

SECTION – A ADMINISTRATION

1. SHORT TITLE, EXTENT AND COMMENCEMENT

- 1.1 **Short title:** - These byelaws may be called the Meghalaya Building-Bye Laws 2011.
- 1.2 **Extent:** - These byelaws shall apply to all the Master Plan Areas and Scheme Areas notified or to be notified from time to time within the State.
- 1.3 **Commencement:** -These byelaws shall come into force on such date as the Meghalaya Urban Development Authority may make Notification in the Official Gazette.
- 1.4 **Applicability:** - They shall apply to the building activity given in 1.4.1 to 1.4.4 below: -
- 1.4.1. When a building is newly erected, the bye-laws shall apply to the designs and construction of the building
- 1.4.2. Where the whole or any part of the building is dismantled/repaired.
- 1.4.3. Where the whole or any part of the building is demolished.
- 1.4.4. Where the occupancy or use of the building is changed.

2. DEFINITIONS

- 2.0. For the purpose of the Byelaws the following definitions shall have the meaning indicated against each.
- 2.1. **‘Act’** Means the Meghalaya Town and the Country Planning Act, 1973 (Assam Town and Country Planning Act, 1959, Assam Act, 11 of 1960 as adopted by Meghalaya) and or as amended from time to time.
- 2.2. **‘Alteration:’** - Means a change from one occupancy to another or a structural change or change of any component of the building.
- 2.3. **‘Approved’** - Means approved by the Chairperson of Meghalaya Urban Development Authority or any Officer to whom the power has been delegated by the Chairperson of the Authority.
- 2.4. **‘Applicant’:** - Means every person who writes to the Authority of his or her intention to erect or re-erect or alter a building.
- 2.5. **‘Authority:’** - Means the Meghalaya Urban Development Authority.

- 2.6. **'Balcony'**:- Means the horizontal projection of a building including handrail, balustrade or a parapet to serve a passage or a sit-out place.
- 2.7. **'Basement or Cellar'**: - The lower storey of a building which is minimum 2/3rd of the floor height below the finished ground level.

The construction of the basement shall be allowed by the Authority in accordance with the land use and other provisions specified under the Master Plan.

Where the use, set backs, and coverage is not provided in the Master Plan provisions, the same shall be allowed to be constructed in the plot leaving mandatory set backs and can be put to any of the following uses:

- a. Storage of house-hold or other goods of non- flammable materials;
- b. Dark room;
- c. Strong-rooms, bank cellars, service floors etc.
- d. Air-conditioning equipment and other machines used for services and utilities of the building;
- e. The use of basement for services & hotel infrastructure for the following items shall not to be counted in Floor area.
"Air conditioning Plant and Equipment, Water storage, Boiler, Electric Sub-Station, HT and LT panel rooms, Transformer Compartment, Control Room, Air conditioning Plant and Equipment, Water storage, Boiler, Electric Sub-Station, HT and LT panel rooms, Transformer Compartment, Control Room, Pump House, Generator Room and other mechanical services and equipment required for the maintenance of the Building".
- f. Parking places and garages;
- g. Note: Uses of basement from 2.7 (i) to (vi) shall not be reckoned for the purpose of FAR.
- h. The basement shall not be used for living purposes. However, use of a basement floor for living purpose or functional use will be permitted provided the requirement of proper lighting, ventilation & environmental conditions as prescribed are complied.
- i. The basement shall have the following requirements:
 - (i) Every basement shall be in every part at least 2.4 m in height from the floor to the underside of the roof slab or ceiling.
 - (ii) Adequate ventilation shall be provided for the basement. The standard of ventilation shall be the same as required by the particular occupancy according to Bye-laws. Any deficiency may be met by providing adequate mechanical ventilation in the form of blowers, exhaust fan (one exhaust fan for 50 sq.m. of basement area), air-conditioning system etc.
 - (iii) The minimum height of the ceiling of any basement shall be 0.9 m and maximum of 1.2 m above the average surrounding ground level.

