (with shower)	One for every 4 persons or part thereof	One for every 4 persons or part thereof	One for every 4 persons or part thereof
5.	Cleaner's Sink	One per floor minimum	One per floor minimum	One per floor minimum
6.	Drinking water fountain	One for 100 persons or part thereof		One for 100 persons or part thereof

Table of Sanitation Requirements for Governmental and Public Business Occupancy and Offices			
Sl. No.	Sanitary Unit	For Male Personnel	For female Personnel
1.	Water Closet (W.C.)	One for 25 persons or part thereof	Two for 15 persons or part thereof
2.	Ablution taps	One in each W.C.	One in each W.C.
3.	Urinals	Nil upto 6 persons 1 for 7-20 persons 2 for 21-45 persons 3 for 46-70 persons `for 71-100 persons From 101 to 200 add @ 3%; For over 200 persons add @ 2.5%.	--
4.	Wash Basins	One for every 25 persons or part thereof	One for every 25 persons or part thereof
5.	Drinking water fountains	One for every 100 persons with a minimum of one on each floor	One for every 100 persons with a minimum of 1 on each floor
6.	Cleaner's Sinks	One per floor minimum; preferably in or adjacent to sanitary rooms.	--
7.	Executive Room / Conference Halls	Toilet Suite (1 WC, 1 washbasin, optional shower for 24 hr usages) Unit could be common for Male/Female or separate depending on the number of user of each facility	

Note: - *One water tap with drainage arrangements shall be provided / 50 persons or part thereof in the vicinity.*

Table of Segregated sanitation facilities for Visitors in Public Buildings			
Sl. No	Sanitary Unit	For Male Personnel	For Female Personnel
1.	Public toilet near Railway Stations (24x7) a) Water Closet(W.C) b) Urinals Ablution taps	a) One for 100 users b) One unit per 300-500 users One in each W.C.	a) One for 50 users b) -- One in each W.C.

Table of Segregated sanitation facilities for Visitors in Public Buildings			
Sl. No	Sanitary Unit	For Male Personnel	For Female Personnel
2.	Public Toilet near market place/offices (for working hours) a) Water Closet b) Urinals Ablution taps	a) One for 100 users b) One unit per 200-300 users One in each W.C.	a) One for 50 users b) -- One in each W.C.
3.	Public toilets near Public Buildings a) Water Closet b) Urinals Ablution taps	a) One for 100 users b) One unit per 200-300 users One in each W.C.	a) One for 50 users b) – One in each W.C.

Per Capita Volume of Water required may be referred at item 6, Table 4.6
Area and sizes of seats/units may be referred at Table 4.16

Table of Segregated sanitation facilities for Visitors in Public Buildings			
Sl. No.	Description	Optimum (mm)	Minimum (mm)*
1.	Water Closet enclosures	900x1200	750x900
2.	Urinals (divided by partition walls)	575x675	500x600

**In case of space constraint, the minimum sizes may be adpoted*

Table of The recommended areas for different facilities at visitors' toilets			
Sl. No.	Sanitary Unit	Dwelling with individual conveniences	Dwelling without individual conveniences
1.	Bath Room	One provided with water tap	One for every two tenement
2.	Water Closet (W.C.)	One	One for every two tenement
3.	Sink (or Nahani) in the Floor	One	--
4.	Water Tap	One	One with drainage arrangement in each tenement One in common bath rooms and common water closet.

Note: - *Where only one water closet is provided in a dwelling, the bath and water closet shall be separately accommodated.*

Table of Sanitation Requirements for Assembly Occupancy Buildings (Cinema, Theaters, Auditoria. Etc.)					
Sl. No.	Sanitary Unit	For Public		For Staff	
		For Public	For Staff	Male	Female
1	Water Closet	One for 100 persons upto 400 persons. For over 400 persons, add at the rate of 1 per 250	Four for 100 persons upto 200 persons. For over 200 persons add	One Two for 16-35 persons	Two for 1-12 persons. Four for 13-25 persons

Table of Sanitation Requirements for Assembly Occupancy Buildings (Cinema, Theaters, Auditoria. Etc.)					
Sl. No.	Sanitary Unit	For Public		For Staff	
		For Public	For Staff	Male	Female
		persons or part thereof	at the rate of 1 per 50 persons or part thereof		add at the rate of 1 per 6 persons or part thereof
2	Ablution Taps	One in each W.C.	One in each W.C.	One in each W.C	One in each W.C
3	Urinals	One for 50 persons or part thereof	--	Nil upto 6 persons One for 7-20 persons Two for 21-45 persons	--
4	Wash Basins	One for every 200 persons or part thereof	One for every 200 persons or part thereof	One for 1-15 persons Two for 16-35	One for 1-12 persons Two for 13-25 persons
3	Urinals	One for 50 persons or part thereof			
6	Cleaner's sink	One per floor			
7	Shower/Bathing	As per trade requirements			

Note: - *i) One water tap with draining arrangements shall be provided for every 50 persons or part thereof in the vicinity of water closets and urinals.*

ii) It may be assumed that two thirds of the number is males and one third females.

Table of Sanitation Requirements for Assembly Buildings (Art, Galleries, Libraries and Museums)					
Sl. No.	Sanitary Unit	For Public		For Staff	
		Male	Female	Male	Female
1	Water Closet (W.C.)	One for 200 persons upto 400 persons. For over 400 persons, add at the rate of 1 per 250 persons or part thereof	Four for 100 persons upto 200 persons. For over 200 persons, add at the rate of 1 per 50 persons or part thereof	One for 1-15 persons. Two for 16-35 persons.	Two for 1-12 persons. Four for 13-25 persons, add at the rate of 1 per 6 persons.
2	Ablution Taps	One in each W.C.	One in each W.C.	One in each W.C	One in each W.C
3	Urinals	One for 50 persons or part thereof	--	Nil upto 6 persons One for 7-20 persons Two for 21-45 persons	--

Table of Sanitation Requirements for Assembly Buildings (Art, Galleries, Libraries and Museums)					
Sl. No.	Sanitary Unit	For Public		For Staff	
		Male	Female	Male	Female
4	Wash Basins	One for every 200 persons or part thereof. For over 400 persons, add at the rate of 1 per 250 persons or part thereof.	One for every 200 persons or part thereof. For over 200 persons, add at the rate of 1 per 150 persons or part thereof	One for 1-15 persons Two for 16-35	One for 1-12 persons Two for 13-25 persons
5	Cleaner's Sink	One per floor, minimum			
6	Drinking Water Fountain	One per 100 persons or part thereof			
7	Shower/Bath	As per trade requirements			

Note: - *It may be assumed that two thirds of the numbers are males and one third females.*

Table of Sanitation Requirements for Restaurants					
Sl. No.	Sanitary Unit	Sl. No.		Sanitary Unit	
		Male	Female	Male	Female
1.	Water Closet (W.C.)	One per 50 seats upto 200 seats. For over 200 seats, add at the rate of 1 per 100 seats or part thereof	One per 25 seats upto 200 seats. For over 200 seats, add at the rate of 1 per 50 seats or part thereof	1.for 15 persons. 2. for 16-35 persons. 3. for 36-65 persons. for	2 per 1-12 persons. 4 for 13-25 persons. 6 for 26-40 persons. 8 for 41-57 persons. 10 for 58-77 persons. 12
2.	Ablution Taps	One in each W.C.	One in each W.C.	One in each W.C.	One in each W.C.
3.	Urinals	One for 50 persons or part thereof	--	Nil upto 6 persons. 1. for 7-20 person . 2. for 21-45 persons. 3. for 46-70 persons.	--

				4. for 71-100 persons.	
4.	Wash Basins	One for every water closet			
5.	Kitchen Sinks & Dish Washer	One per each Kitchen			
6.	Service Sink	One in the restaurant			

Note: *- i) It may be assumed that It may be assumed that two thirds of the numbers are males and one-third females.*

ii) *One water tap with draining arrangements shall be provided for every 50 persons or part thereof in the vicinity of water closets and urinal.*

Table of Sanitation Requirements for Factories

Sl. No.	Sanitary Unit	For Male Personnel	For female Personnel
1.	Water Closet	1 for 15 persons 2 for 16-35 persons 3 for 36-65 persons. 4 for 66-100 persons. For 101 to 200 persons add at rate of 3%. From over 200 persons, add at the rate of 2.5%.	2 for 1-12 persons 4 for 13-25 persons. 6 for 26-40 persons. 8 for 41-57 persons. 10 for 58-77 persons. 12 for 78-100 persons. For 101 to 200 persons, add at the rate of 3%. From over 200 persons add at the rate of 2%.
2.	Ablution Taps	One in each W.C	One in each W.C.
3.	Urinals	Nil upto 6 persons 1 for 7-20 persons 2 for 21-45 persons 3 for 46-70 persons 4 for 71-100 persons From 101 to 200 persons add at the rate of 3%; for over 200 persons add at the rate of 2.5%.	--
4.	Washing Taps with draining arrangement	One for every 25 persons or part thereof	
5.	Drinking Water Fountains	One for every 100 persons with a minimum of one on each floor	
6.	Baths Preferably Showers	As required for particular trade or occupation	
7.	Emergency shower and eye wash fountain	1 per every shop floor per 500 person	

Note: -

(i) For many trades of a dirty or dangerous character, more extensive provisions are required.

(ii) One water tap with draining arrangement shall be provided for every 50 persons or part thereof in the vicinity of water closet and urinal

(iii) Creche where provided shall be fitted with water closets (One for 10 persons or part thereof), wash basins (1 for 15 persons or part thereof) and drinking water tap with drinking arrangement for every 50 persons or part thereof.

Table of Sanitary Requirements for Large Stations and Airports				
Sl. No.	Place	W.C. for Males	W.C. for Females	Urinals for Males only
1.	Junction Stations, Intermediate Stations and Substations	3 for first 1000 persons, add 1 for subsequent 1000 persons or part thereof.	8 for first 1000 persons, add 1 for every additional 1000 persons or part thereof.	4 for every 1000 person, add 1 for every additional 1000 persons or part thereof.
2.	Terminal Stations and Bus Terminals	4 for first 1000 persons and 1 for every additional 1000 persons or part thereof.	10 for every 1000 person and 1 for every additional	6 for every 1000 person and 1 for every additional 1000 persons or part thereof.
3.	Domestic Airports Minimum. For 200 persons For 400 persons For 600 persons For 800 persons For 1000 persons	 2* 5 9 12 16 18	 4* 16 30 40 52 58	1 per 40 persons or part thereof.
4.	International Airports For 200 persons For 600 persons For 1000 persons	 6 12 18	 20 40 58	1 per 40 persons or part thereof.

Note: -

i) Provision for wash basins, baths including shower stalls, shall be in accordance with part ix Clause 2- Drainage and Sanitation of National Building Code of India.

* *At least one Indian style water closet shall be provided in each toilet. Assume 60 % males and 40 % females in any area.*

* *At least 50 % of female WCs may be Indian pan and 50% EWC.*

Table of General Standards/Guidelines for Public Toilets in Public Area	
Public Toilet	On roads and for open areas: - At every 1 km, including in parks, plaza, open air theatre, swimming area, car parks, fuel stations. Toilets shall be disabled-friendly and in 50-50 ratio (M/F). Provision may be made as for Public Rooms (Table 4.10 Contd)
Signage	Signboards on main streets shall give directions and mention the distance to reach the nearest public convenience. Toilets shall have multi-lingual signage for the convenience of visitors. Helpline number shall be pasted on all toilets for complaints/queries.
Modes	Pay and use or free. In pay and use toilets entry is allowed on payment to the attendant or by inserting coin and user gets 15 minutes.
Maintenance/ Cleaning	The toilet should have both men and women attendants. Alternatively automatic cleaning cycle covering flush, toilet bowl, seat, hand wash basin, disinfecting of floor and complete drying after each use can be adopted, which takes 40 seconds.

Table of General Standards/Guidelines for Public Toilets in Public Area	
	Public toilet shall be open 24 hours.

(10) **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.

(11) **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.

(12) **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 and the following guidelines shall be applied with minimum 50 percent female toilets.

Table of Contingency Toilet facilities for Special Events						
Sl.No.	**Patrons**	**For Males**			**For Females**	
		Toilets	**Urinals**	**Sinks**	**Toilets**	**Sinks**
1	<500	1	2	2	6	2
2	<1000	2	4	4	9	4
3	<2000	4	8	6	12	6
4	<3000	6	15	10	18	10
5	<5000	8	25	17	30	17

Source: - i) FEMA "Special Events Contingency Planning", Toilets Page 39
ii)Jain. AK, "Spatio Economic Development Record", Clauses 5.16-5.20
iii)"Public Toilets for Women in India", Volume 18 No 5, September-October, 2011

(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.

(13) **Gas supply (For all High-rise/ Multistorey Buildings/ Mandatory use for all residential complexes with more than 100 households)**

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, refer the latest NBC.

c. For large/ commercial kitchens, all wiring in fume hoods shall be of fiber glass 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 at a well-ventilated space, keeping in view the fact that LPG is heavier than air and town gas is lighter than air.

(56) Amendments in the "By-laws-60: - large Projects" of the said By-laws, 2014.

(i) **Clause-(B) of Sub-By-laws- (4) shall be substituted by the following: -** RCC structure for recreational uses shall not exceed by 25% of total area of such uses.

(ii) **Clause-(E) of Sub-By-laws- (4) shall be substiteted by the following: -** The FAR and coverage shall be **3.5** and 30% respectively. However higher FAR can be allowed if the road width is as per the provisions made for new areas.

(iii) **Clause-(F) of Sub-By-laws- (4) shall be substiteted by the following: -** Affordable housing units to be developed and earmarked for EWS/LIG category as per the latest affordable housing policy.

(57) By-laws-63: - Shop cum residence" of the said By-laws, 2014 shall be substituted by the following: -

"Where plots are in a row for shop-cum-residential purpose the Authority may allow construction of shop-cum-residential building without any side set backs up to a depth of 10 meters from the front exterior wall. Provided that no part of the building up to said depth is used for residential purpose on the ground floor. No building exceeding 12 meters in height shall be allowed to be constructed as a shop-cum-residential plot, unless so permitted under the zonal Development Plan, guided as per Table 4A. The FAR and other parameters shall conform to that specified for commercial buildings."

(58) Title of the By-laws-65: - "Liquefied Petroleum Gas" of the said By-laws, 2014 shall be substituted by "Liquefied Petroleum Gas station"**.**

(59) After By-laws-66: - "Petrol Pump" of the said By-laws, 2014 the following new By-laws (66A), (66B), (66C), (66D), (66E), (66F), (66G), (66H), (66I) and (66J) are being added.