- (iv) Adequate arrangement shall be made such that surface drainage does not enter the basement.
 - (v) The walls and floors of the basement shall be water-tight and be so designed that the effect of the surrounding soil and moisture, if any, are taken into account in design and adequate damp proofing treatment is given.
 - (vi) The access to the basement shall be separate from the main and alternate staircase providing access and exit from higher floors. Where the staircase is continuous 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 envelop subject to the provision of (iv).
 - (vii) Bathroom and toilet shall be permitted in the basement unless the sewer levels permit the same and there is no chance of back flow and flooding of sewerage. If permitted, this shall be placed against an external wall of the basement.
 - (viii) Basement shall be adequately lighted and ventilated. The area of bathroom and toilet so permitted in the basement shall be counted towards FAR calculations.
- 2.8. **'Building Envelop'** – Means the horizontal spatial limits upto which a building may be permitted to be constructed on a plot which shall not exceed the clear setbacks as prescribed in the byelaws.
- 2.9. **'Chajja'**: - Means a projection or horizontal structure overhang usually provided over opening of external walls to provide protection from sun and rain or for architectural consideration.
- 2.10 **'Chimney'**:- Means an upright shaft containing one or more flues provided for the conveyance to the outer air of any product of combustion resulting from the operation of any heat producing appliance or equipment employing solid or gaseous fuel.
- 2.11 **'Coverage'**: - Means the quotient obtained in the terms of percentage by dividing the plinth areas of Ground floor by plot area, i.e.
 Coverage:
$$\frac{\text{Plinth area of the Ground floor} \times 100}{\text{Plot area}}$$
- 2.12 **'Density'**: - Means concentration of population expressed in terms of number of persons per hectare in a particular area.
- 2.13. **'Drain'**: - Means a conduit, channel or pipe for carriage of storm water, sewage, waste water or other water borne wastes in a building drainage system.

- 2.14 **'Demolished'**: - Means total dismantling of an existing building to erect a new structure.
- 2.15 **'Drainage'**: - Means the removal of any liquid by a system constructed for this purpose.
- 2.16 **'Exit'**: - Means a passage channel or means of egress from any building or floors area to a street or open space.
- 2.17 **'Floor'**: - Means the lower surface in a storey which one normally walks in a building. The general terms 'Floor' shall also refer to a basement floor.
- 2.18 **'Floor' Area Ratio'** (F.A.R):- The quotient obtained by dividing the total covered area (plinth area) on all floors by the area of a plot, i.e.,

$$\text{F.A.R.} = \frac{\text{Total covered area of all floors}}{\text{Plot area}}$$

- 2.19 **'Ground Level'**: - Means the finished surface after formation cutting of the site from where erection of the building starts.
- 2.20 **'Habitable Room'**: - Means a room occupied or designed for occupancy by one or more persons for study, living, sleeping, eating, cooking, if it is used for a living room, but not including bathrooms, water closet compartments, laundries, serving & store pantries corridors, cellars attics and space that are not used frequently or during extended period.
- 2.21 **'Height of a Room'**:- Means the vertical distance measured from the finished floor surface to the finished ceiling/slab surface. The height of a room with a pitched roof means the average height between the finished floor surface and the bottom of the eaves and the bottom of the ridge.

2.22 **HEIGHT OF FLOORS:-**

Minimum height of floors in building at any point shall be 3.0 Mts.

Provided that in case of folded roof the minimum height of 3.0 Mts. shall be measured from the lowest point of the fold.

Provided that in case of gabled or slopping roof the minimum height below the lowest part of roof, shall not be less than 2.2 Mts. and an average of the rooms shall not be less than the minimum prescribed here above.

Provided further that in case of trussed-roof, the minimum height shall be measured from the pavement to bottom of the tie beam.

Provided that for verandah, Bathroom, W.C., passages, puja room, store room, stair cabin, minimum height shall be 2.20 mts.

2.23 **Height Exceptions:-**

The following appurtenant structures shall not be included in the height of the building unless the aggregate area of such structures, including pent-houses, exceeds one-third of the area of the roof of building upon which they are erected:

- a) Roof tanks and their supports (with support height not exceeding 1 m);
- b) Ventilating, air-conditioning, lift rooms and similar service equipment;
- c) Stair cover (MUMTY) not exceeding 3 m in height; and
- d) Chimneys, parapet walls and architectural features not exceeding 1.2 m in height.

2.24 **Licensed Architect/Engineer/Town Planner/Firm etc'** - Means a qualified Architect/Engineer/Town Planner/Firm etc who has been given license by Meghalaya Urban Development Authority.

Note: Presently, the legislation for profession of architecture is applicable in the country in the form of Architects Act 1972. Whereas, for other professions and professionals like engineers, developers/promoters for taking up any project there is no legislative framework available/applicable in the country.

In the absence of any such legislation, the appropriate qualifications, service conditions, professional fees and charges in the engineering profession etc are varying and are not based on any uniform formula. Keeping the above in view, the qualifications/responsibilities and duties of Professionals are given in Appendix A.

2.25. **'Ledge'**: - Means a shelf-like projection, supported in any manner whatsoever, except by means or vertical supports within a room itself but not having projection wider than one meter.

2.26. **'Loft'**: - Means a structure providing an intermediate storage space between two floors or a residential space in a pitched roof, above normal floor level with a maximum height of 1.5 meter and which is used for storage purpose.

2.27. **'Mezzanine floor'**: - Means an intermediate floor between any two floors above ground in all type of buildings provided the same is counted as part of total permissible floor area ratio and height of the building. Mezzanine floor may be permitted with the minimum height of 3.0 mt.

2.28. **"Multi-storeyed Building or High Rise Building"** – A building above 4 storeys, and/or a building exceeding 15 meters or more in height. However, chimneys, cooling towers, boiler rooms/lift machine rooms, cold storage and other non working areas in case of industrial buildings and water tanks, and architectural features in respect of other buildings may be permitted as a non

high rise building. Buildings less than 15 meters including stilt/basement/parking floors stand excluded from the definition of high rise buildings.

- 2.29. **'Open Space'**: - Means an area forming an integral part of the plot, left open to the sky.
- 2.30. **'Owner'**: - Means a person who receives the rent for use of land or building, or would be entitled to do so if they were let.
- 2.31. **'Occupancy'**: - Means the change of function or use of the building.
- 2.32. **'Parapet'**: - Means a low wall or railing built along the edge of a roof or floor not less than 90cm in height.
- 2.33. **'Plinth'**: - Means the portion of a structure between the level of the ground and the floor immediately above the ground.
- 2.34. **'Porch or Portico'**: - Means a roof cover supported on pillars or cantilevered for the purpose of pedestrian or vehicular approach to a building.
- 2.35. **'Sanctioned Plan'**:- Means the set of plans and specification submitted under byelaw 4 in connection with a building and duly approved and sanctioned by the Authority.
- 2.36. **'Set back Line'**: - Means the open space from the proposed building envelop to the plot boundaries and laid down in each case by the Authority beyond which nothing can be constructed towards the boundaries.
- 2.37. **'Site or Plot'**: - Means a piece of land enclosed by the boundaries.
- 2.38. **'Storey'**: - Means the portion of building included between the surface of any floor and the surface of the floor next above it.
- 2.39. **'To erect'**: - Means
- a) To erect a new building on any site whether previously built upon or not;
 - b) To re-erect any building of which portion have been pulled down, burnt or destroyed;
 - c) Conversion from one occupancy to another; and
 - d) To carry out alterations.
- 2.40. **'Materials Alteration'**: - Means a change of use in building materials in any existing building.
- 2.41. **'Total floor area'**: - Means the area of all floors of building including habitable, basement and mezzanine floor.

- 2.42. **'Travel distance'**: - Means the distance an occupant has to travel to reach the exit.
- 2.43. **'Verandah'**: - A covered area with at least one side open to the outside.
- 2.44. **'Natural Hazard'** - Means the probability of occurrence, within a specific period of time in a given area, of a potentially damaging natural phenomenon.
- 2.45 **'Natural Hazard Prone Areas'** - Means areas likely to have moderate to high intensity of earthquake or cyclonic storm, or significant flood flow or inundation or land slides/mud flows/avalanches, or one or more of these hazards.

Note: Moderate to very high damage risk zones of earthquakes are given as in Seismic Zones III, IV and V specified in IS:1893; moderate to very high damage risk zones of cyclones are those areas along the sea coast of India prone to having wind velocities of 39 m/s or more as specified in IS:875(Part 3;) and flood prone areas in river plains (Unprotected and protected) are indicated in the Flood Atlas of India prepared by the Central Water Commission, besides, other areas can be flooded under conditions of heavy intensity rains, inundation in depressions, back flow in drains, inadequate drainage, etc. as to be identified through local surveys in the development plan of the area and landslide prone areas as to be identified by State Government.