(i) **66A.Transportation: -**

Table of Development controls on Transport Terminals					
Sl.No.	Use Premises	Development Controls			
		Area under Operation (%)	Area under building (%)	FAR*	Floor area that can be utilized for passenger accommodation
1.	Rail Terminal/ Integrated Passenger Terminal /Metropolitan Passenger Terminal	70	30	1.00	15%
2	Bus Terminal	50	50	1.00	25
3	ISBT	25	Max 50	1.00	As per requirement
4	Metro Yards	80%	20%	1.00	15%

******The FAR is*

**The FAR is to be calculated on the Building plot. Area under Bus Shelter not to be included in FAR.*

Other Controls: -

(i) *The space on first and second floor shall be essentially used for public services like post office, police-post and other essential services.*

(ii) *Bus queue shelters are not to be included in the coverage and FAR.*

(iii) *In order to integrate the supporting commercial uses around the transportation zone, FAR can be more for promoting mixed use*

(ii) **66B Aerodromes: -**

The following restrictions in vicinity of aerodromes shall be applicable: -

i) The buildings or structures in the vicinity of the ARP shall be dealt by the local Authority as per the CCZM and by NOCAS from AAI.

ii) In case of buildings to be located in the vicinity of defence aerodromes, the maximum height of such buildings shall be decided by the defence Authority.

iii) No new chimneys or smoke producing factories shall be constructed within a radius of 8 km from the Aerodrome Reference Point (ARP).

iv) Overhead high voltage/ medium voltage lines or telephone & other communication lines shall not be permitted in the approach/ take off climb areas (funnel zone) within 3000 m of the inner edge of these areas.

v) A margin of 3 m shall be allowed in new constructions for wireless/ TV antennas, cooling towers and mumties.

vi) For height Restrictions with respect to Approach Funnels and Transitional areas the NOCAS from AAI shall be followed.

(iii) **66C Health Services: -**

Table of Development Controls on Health Centers and Nursing Homes					
Sl. No	Category	Maximum			Other Controls
		Ground Coverage	FAR	Height	
1.	Hospital/*Teritary Health care	*Ground coverage to be decided by	*FAR on plot facing ROW should be	*No height restriction subject to	*Upto 25% of the permitted FAR can be utilized for residential

	Centre	interse building to building distances as per Building Bye Laws and fire tender movement requirements, subject to a maximum 40% excluding 5% additional ground coverage for muti-level parking Minimum plot area6000 sq.m.	subject to NOC from all concerned agencies depending on locations shall be as under: - a. Row less than 24m — 2.50 b. Row 24m up to 30m — 3.00 c. Row 30m and above — 3.75	clearance from AAI, FS, DMA, NMA. NBC to process the proposed revision of NBC as soon as possible. Till date the time the NBC is revised, fire services may allow no restriction of height for health care facilities with commensurate fire and life safety measures, subject to clearance from AAI, FS,DMA, NMA and other statutory provisions	use for essential staff, dormitory/hostel for attendents of the patients, Creche etc. *Parking standard @ 2.0 ECS/100 sqm of floor area. 3. *Maximum 10% ground coverage shall be allowed for providing atrium. In case, the permissible additional ground coverage for atrium is utilized, 25% of the utilized ground coverage shall be counted toward FAR 4.*Multi Level Podium parking shall be permissible to the extent of building envelope lines, free from FAR and ground coverage to facilitate ample parking in spaces, subject to structural safety. 5.*Common areas such as waiting halls, reception and fire stairs cases shall be allowed free from FAR 6.*Service floor of height 1.8m shall not be counted in FAR Parking Standard @ 2 ECS/100 sq.mt. of floor area.
2.	Other Health Facilities a. Maternity Home Nursing Home/ Polyclinic / Dispensary i)Family Welfare Centre ii) Pediatric Centre	30%	1.50	26 mt.	Parking Standard @ 2 ECS/100 sq.mt. of floor area.

	Geriatric Centre Diagnostic Centre.				
3.	a. Veterinary Hospital for pet animals and birds. b. Dispensary for pet animals and birds.	30% 35%	1.50 1.00	26 mt. 26 mt.	Parking standard @ 1.33 ECS / 100 sq. mt. of floor area. Parking standard @ 1.33 ECS / 100 sq. mt. of floor area.
4.	a. Medical College	As per norms of Medical Council of India / Regulatory Body			
	b. Nursing and Paramedic Institute	30%	1.50	26 mt.	Parking Standard @ 1 ECS/100 sq.mt. of floor area.
	c. Veterinary Institute	As per the Veterinary Council of India/Ministry norms.			

*^ Natural sky light condition is exempted for Atrium and construction over the Atrium may be allowed.

*# Height restriction of 30 mts. In Hospital Buildings should be reviewed in consultation with Fire Deptt. of State Govt.

Notes: -

1. *Plot area for all *Hospital/Tertiary Health Care Centre would be worked out @ 80 sq.mt. of gross floor area per bed. However, for other health facilities like Maternity/Nursing homes, family Welfare and other centers, the plot area would be worked out @ 60 sq.mt. of gross floor area per bed.*
2. *Maximum up to 300 sq. mt. of floor area shall be allowed to be used for community space / religious shrine / crèche / chemist shop/ bank counter on Hospital sites and also Medical College/ Nursing and Paramedic institutes sites.*

Other Controls: -

a *In case of super specialty medical facilities/hospitals duly certified as such by the competent authority, the gross area shall be worked out @ upto 125 sq. mt. per bed.*

b *In case of existing premises/sites, the enhanced FAR shall be permitted, subject to payment of charges as may be prescribed by the Authority / land owning agency and other clearances.*

c **Basement after utilization for Parking; Services Requirements such as air conditioning plant and equipment, water storage, boiler, electric sub-station, HT & LT panel rooms, transformer compartment, control room, pump house, generator room; staff locker room, staff changing room, staff dining facilities without kitchen facility, Central sterile supply deptt., back end office; Other Mechanical Services; Installation of Electrical and fire fighting equipment's; and other services like kitchen, laundry and radiology lab and other essential services required for the maintenance/functioning of the building may be used for healthcare facilities with prior approval of the concerned agencies.*

d *Other controls related to basements etc. are given in end of this chapter.*

e **The bed count of a Health Facility may be allowed as per permissible FAR, needs of the Community and demand studies.*

f **Environment clearances shall be made mandatory considering that bio-wastes are generated. Environment clearances are mandatory as per the prevailing regulations related to the environment.*

g **Zero discharge for sewerage shall be enforced at the cost of the promoters and post treatment water can be used by premises for its needs of horticulture, flushing, coolant tower, washing or disposal to other construction sites. These issues concerned the local bodies and can be dealt accordingly as per existing regulations as the time of sanctioning the plan.*

h *The additional power requirements shall be met by power supply from grid and till such time by means of suitable captive generation.*

(iii) **66D Educational Facilities: -**

(1) **Nursery School**

Maximum ground coverage	33.33%
Maximum floor area ratio	1.00
In hills	0.67
Maximum height	8 m.
In hills	6 m.

Note: - *Basement below the ground floor and to the maximum extent of ground coverage, and if constructed shall be counted in FAR.*

(2) **Primary School**

Maximum ground coverage	33%
Maximum floor area ratio	1.20
In hills	1.00
Maximum height	15 m.

(3) **Higher Secondary School**

Maximum ground coverage	35%
In hills	30%
Maximum floor area ratio	1.50
In hills	1.00
Maximum height	15 m.

(4) **College**

Maximum ground coverage	35%
In hills	25%
Maximum floor area ratio	1.50
In hills	0.75
Maximum height	15 m.

Note: -

2. *In case of the above premises the total area of the plot shall be divided in*
   - i) *School/college building area*
   - ii) *Play field area*
   - iii) *Parking area*
   - iv) *Residential and hostel area*
3. *The maximum ground coverage and FAR shall be calculated only on the areas meant for building.*

Table of Development Controls for Other Education Facilities				
Sl. No	Category	Maximum		
		Ground Coverage	FAR	Height
1.	Play School, Coaching Centre, Computer Training Institute, Physical Education Centre etc.	N.A.	N.A.	N.A.
2	School for Mentally Challenged.	50%	1-20	18 mt.
3	School for*differently abled persons.	50%	1-20	18 mt.