- 2.46 **'Lifeline Building'** – Means those buildings which are of post earthquake importance such as hospital building, power house building, telephone exchange building and the like.
- 2.47. **'Special Building'** – Means those buildings with large scale activities at a time such as Hotel of 4 star category &above, Public Institutions, Hospitals, Shopping malls with Multiplexes, I.C.T./ BPO's, Educational Institutions having a minimum plot area of 6000 sq.m and a minimum plinth area of 3000 sq.m.
- 2.48. **'Retrofitting'** - Means upgrading the strength of an unsafe building by using suitable engineering techniques.
- 2.49. **'Quality Control'** - Means construction quality and to control variation in the material properties and structural adequacy. In case of concrete, it is the control of accuracy of all operations, which affect the consistency, and strength of concrete, batching, mixing, transporting, placing, curing and testing.
- 2.50. **'Quality Audit'** - Means a requirement for an independent assessment by a third party, of the quality and seismic or cyclone resistant features of all the high-rise buildings in earthquake zone V. The quality audit report shall consists of conformance or non-conformance of structures with the technical specifications for earthquake and cyclone resistance and to suggest remedies/rectification if any.

- 2.51. **'Quality Assurance'** – Means that all planned and systematic actions necessary to ensure that the final product i.e. structure or structural elements, will perform satisfactorily in service life.
- 2.52. **'Compliance'** – Means a verification of the properties of construction materials based on test data and verification of the strength and structural adequacy for various components of buildings and structures.
- 2.53. **'Non-Structural Component'** - Those components of buildings, which do not contribute to the structural stability such as infill walls in RCC frame buildings, glass panes, claddings, parapet walls, chimneys etc.

3. PROCEDURE FOR BUILDING PERMISSION

- 3.1 Application for building permission
Every person who intends to erect, re-erect, or make material/structural alteration shall obtain building permit by giving an application in writing to the Authority in the prescribed form given in Form I, I(A) – (D). Application shall be accompanied by prescribed fees and five copies of building plan and one copy shall be retained in the office of the Authority for record after issue of permission or refusal.

Building plans and structural drawings for plinth area less than 500 sq.mts. are to be submitted in 5 sets of two sheets each i.e. first sheet=site plan, floor plans, sections and elevations, general specifications etc; second sheet=all structural drawings, seismic certificate, technical specifications etc.

- 3.2. All Government Departments including Central and Semi- Government Departments shall forward copies of their plans to the Authority for sanctioning except Defence Departments.

4. INFORMATION ACCOMPANYING APPLICATION FOR BUILDING PERMISSION

- 4.1. The application for building permission shall be accompanied by documentary evidence of plot ownership, the site plan, the building plan, general specification, Seismic certificate, Structural Design Basis Report and drawings etc.

- 4.1.1. Site Plan: - Shall be drawn to a scale not less than 1:200 and shall show
- (a) Boundaries of the plot with dimensions and contour intervals.
 - (b) Position of the plot in relation to the neighboring streets.
 - (c) Position of the building proposal in relation to North direction of the site.
 - (d) Plot area, plot coverage and F.A.R.
 - (e) Sewerage and surface drains, position and sizes of septic tank and soak pit in cubic dimensions of length, breath and depth.
 - (f) Any other particulars as prescribed by the Authority in the case of major proposals.

4.1.2. Building Plans, Site Plans, Section and Elevations accompanying the application shall be drawn to a scale not less than 1:100 and shall.

- (i) Include floor plans of all floors, indicate the use of each floor of the building.
- (ii) Shall indicate height of the building and parapet.
- (iii) Give dimensions of the projected portions.
- (iv) Include a roof plan indicating drainage and roof slope in case of building proposal having pitch roof(s).
- (v) Specify total floor area of the building.

4.1.3. Building Plans for Special Buildings: For Special buildings, the building sanction shall be done in two stages.

Stage 1: First stage for planning clearance

The following additional information shall be furnished / indicated in the building plans in addition to the item (i) to vi) of Building Bye Law 4.1.2