Notes: -

Pre-Primary Schools/Nursery Schools/Montessori Schools/Creche, Play Schools, may be permissible in residential use premises as per Mixed use policy.

Other Controls: -

1. *In case of new schools, the front boundary wall shall be recessed by 6 mt. to accommodate visitors parking within setback area.*
2. *Playground shall be developed on pool basis in different areas at neighborhood level.*
3. *Practice of providing dedicated Nursery School plots in the layout plan discontinued as same is permissible in Mixed use.*
4. *In case of schools for mentally / *differently abled persons, 20% of the maximum Far can be utilized for residential use of essential staff and student accommodation.*

(5) **Education and Research Centre (large campus i.e. above 8 Ha.)**

Large campuses of universities, medical and engineering colleges and other education and research institutes shall be covered under these regulations. The campus will be divided into three parts and the regulations shall apply, as given below: -

i)Academic, including administration (45% of the total land area)

Maximum ground coverage 30% In hills 20%
Maximum floor area ratio 1.20 In hills 0.80
Maximum height 37 m. In hills 15 m.

Basement below the ground floor and to the maximum extent of ground coverage shall be allowed and if used for parking and services should not be counted in FAR.

ii) Residential (25% of total land area)

This will be developed at a density of 400 PPHa gross. The land shall be reserved for residential facilities @ 9.2 sqmt. per person. Sub-division regulations as given for group housing shall apply.

iii) Sports and Cultural Activities (15% of the total area)

Maximum ground coverage 10%
Maximum FAR 15

iv) Parks and landscape (15% of the total land area): - Suitable landscape plan to be prepared for this area.

(v) **66E Sports : -**

Table of Development Controls for Sports				
Sl.No	Category	Maximum		
		Ground Coverage	FAR	Height
1.	Sports and amenity structures	20% including amenity structures	0.40	NR (Subject to clearance from all other statutory bodies)
2.	Parking	2 ECS/100 sq. mt of floor area.		

***Other Development Controls**: -*

i. To incentivise development of sports facilities and swimming pool (upto maximum 100 sq. mt.) Within the group housing areas, schools, clubs, etc. shall not be counted towards ground coverage and FAR.

ii. All these various sports facilities shall have layout plan, landscape plan, and parking plan, etc.

(vi) **66F Socio-cultural: -**

Socio – cultural facilities: -

Table of Development Controls for Socio- Cultural Facilities					
Sl. No	Category	Maximum			Other Controls
		Ground Coverage	FAR	Height	
1.	a. Multipurpose Community Hall. b. Banquet hall	30% 30%	1.20 1.20	26m 26m	1. Parking standard @3.0ECS/100sq m of floor area. 2. Other controls related to basements etc. are given at end of this chapter.
2.	a. Community Recreational Club. b. Recreational Club	30% 25%	1.20	26m	Parking standard @2ECS/100sq.m of floor area.
3.	Socio- cultural activities such as auditorium, music, dance & drama centre/mediation & spiritual centre etc.	35%	1.20	26m	1. Parking standard @ 2ECS/100sq.m of floor area. 2. A proper scheme for visitors parking and parking adequacy statement shall be prepared taking into consideration large number of visitors.

Table of Development Controls for Socio- Cultural Facilities					
Sl. No	Category	Maximum			Other Controls
		Ground Coverage	FAR	Height	
4.	Exhibition cum Fair Ground	20%	0.20	26m	Subject to statutory clearances.
5.	Science centre	30%	1.20	NR,	Parking standard @2ECS.
6.	International Convention Centre	30%	1.20	Subject to approval of AAI, Fire Department and other statutory bodies	Parking standard @2ECS.

Notes: -

i. In case of community recreational clubs, 0.50 FAR shall be admissible on the area beyond 2000 sqm.

ii. In the open area apart from outdoor games/sport facilities, swimming pool would be permissible upto an area of 300sqm. Free from ground coverage.

iii. Basement within the ground envelope shall be allowed for parking, stilt floor for parking is permissible.

iv. 30% of basement area for services, storage shall not be counted in FAR.

Other community facilities: -

Development Controls for old age homes, religious facilities, etc shall be as follows : -

Table Development Controls for other community facilities					
Sl.No	Category	Maximum			Other Controls
		Ground Coverage	FAR	Height	
1	Old Age Home/Care Centre for *Differently Abled Persons/ Mentally Challenged/ Working Women/Men Hostel/ Adult Education Centre/ Orphanage/Children's Centre/Night Shelter.	30%	1.20	26m.	1. Parking standard@ 1.8 ECS/100 sqm of floor area. 2. Other controls related to basement etc. are as given in Chapter 17, Development Code, MPD - 2021
2.	Religious a) At neighbourhood level b) At sub city level in urban extension*	 35% 25%	 0.70 0.50	 15m. including shikhara 26m.	
3.	Anganwari c)At Housing area/Cluster level	30%	0.60	15m.	

Table Development Controls for other community facilities					
Sl.No	Category	Maximum			Other Controls
		Ground Coverage	FAR	Height	
*4.	Service Apartment	30%	2.25	NR* (Subject to approval of AAI, Fire Department and Other Statutory Bodies)	Parking @ 2ECS per 100 Sqm. of floor area. Other controls related to basements etc. are given in the Byelaw 47

These facilities should be developed in a composite manner to accommodate a number of religious institutes/premises with common facilities.

Note: - - *sites of dhobi Ghats/laundry shall be provided in residential use zone/PSP facilities areas as per the norms of local body.*

(vii) **66G 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 By-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 Authority may allow minimum height upto 3.66 m.

2. Parking space provisions as provide in development code of Master Plan/Development Plan.

3. Requirements of water supply, drainage and sanitary installation shall be as per the related by-laws, 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 By-law No. 55 (8) 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 Clause 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.

(viii) **66H 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 $1/5^{th}$ 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 the related by-laws. 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 the related provisions made in these by-laws.
8. A playground shall be provided as per norms.

(ix) **66I Burial and cremation ground: -**

The Authority shall under the provisions of their Regulations/Acts, regulate the location and area limits of the burial and cremation grounds, including cemetery. The Authority 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 neighbourhood 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.

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.*

(x) **66J Signs and outdoor display structures: -**

No advertising signs (including hoarding) on buildings or on land shall be displayed without the prior approval of the Authority. The standards specified in Signs and outdoor display structures of National Building Code of India published by Indian Standards Institution shall be applicable. The state Advertisement policy and regulations should also be referred to.

(60) The words and bracket "(Layout plan or plotting)" shall be added in the title of Chapter VIII Development and sub-division of land.

(61) **Amendment in the By-laws-82 "**E-Governance" **of the said By-laws, 2014: -**

(i) At the end of Sub by-laws- (1) following word shall be added in bracket : - (The prevailing Online Single window Building permit system of Urban Development and Housing Department, Nagarseva).

(ii) Following Sub by-laws- (6) shall be added after Sub by-laws- (5) : -

(6) The various fees may be subsidized by the department through notification to promote online building permit approval system.

(62) **In By-laws-88 "Relaxation and modification by the Government" of the said By-laws, 2014 the following shall be added at the end: -**

"The department may notify any additional information, fee structure, guidelines, clarifications, removal of difficulties or minor changes for better implementation of these By-laws".