- (a) Access to fire appliances/vehicles with details of vehicular turning circle/and clear motorable access way around the building;
- (b) Size (width) of main and alternate staircase along with balcony approach, corridor ventilated lobby approach;
- (c) Location and details of lift enclosures;
- (d) Location and size of fire lift;
- (e) Smoke stop lobby/door where provided;
- (f) Refuse chutes; refuse chamber, services duct, etc.
- (g) Vehicular parking spaces
- (h) Refuge area if any;
- (i) Details of building service-air conditioning system with position of dampers, mechanical ventilation system, electrical services, boilers, gas pipes etc.
- (j) Details of exits including provision of ramps, etc. for hospitals and special risks.
- (k) Location of generator, transformer and switchgear room;
- (l) Smoke exhauster system if any;
- (m) Details of fire alarm system network;
- (n) Location of centralized control, connecting all fire alarm system, built in fire protection arrangements and public address system, etc.
- (o) Location and dimension of static water storage tank and pump room;
- (p) Location and details of fixed fire protection installations such as sprinklers, wet risers, hose reels, drenchers, co² installation etc. and
- (r) The proper signs/symbols and abbreviation of all fire fighting systems shall be shown in diligent as per the relevant I.S. code.

Stage 2: Second stage for building permit clearance

After obtaining the sanction for planning (Stage 1) from the Authority, a complete set of structural plans, sections, details and design calculations duly signed by registered engineer/structural engineer along with the complete set of details duly approved in Stage 1 shall be submitted. The building plans/details shall be deemed sanctioned for the commencement of construction only after obtaining the permit for Stage 2 from the Authority.

(a) Service Plans

The services plans shall include all details of building and plumbing services, and also plans, elevations and sections of private water supply, sewage disposal system and rainwater harvesting system, if any (Part 8 'Building Services' and Part 9 'Plumbing Services' of the National Building Code).

(b) Specifications

Specifications, both general and detailed, giving type and grade of materials to be used, duly signed by the registered architect, engineer, structural engineer or supervisor shall accompany the plans.

(c) Structural Sufficiency Certificate

The plans shall be accompanied by structural sufficiency certificate signed by the engineer/structural engineer and the owner jointly to the effect that the building is safe against various loads, forces and effects including due to natural disasters, such as, earthquake, landslides, cyclones, floods , etc as per Part 6 'Structural Design' of the National Building Code and other relevant Codes. The engineer/structural engineer shall also have the details to substantiate his design.

(d) Supervision

The notice shall be further accompanied by a certificate by the registered architect/engineer/structural engineer/supervisor/town planner undertaking the supervision.

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

- (a) Plastering and patch repairs;
- (b) Re-roofing or renewals of roof including roof of intermediate floors at the same height;
- (c) Flooring and re-flooring;
- (d) Opening and closing of windows leaves, ventilators and doors not opening towards other's properties and (or) public road/property;
- (e) Replacing fallen bricks, stones, pillars beam etc.
- (f) Construction or re-construction of sunshade not more than 75cms in width within one's land and not overhanging over a public street;

- (g) Construction or re-construction of parapet not more than 1.5 mt. in height and also construction or re-construction of boundary wall as permissible under these Bye-Laws;
- (h) White-washing, painting, etc. including erection of false ceiling in any floor at the permissible clear height provided the false ceiling in no way can be put to use as a loft etc;
- (i) Reconstruction of portions of buildings damaged by storm, rains, fire, earthquake or any other natural calamity to the same extent and specification as existed prior to the damage provided the use conforms to provisions of Master Plan/Zonal Plan;
- (j) Erection or re-erection of internal partitions provided the same are with in the purview of the Bye-Laws.

4.1.5. **Colour Scheme:** - The plans accompanying the applications may have the colour scheme as specified in Table I given below and indicated in the legend of the plans.

Table I Colouring of Plans

Sl. No.	Item	Site Plan		Building Plan	
		White Plan	Ammonia Print	White Plan	Ammonia Print
(1)	(2)	(3)	(4)	(5)	(6)
(i)	Plot lines	Thick Black	Thick Black	Thick Black	Thick Black
(ii)	Existing street	Green	Green	-	-
(iii)	Future street, if any	Green dotted	Green dotted	-	-
(iv)	Permissible building lines	Thick dotted black	Thick dotted black	-	-
(v)	Open spaces	No Colour	No colour	No colour	No colour
(vi)	Existing work	Black(outline)	Blue	Black	Blue
(vii)	Work proposed to be demolished	Yellow hatched	Yellow hatched	Yellow hatched	Yellow hatched
(viii)	Proposed work (see note 1)	Red filled in	Red	Red	Red
(ix)	Drainage and sewerage work	Red dotted	Red dotted	Red dotted	Red dotted
(x)	Water supply work	Black dotted thin	Black dotted thin	Black dotted thin	Black dotted Thin

NOTES

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

Specification: - General specifications giving type and grade of materials used shall accompany the application.