(63) The following Appendix-1 shall be added after By-laws-88 "Relaxation and modification by the Government" of the said By-laws, 2014 : -

APPENDIX 1

CLIMATE RESILIENT CONSTRUCTION – INTEGRATION OF ENVIRONMENTAL CLEARANCE WITH SANCTION

(As and when revised by the Ministry of Environment and Forest, the provisions in this appendix shall automatically be considered as updated as per the provisions of the notification)

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.

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/development authority to approve and certify compliance of stipulated requirements. The new building construction proposals are classified in the following 3 categories: --

(i) Conditions for **Category 'A'** Buildings: -
Built-up Area 5000 sqmt – 20000 sqmt

(ii) Conditions for **Category 'B'** Buildings: -
Built-up Area 20000 sqmt – 50000 sqmt

(iii) Conditions for **Category 'C'** Buildings: -
Built-up Area 50000sqmt – 150000 sqmt

A local Authority, i.e. ULB/DA/any other body authorized to sanction building plans shall approve the building plans by ensuring the stipulated conditions in the Tables (i), (ii) and (iii) for the respective categories of buildings.

These environmental conditions may be suitably integrated in the building permission conditions so that their effective implementation could be ensured by the local authority while sanctioning building plans in their respective urban areas.

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 By-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 (i) (for above 5,000 sqm and up to 20,000 sqm), Table (ii) (for above 20,000 sqm and up to 50,000 sqm) and Table (iii) (for above 50,000 sqm and up to 1,50,000 sqm), as the case may be, are complied with.

Table (i) : - Environmental Conditions for Building and Construction (Category "A": - 5000 sqmt - 20000 sqmt)

Sl. No.	Medium	Environmental conditions	Ref. Byelaw
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	A rain water harvesting plan needs to be designed where the recharge bores (minimum one per 5000 sqm	Table of Provisions for Rainwater harvesting by

Table (i) : - Environmental Conditions for Building and Construction (Category "A": - 5000 sqmt - 20000 sqmt)			
Sl. No.	Medium	Environmental conditions	Ref. Byelaw
	Harvesting and Ground Water Recharge	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.	building types
2(a)		The unpaved area shall be more than or equal to 20% of the recreational open spaces.	55(2) (ii)a (iv)
3	Solid Waste Management	Separate wet and dry bins must be provided at the ground level for facilitating segregation of waste.	55(2) (ii)e b)
4	Energy	In common areas, LED/ solar lights must be provided.	55(2) (ii) 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 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.	55(2) (ii)a (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	55(2) (ii)a (ii)

Table (i) : - Environmental Conditions for Building and Construction (Category "A": - 5000 sqmt - 20000 sqmt)			
Sl. No.	Medium	Environmental conditions	Ref. Byelaw
		done with the obligation to provide continued maintenance for such plantations.	

Table (ii) : - Environmental Conditions for Building and Construction (Category "B": - 20000 sqmt - 50000 sqmt)			
Sl. No.	Medium	Environmental conditions	Ref. Byelaw
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 of Provisions for Rainwater harvesting by building types
2(a)		The unpaved area shall be more than or equal to 20% of the recreational open spaces.	55(2) (ii)a (iv)
3	Solid Waste Management	Separate wet and dry bins must be provided at the ground level for facilitating segregation of waste.	55(2) (ii)e b)
4	Energy	In common areas, LED/ solar lights must be provided.	55(2) (ii) 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.	55(2) (ii)k
4(b)		As per the provisions of the Ministry of New and Renewable energy solar water heater of	55(2) (ii)d IV

Table (ii) : - Environmental Conditions for Building and Construction (Category "B": - 20000 sqmt - 50000 sqmt)			
Sl. No.	Medium	Environmental conditions	Ref. Byelaw
		minimum capacity 10 litres/4 persons (2.5 litres per capita) shall be installed.	
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.	55(2) (ii)f (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.	55(2) (ii)a (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.	55(2) (ii)a (ii)

Table (iii) : - Environmental Conditions for Building and Construction (Category "C": - 50000 sqmt - 150000 sqmt)			
Sl. No.	Medium	Environmental conditions	Ref. Byelaw
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 is to be linked to the tube well bore in the premise through a pipeline after filtration in the installed filters.	Table of Provisions for Rainwater harvesting by building types
2(a)		The unpaved area shall be more than or equal to 20% of the recreational open spaces.	55(2) (ii)a (iv)
2(b)		The ground water shall not be withdrawn without approval from the competent 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.	55(2) (ii)e 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	

Table (iii) : - Environmental Conditions for Building and Construction (Category "C": - 50000 sqmt - 150000 sqmt)			
Sl. No.	Medium	Environmental conditions	Ref. Byelaw
		authorized recyclers.	
4	Energy	In common areas, LED/ solar lights must be provided.	55(2) (ii)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.	55(2) (ii)k
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.	55(2) (ii)d 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.	55(2) (ii)f (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.	55(2) (ii) 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 or latest of the Bureau of Energy Efficiency, Government of India.	55(2) (ii) 3.
5	Air Quality and Noise	Dust, smoke and debris prevention measures such as screens,	

Table (iii) : - Environmental Conditions for Building and Construction (Category "C": - 50000 sqmt - 150000 sqmt)			
Sl. No.	Medium	Environmental conditions	Ref. Byelaw
		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.	55(2) (ii)a (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.	55(2) (ii)a (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.	55(9)
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.	-

(64) Amendment in Annexure -1 of the said By-laws, 2014: -

(i) Following shall be substituted in (ii) of clause-C of the sub-By-laws **–(1)** "ARCHITECT: -

He/She shall, alongwith the owner/ applicant, submit the periodic progress reports and notice of completion to obtain occupancy permission and as required under the bye laws."

(ii) Following shall be substituted in clause-D of the sub-By-laws **–(1)** "ARCHITECT: -

D) **Empanelment: -**

The Architects shall use the centralized online platform at the department level to get empanelled. There shall not be any need for any of the aforementioned professionals to get registered or empanelled at the Municipality/ Urban local body level. They will also be provided with a login id (exclusive empanelment no.) and password for the online single window building permit system where they can maintain and update their profiles as needed."

(iii) Following shall be substituted in (ii) of clause-C of the sub-By-laws **–(2)** **"ENGINEER**: -

He/She shall, alongwith the owner/ applicant, submit the periodic progress reports and notice of completion to obtain occupancy certificate and as required under the bye laws."

(iv) Following shall be added as (iii) in clause-D of the sub-By-laws **–(2)** **"ENGINEER: -**

(iii) The Engineers shall use the centralized online platform at the department level to register themselves and get empanelled. There shall not be any need for any of the aforementioned professionals to get registered or empanelled at the Municipality/ Urban local body level. They will also be provided with a login id (exclusive empanelment no.) and password for the online single window building permit system where they can maintain and update their profiles as needed."

(v) Following shall be added as (iii) in clause-D of the sub-By-laws **–(3)** **"STRUCTURAL ENGINEER**: -

Registration: -

(iii) The Structural Engineers shall use the centralized online platform at the department level to register themselves and get empanelled. There shall not be any need for any of the aforementioned professionals to get registered or empanelled at the Municipality/ Urban local body level. They will also be provided with a login id (exclusive empanelment no.) and password for the online single window building permit system where they can maintain and update their profiles as needed."

(vi) Following shall be added as (iii) in clause-D of the sub-By-laws **–(4)** **URBAN "PLANNER**

Registration: -

(iii) The Town Planners shall use the centralized online platform at the department level to register themselves and get empanelled. There shall not be any need for any of the aforementioned professionals to get registered or empanelled at the Municipality/ Urban local body level. They will also be provided with a login id (exclusive empanelment no.) and password for the online single window building permit system where they can maintain and update their profiles as needed."

(vii) Following shall be added as (iii) in clause-D of the sub-By-laws **–(5)** **"SUPERVISOR**

Registration: -

(iii) The Supervisor shall use the centralized online platform at the department level to register themselves and get empanelled. There shall not be any need for any of the aforementioned professionals

to get registered or empanelled at the Municipality/ Urban local body level. They will also be provided with a login id (exclusive empanelment no.) and password for the online single window building permit system where they can maintain and update their profiles as needed."

(viii) Following shall be added as (iii) in clause-D of the sub-By-laws –**(7)**

"BUILDER

Registration: -

(iii) The Builders shall use the centralized online platform at the department level to register themselves and get empanelled. There shall not be any need for any of the aforementioned professionals to get registered or empanelled at the Municipality/ Urban local body level. They will also be provided with a login id (exclusive empanelment no.) and password for the online single window building permit system where they can maintain and update their profiles as needed."

(65) Annexure II of the said By-laws 2014 shall be deleted.

(66) The following shall be added after Annexure II of the said By-laws 2014:

Annexure-IIA"

Occupancy Categorization of Buildings for Water and Other Requirement for Fire Fighting

Zone-I	**Zone-II**	**Zone-III**
GROUP "A": RESIDENTIAL	GROUP "A": RESIDENTIAL	GROUP "A": RESIDENTIAL
A1 Lodging and Rooming Houses A2 One or two family private dwelling A3 Dormitories A4 Apartment Houses	A5 Hotels	F2 Shops and stores, etc. above 500 sq.mt. floor area F3 Underground shopping centers
GROUP "B" EDUCATIONAL B1 Schools up to higher secondary level	GROUP "C" INSTITUTIONAL C1 Hospitals and Sanitoria (More than 100 beds)	GROUP "G" INDUSTRIAL G3 High hazard Industries
GROUP "C" INSTITUTIONAL C1 Hospital & Sanitoria (upto 100 beds) C2 Custodial Institutions C3 Penal & mental Institutions	GROUP "D" ASSEMBLY BUILDINGS D1 For more than 1000 persons with permanent stage and fixed seats D2 For less than 1000 persons with permanent stage and fixed seats	GROUP "H" STORAGE BUILDINGS
GROUP "D" ASSEMBLY BUILDINGS D3 Upto 300 persons without permanent stage and fixed seats D4 Above 300 persons without permanent stage & fixed seats	GROUP "E" BUSINESS BUILDINGS E1 Offices, Banks, etc. E2 Laboratories, Libraries, etc. E3 Telephone Exchanges	GROUP "J" HAZARDOUS BUILDINGS
GROUP "E" BUSINESS E3 Computer Installations E5 Broadcasting stations	GROUP "F" MERCANTILE F1 Shops, Stores, etc. upto 500 m^2 floor area	
GROUP "G" INDUSTRIAL G1 Low hazard Industries	GROUP "G" INDUSTRIAL	

Annexure-"III-A"

Fire Protection Requirements for Buildings in Zone-I Category

Sl. No.	Measures	Group-A: Residential A1, A2, A3, A4				Group-B: Educational			Group-C: Institutional		
		O	I	II	III	I	II	III	I	II	III
1	Access	P	P	P	P	P	P	P	P	P	P
2	Means of Escape	P	P	P	P	P	P	P	P	P	P
3	Compartmentation	P	P	P	P	P	P	P	P	P	P
4	Refuge Area	X	X	X	X	X	X	X	X	X	X
5	Emergency Lights	X	X	P	P	P	P	P	P	P	P
6	Exit Signs	P	P	P	P	P	P	P	P	P	P
7	PA System with Talk Back Facility	X	X	X	X	X	P	P	P	P	P
8	Moefa	X	X	X	P	X	P	P	P2	P	P
9	Extinguishers	P	P	P	P	P	P	P	P	P	P
10	Hose Reel	P3	P	P	P	P3	P	P	P	P	P
11	Yard Hydrant	X	X	X	P	X	P	P	X	P	P
12	Down Comer	X	X	X	P	X	P	X	P4	X	X
13	Wet Riser	X	X	P	X	X	X	P	X	P	P
14	Fire Detection System	X	X	X	X	X	P6	X	P2	P	P
15	Automatic Sprinkler System	S	S	S	S	S	S	FS	S	S	FS
16	Under Ground Tank	X	X	X	X	X	X	P	P2	P	P
17	Over Head Tank	P13	P	P	P	P	P	P	P	P	P
18	Fire Pumps	X	X	X	X	X	X	P	X	P	P
19	Booster Pumps	P3	P	P	P	P	P3	P	P	X	P
20	Auto D.G. Set	P3	X	P	P	P3	P	P	P	P	P
21	MCB/ELCB	P	P	P	P	P	P	P	P	P	P
22	Hose Boxes	X	X	X	P	X	P	P	P4	P	P
23	Fireman's Grounding Switch	P	P	P	P	P	P	P	P	P	P

Annexure-"III-A"

(Contd.) Fire Protection Requirements for Buildings in Zone-I Category

Sl. No.	Measures	Group-D: Assembly D3, D4			Group-E: Business E3, E5			Group-G: Industrial G1				
		I	II	III	I	II	III	IV	V	VI	VII	VIII
1	Access	P	P	P	P	P	P	P	P	P	P	P
2	Means of Escape	P	P	P	P	P	P	P	P	P	P	P
3	Compartmentation	P	P	P	P	P	P	P	P	P	P	P
4	Refuge Area	X	X	X	X	X	X	X	X	X	X	X
5	Emergency Lights	P	P	P	P	P	P	P	P	P	P	P
6	Exit Signs	P	P	P	P	P	P	X	X	P	P	P
7	PA System with Talk Back Facility	P1	P	P	X	P	P	X	X	X	X	P
8	Moefa	P1	P	P	X	P	P	X	X	P	P	P
9	Extinguishers	P	P	P	P	P	P	P	P	P	P	P
10	Hose Reel	P2	P	P	P	P	P	X	P	P	P	P
11	Yard Hydrant	X	P	P	X	P	P	X	X	X	P	P
12	Down Comer	X	X	P	P2	X	X	X	X	X	X	X
13	Wet Riser	X	P	P	X	P	P	X	X	X	P5	P
14	Fire Detection System	P7	P	P	P2	P8	P9	X	X	X	P	P
15	Automatic Sprinkler System	S7	FS	FS	S	S	FS	S	S	S	S	FS
16	Under Ground Tank	P7	P	P	X	P	P	X	X	P10	P11	P
17	Over Head Tank	P2	P	P	P	P	P	P5	P	P	P	P
18	Fire Pumps	P11	P	P	X	P	P	X	X	X	P5	P
19	Booster Pumps	X	X	X	P	X	X	P12	P	P	P	P
20	Auto D.G. Set	P7	P	P	P	P	P	X	X	P	P	P

21	MCB/ELCB	P	P	P	P	P	P	P	P	P	P	P
22	Hose Boxes	P	P	P	P2	P	P	X	X	X	P5	P
23	Fireman's Grounding Switch	P	P	P	P	P	P	P	P	P	P	P

Legend for Annexure "III-A"

O Guest Houses/Lodging having up to 20 rooms or 40 beds and below

I Height less than 15 mt.

II Height 15 mt. and above up to 24 mt.

III Height above 24 mt

IV Height less than 15 mt. and plot area less than 250 sq.mt.

V Height less than 15 mt. and plot area 251 sq.mt. and above up to 500 sq.mt.

VI Height less than 15 mt. and plot area 501 sq.mt. and above up to 1000 sq.mt.

VII Height less than 15 mt. and plot area more than 1001 sq.mt.