4.1.6. **Structural Design Basis Report and Seismic Certificate:** - The structural design Basis Report mentioned in Appendix-B and seismic certificate from a competent personnel as indicated in Appendix – A that design is relevant to Indian Standard Code of Practice as well as compliant to earthquake resistant design shall accompany the application.

4.1.7. **Ownership Title:** - Application shall also be accompanied by the attested copy of the Patta, sale/ Lease Deed etc.

4.1.8. **Signing of the Plan:** - All plans and Drawings shall be duly signed by the applicant and technical personnel having license with the Authority (The qualification of technical personnel shall be indicated at Appendix 'A'). The qualified technical personnel or group shall be licensed with the Authority and the license shall be valid for one calendar year after which it shall be renewed annually.

5. **DURATION OF SANCTION OF BUILDING PERMISSION**

The sanction once accorded shall remain valid up to three years. Fees for renewal and revalidation shall be $\frac{1}{4}$ of the fees paid earlier. However, in case of revalidation, the building permission shall be governed by the norms prevailing at the time the revalidated plan is being issued.

6. **NOTICE FOR COMMENCEMENT OF BUILDING WORK**

The owner before commencement of the work shall give a prior notice of 14 days to the Authority in prescribed proforma given, in Form II and the Authority will inspect the work following the receipt of the notice to verify the same.

7. **DEVIATION DURING BUILDING CONSTRUCTION**

For any deviation from the sanctioned plan during stage of construction, permission of the Authority shall be obtained and if the construction is not according to the approved plan, the Authority has the power to stop the construction and if the permission holder fails to comply with the notice served by the authority, the Authority is empowered to cancel the building permission and start proceeding against the permission holder as per provisions of Meghalaya Town and Country Planning Act, 1973 as amended from time to time.

8. GRANT OR REFUSAL OF BUILDING PERMISSION

The Authority may either sanction or refuse the permission or may sanction after modification as it may deem necessary and shall communicate its decision to the applicant in the prescribed form given in Form III & IV.

- a) The Authority must issue a receipt of receiving the application and thereafter within 20 days seek for modification, if any, required to be made in the proposal.
- b) On receiving all the modifications that have been sought for, the Authority must intimate the grant/refusal of the building permission in writing within 10 days after the receipt of the modified proposal. The Authority shall as far as possible advice on all the objections and modification so as to ensure their compliance.

The applicant must re-submit the proposal as per recommendations of the Authority within 60 days of receipt of the modifications sought for.

- c) In case all or any modifications have not been complied with, the refusal must be issued in writing and fresh application is to be sought for consideration.
- d) On fulfillment of 8(b) by the applicant, no further additional modification/clarification are to be sought from the applicant however, the Authority may attach terms and conditions thereon.
- e) For building proposals requiring no modifications the grant of building permission must be intimated by the Authority within 30 days after receipt of the application or else it will be deemed that the permission has been granted.

Note for 8(a): within the 20 days period, the Authority shall visit/investigate the site after giving a notice to the applicant.

- f) The issue or receipt of applications must be handled by the authorized personnel (s) of the Authority.
- g) Notwithstanding anything stated in the above regulations, it shall be incumbent on every person whose plans have been approved, to submit revised (amended) plans for any structural deviations proposed to be made during the course of construction of the building work and the procedure laid down for approval of plans mentioned here to before shall apply to all such revised plans.
- h) Revocation of Sanction – The Authority may revoke any building permission issued, wherever there has been any false statement, suppression or any misrepresentation of material facts in the application on which the building permission was based.

9. COMPLETION CERTIFICATE

On completion of the building, the applicant and the licensed technical personnel as the case may be shall give notice to the authority in prescribed form as given in Form V and V(A).