VIII Height above 15 mt. and up to 18 mt.

P To be Provided.

X Not to be provided.

S Sprinklers to be provided if basement area is 200 sq.mt. or more.

FS Fully Sprinklered.

1. To be provided if seating capacity exceed 750.
2. To be provided if building is more than ground floor, first floor and total covered area exceed 1500 sq. mt.
3. To be provided in building where total covered area exceeds 1000 sq.mt. or Building is more than ground floor except group housing.
4. To be provided if building is ground floor, first floor and total covered area exceeds 300 mt.
5. To be provided if building is more ground floor.
6. To be provided in building except educational buildings.
7. In case seating capacity is 1000 persons minimum or covered area above 1500 sq.mt. or basement area 200 sq.mt. and more (other than places or worships).
8. To be provided fore E-4 and E-5 buildings but not required if building is fully sprinklered.
9. To be provided for E-4 and E-5 buildings.
10. 25,000 lt. capacity under ground water storage tank to be provided.
11. 50,000 lt. capacity under ground water storage tank to be provided.
12. To be provided where ever sprinklers are not installed.
13. Terrace tank of 5,000 lt. capacity to be provided, if sprinklers and installed. The capacity shall be accordingly increased.

Annexure-"III-B"

Fire Protection Requirements for Buildings in Zone-II Category

Sl. No.	**Measures**	**Group-A: Residential A5 : Hotels**				**Group-C: C2: Hospital**		**Group-D: Assembly D1, D2, D5**	
		I	**II**	**III**	**IV**	**V**	**VI**	**V**	**VI**
1	Access	P	P	P	P	P	P	P	P
2	Means Of Escape	P	P	P	P	P	P	P	P
3	Compartmentation	P	P	P	P	P	P	P	P
4	Refuge Area	X	X	X	X	X	X	X	X
5	Emergency Lights	P	P	P	P	P	P	P	P
6	Exit Signs	P	P	P	P	P	P	P	P
7	PA System With Talk Back Facility	X	P	P	P	P	P	P	P
8	Moefa	X	P	P	P	P	P	P	P

9	Extinguishers	P	P	P	P	P	P	P	P
10	Hose Reel	P	P	P	P	P	P	P	P
11	Yard Hydrant	X	X	P	P	X	P	X	P
12	Down Comer	X	P2	X	X	X	X	X	X
13	Wet Riser	X	X	P2	X	P4	P	P5	P
14	Fire Detection System	X	P	P	P	P3	P	P	P
15	Automatic Sprinkler System	S	S	FS	F S7	S	FS	S8	FS
16	Under Ground Tank	X	X	P	P	P3	P	P8	P
17	Over Head Tank	P	P	P	P	P	P	P	P
18	Fire Pumps	X	X	P	P	P4	P	P8	P
19	Booster Pumps	P	P	P	X	P	X	P	X
20	Auto D.G. Set	P	P	P	P	P	P	P	P
21	MCB/ELCB	P	P	P	P	P	P	P	P
22	Hose Boxes	X	P	P	P	P4	P	P	P
23	Fireman's Grounding Switch	P	P	P	P	P	P	P	P

Annexure-"III-B" (Contd.)

Fire Protection Requirements for Buildings in Zone-II Category

Sl. No.	Measures	Group-E: Business E1, E2, E4			Group-F: Mercantile	Group-G. Industrial G2				
		VII	VIII	IX	X	XI	XII	XIII	XIV	XV
1	Access	P	P	P	P	P	P	P	P	P
2	Means of Escape	P	P	P	P	P	P	P	P	P
3	Compartmentation	P	P	P	P	P	P	P	P	P
4	Refuge Area	X	X	X	X	X	X	X	X	X
5	Emergency Lights	P	P	P	P	X	X	P	P	P
6	Exit Signs	P	P	P	P	X	X	P	P	P
7	PA System with Talk Back Facility	X	P	P	X	X	X	X	X	P
8	Moefa	X	P	P	X	X	X	P	P	P
9	Extinguishers	P	P	P	P	P	P	P	P	P
10	Hose Reel	P	P	P	P1	P	P	P	P	P
11	Yard Hydrant	X	P	P	X	X	X	X	P	P
12	Down Comer	P3	X	X	X	X	X	P4	X	X
13	Wet Riser	X	P	P	X	X	X	X	P6	P
14	Fire Detection System	P3	P	P	X	X	X	X	X	P
15	Automatic Sprinkler System	S	S	FS	S	S	S	S	FS	FS
16	Under Ground Tank	X	P	P	X	X	P9X	P10	P	P
17	Over Head Tank	P	P	P	P1	P	P	P	P	P
18	Fire Pumps	X	P	P	X	X	X	X	P	P
19	Booster Pumps	P	P	P	P1	P	P	P	P	P
20	Auto D.G. Set	P	P	P	X	X	P	P	P	P
21	MCB/ELCB	P	P	P	P	P	P	P	P	P
22	Hose Boxes	P3	P	P	X	X	X	P	P	P
23	Fireman's Grounding Switch	P	P	P	P	P	P	P	P	P

Legend for Annexure "III-B"

I Height less than 15 mt. and area up to 300 sq. mt. on each floor.

II Height less than 15 mt. and area above 300 sq. mt. up to 1000 sq. mt. on each floor.

III Height less than 15 mt. and area above 1000 sq. mt. on each floor.

IV Height 15 mt. and above.

V Height less than 15 mt.

VI Height 15 mt. and above up to 30 mt.

VII Height less 15 mt.

VIII Height 15 mt. and above up to 24 mt.

IX Height more than 24 mt.
X Height less than 15 mt. and plot area up to 750 sq. mt.
XI Height less than 15 mt. and plot area less than 250 sq.mt.
XII Height less than 15 mt. and plot area 251 m2 and above up to 500 sq. mt.
XIII Height less than 15 mt. and plot area 501 m2 and above up to 1000 sq.mt.
XIV Height less than 15 mt. and plot area more than 1001 sq. mt..
XV Height above 15 mt. and up to 18 mt.
P to be Provided
X not to be provided
S Sprinklers to be provided if basement area is 200 m2 or more

FS Fully Sprinklered.

1. To be provided if building is more than onefloor.
2. To be provided in buildings above twofloors.
3. To be provided if the building is more than ground floor, first floor and covered area exceeds 1500 sq. mt.
4. To be provided if building is more than first floor and the covered area exceeds 300 sq. mt.
5. To be provided for more than storeyed buildings and above.
6. To be provided if building is ground floor, first floor and above.
7. Buildings to be fully sprinklered if height exceeds 15 mt.
8. To be provided if seating capacity exceeds 1000 persons.
9. 25,000 lt. capacity under ground tank to beprovided.
10. 50,000 lt. capacity a ground tank to be provided if riser is not provided.

Annexure-"III-C"

Fire Protection Requirements for buildings in Zone-III Category

Sl. No.	**Measures**	**Group F mercantile (F2,F3)**			**Group G Industrial (G3)**				**Group H Storage**		**Group J Hazardous**	
		H<15m A>750M^2	**H>15 m**	**UGS**	**I**	**II**	**III**	**IV**	**H<15m Single Storey**	**H<15m More than one Storey**	**H<15 m Single Storey**	**H<15m More than one Storey**
1	Access	P	P	P	P	P	P	P	P	P	P	P
2	Means of Escape	P	P	P	P	P	P	P	P	P	P	P
3	Compartmentation	P	P	P	P	P	P	P	P	P	P	P
4	Refuge Area	X	X	X	X	X	X	X	X	X	X	X
5	Emergency Lights	P	P	P	X	P	P	P	X	P	P	P
6	Exit Signs	P	P	P	X	P	P	P	X	P	P	P
7	PA System with talk back facility	P1	P	P	X	X	X	X	X	X	P	P
8	Moefa	P1	P	P	X	X	X	P	X	X	P	P
9	Extinguishers	P	P	P	P	P	P	P	P	P	P	P
10	Hose Reel	P	P	P	P	P	P	P	P	P	P	P
11	Yard Hydrant	P	P	P	X	X	P	P	P2	P2	P	P
12	Down Comer	X	X	X	X	X	X	X	X	X	X	X
13	Wet Riser	P1	P	P	X	X	P3	P1	X	P3	X	X
14	Fire Detection System	X	P	P	X	X	P	P	X	X	P	P
15	Automatic Sprinkler System	FS	FS	FS	FS	FS	FS	FS	FS4	FS	FS	FS
	Under Ground Tank											

16		P	P	P	P5	P6	P7	P	P6	P	P	P
17	Over Head Tank	P	P	X	P	P	P	P	P	P	X	P
18	Fire Pumps	P	P	P	P	P	P	P	P4	P	P	P
19	Booster Pumps	X	X	X	X	X	X	X	X	X	X	X
20	Auto D.G. Set	P	P	P	P	P	P	P	P	P	P	P
21	MCB/ELCB	P	P	P	P	P	P	P	P	P	P	P
22	Hose Boxes	P1	P	P	X	P	P	P	X	P3	P	P
23	Fireman's Grounding Switch in Lifts	P	P	P	P	P	P	P	X	P	X	P

Legend for Annexure "III-C"

U.G.S. Under Ground Shopping complex

i) Height less 15 mt. shopping complex

ii) Height less 15 mt.
and plot area 251 sq. mt. and above up to 500 sq. mt.

iii) Height less 15 mt.
and plot area 501 sq.mt. and above up to 1000 sq.mt.

iv) Height less 15 mt. and plot area more than 1001 sq.mt.

P To be provided.

X Not to be provided.

S Sprinklers to be provided if basement area is 200 sq. mt. or more.

FS Fully Sprinklered.

1. To be provided in building of more than one floor.
2. To be provided if covered area exceeds 1000 sq.mt.
3. To be provided in building above two floors.
4. To be provided in buildings if covered area is more than 200 sq.mt.
5. 50,000 lt. capacity underground state water storage tank to be provided.
6. 1, 00,000 lt. capacity underground state water storage tank to be provided.
7. 2, 00,000 lt. capacity underground state water storage tank to be provided.

Annexure-"IV"

Water Requirement Criterion: Unless otherwise specified in Annexure B, water requirement for fighting in different categories of occupancies shall be based on following.

Occupancy Category	Sprinkler Design Discharge Density (lt./min/sq.mt.)	Sprinkler Design Area (sq.mt.)	Max. area coverage/ Sprinkler (sq.mt.)	No. of House Streams* Fully other Sprinkled		Duration of Discharge (Min.)	
						Fully Sprinkled	Wet Riser Sprinkled
LEVEL-I	02.5	084	21	2	4	45	45
LEVEL-II	05.0	360	12	3	6	60	90
LEVEL-III	10.0	225	09	3	6	90	90

Note: *The discharge through a standard hose stream shall be taken as 567 lt./min.*

1. Estimation of Total Water Requirements Fully Sprinklered Buildings

Occupancy Category	Sprinkler (lt.)	Riser (lt.)	Total (lt.)	Wet Riser cum Down Comer (lt.)
LEVEL-I	9,450	51,030	60,480 (60,000)	1,02060 (1,00,000)
LEVEL-II	1,08,000	1,02,060	2,10,060 (2,00,000)	2,04,120 (2,00,000)
LEVEL-III	2,02,500	1,02,060	3,04,560 (3,00,000)	3,06,180 (3,00,000)

2. Water Storage Tanks

a. The design of the water storage tanks shall be as laid down in National Building Code of India.
b. The capacity of underground water storage tank shall not be more than 85% of the total water requirement.
c. The capacity of overhead tank shall not be less than 15% of the total water requirement.
d. The entire water requirement can be provided in over head tanks and pumping requirements shall be finalized in consultation with Chie Fire Officer.
e. Under ground water storage tank shall not be provided in the set back areas.

3. **Storage Requirements**

Occupancy Category	Under Ground Static Tank		Over Head Tank	
	Fully Spkd. (lt.)	Riser (lt.)	Fully Spkd. (lt.)	Riser (lt.)
LEVEL-I	50,000	85,000	10,000	15,000
LEVEL-II	1,70,000	1,70,000	30,000	30,000
LEVEL-III	2,50,000	2,50,000	50,000	50,000

4. Riser/Downcomer

a. The size of the riser/ downcomer shall be such that velocity of flow does not exceed 5 m/second subject to a minimum of 100 mm. diameter.
b. The number of riser/downcomer shall be calculated on the basis that if 30 mt. of delivery hose is laid, it reaches the farthest comer of the remotest compartment on the floor.
c. The riser/downcomer shall be provided in the staircase/staircase lobby in such a manner that it does not obstruct the means of escape.
d. Only single headed hydrants shall be used on the riser/downcomer.
e. The size of hose to be provided with the internal hydrants shall be 50 mm diameter and with 63 mm diameter instantaneous male/female couplings.
f. Diffuser branch shall only be provided in the hose boxes.
g. In case of partially sprinklered building tapping from the wet riser is permitted for sprinkler feed.
h. In case of fully sprinklered building separate rising mains and pumps shall be used for sprinkler system and wet riser.

5. Selection of Pumps

a. Pumping requirement shall be met by a single pump or combination of pumps.
b. If more than one pumps are installed to meet the pumping requirement they shall be so arranged that they come into operation one after another depending upon fall in pressure in the mains and the combined pumping capacity shall be 20% more than the actual pumping capacity needed.
c. Jockey pump shall be selected to give minimum 3% and maximum 5% of aggregate pumping requirement at the same pressure to that of the main pump subject to maximum discharge of 450 LPM.
d. Standard pumps shall only be used having discharge capacity as 1800 LPM, 2280 LPM 2850 LPM & 4550 LPM.

e. The pump shall be capable of giving the pressure as shown in the table below:

Occupancy Category	Pressure* At Terrace Level	
	Fully Spkd. ***(Kgf./Cm2)***	**Riser*(Kgf./Cm2)***
LEVEL-I	3.5	3.5
LEVEL-II	3.5	5.5
LEVEL-III	5.5	7.0

** Orifice plates shall be installed at the hydrants on rising mains / yard hydrants to ensure that the pressure does not exceed 7 Kgf./Cm^2.*

Annexure-"V"
Affidavit/Undertaking (For Handing Over Land Required For Road Widening)

That I/We have submitted building plans for construction of building on plot No..... Block No.....located at.....to the..... under Sanction …… of the …….. Act for favour of sanction.

I/We undertake to hand over the land required for road widening as shown on site plan to concerned Authority free of cost as and when asked by……to do so.

I/We have already understood that the…….is granting sanction on the basis of my undertaking.
If I/We fail to do so, the sanction so accorded shall be revoked and construction done as consequence thereof shall be deemed to have done unauthorisedly and shall be actionable u/s ……..of the ……Act.

DEPONENT

Verification

I/We verify that the contents of the above undertaking are correct to the best of my knowledge and belief and nothing material has been concealed there from.

DEPONENT

By Order of the governor of Bihar,
Satish Kumar Singh,
Special Secreatary.

अधीक्षक, सचिवालय मुद्रणालय,
बिहार, पटना द्वारा प्रकाशित एवं मुद्रित।
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