10. OCCUPANCY CERTIFICATE

- (i) Occupancy Certificate shall be mandatory for all buildings. No person shall occupy or allow any other person to occupy any building or part of a building for any purpose unless such building has been granted an Occupancy Certificate by the Authority.
 - (ii) The owner shall submit a notice of completion through the supervising registered architect/ licensed technical personnel along with prescribed documents and plans to the Authority. The Authority on receipt of such notice of completion shall undertake inspection with regard to the following aspects:
 - a) Number of floors
 - b) External setbacks
 - c) Parking space provision
 - d) Abutting road width and shall communicate the approval or refusal of the Occupancy Certificate within 15 days or may issue the same after levying and collecting compounding fee, if any.
 - (iii) For all high rise buildings, the work shall be subject to inspection by the Fire Services Department and the Occupancy Certificate shall be issued only after clearance from the Fire Services Department with regard to Fire Safety and Protection requirements.
 - (iv) The functional/line agencies dealing with electric power, water supply, drainage and sewerage shall not give regular connections to the building unless such Occupancy Certificate is produced,
 - (v) The Municipal Authority shall register only the permitted built up area as per the sanctioned building plan and only upon producing and filing a copy of such sanctioned building plan. On the Registration Document it should be clearly mentioned that the registration is in accordance with the sanctioned building plan in respect of setbacks and number of floors.
 - (vi) The financial agencies/institutions shall extend loan facilities only to the permitted built up area as per the sanctioned building plan.
- 10.1. After completion of the building, an occupancy certificate as given in Form VI shall be issued by the Authority to confirm that such building is fit for occupation.
- 10.2. Temporary certificate of occupancy may be issued upon request by the applicant and the licensed technical personnel provided that completed

portion(s) of a part of the entire work may be occupied safely without endangering life or safety of the occupants.

- 10.3 The Authority issuing occupancy certificate before doing so shall ensure that wherever applicable, the following are complied from consideration of safety against hazard.
- (i) A certificate of Competent Authority or Lift Inspector has been procured and submitted by the owner, regarding satisfactory erection of lift.
 - (ii) The Certificate of Competent Authority and or Fire Department for completion, and or fire requirements as provided in these byelaws has been procured and submitted by the owner.
 - (iii) If any project consists of more than one detached or semi detached building / buildings in a building unit and any building / buildings thereof is completed as per provisions of Building Bye-Laws (such as Parking, Common Plots, Internal roads, Height of the Building, Infrastructure facilities, lift and fire safety measures), the Authority may issue occupancy certificate for such one detached or semi detached building / buildings in a building unit. The occupancy certificate shall not be issued unless the information is supplied by the Owner and the Architect on Record/Engineer on Record concerned in the schedule as prescribed by the Competent Authority from time to time.

11. OFFENCES AND PENALTIES

Any person who violates the building permission sanction issued by the Authority or contravenes with the provisions of the bye-laws or who interferes or obstruct any authorized personnel in the discharge of his duties shall be guilty of an offence. The Authority shall: -

- (i) Punish the person by a fine as fixed by the Authority or as per the Meghalaya Town and Country Planning Act, 1973.
 - (ii) Take suitable action which may include demolition of un-authorized works, sealing of premises, prosecution and criminal proceeding against the offender, in pursuance of relevant laws in force, as decided by the Authority.
 - (iii) Take suitable action against licensed technical personnel and license may be withdrawn in case of an offence as decided by the Authority.
- a) The Authority reserves the right to take action and to debar/blacklist the consultant/technical personnel, if found to have deviated from professional conduct or to have made any misstatement or on the account of misrepresentation of any material fact or default either in authentication of a plan or in the supervision of the construction against the building byelaws and the sanctioned building plans.

- b) If the Authority finds at any time any violation of the building byelaws or misrepresentation of fact, or construction at variance with the sanction or building byelaws, inclusive of the prescribed documents, the Authority shall be entitled to 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.
- c) Before debarring or blacklisting a professional if found to be indulging in professional misconduct or here she/he has misrepresented any material fact as per (a) and (b) above, the Authority shall give him a show cause notice with personal hearing and shall pass an order to debar him/her for submission and supervision of the construction with full justification for the same. An appeal against this order shall lie with the Appellate Authority.

12. UNSAFE BUILDING

12.1. Any building above 250 sq.mts in plinth area reported to be unsafe or damaged shall be examined by a technical committee to be constituted by the Authority and shall make a written record of its finding. The Authority shall give notice to the owner or occupier to complete the specified repairs or improvements or to demolish the building within a stated time.

12.2. Other buildings below 250 sq. mts. shall be examined by the technical branch of the Authority and shall make a written record of its finding. The Authority shall give notice to the owner or occupier to complete the specified repairs or improvements or to demolish the building within a stated time.

12.3 DISREGARD OF NOTICE

If the owner fails to comply with the notice, the Authority can itself demolish or remove the structure and realize the cost of demolition through suitable method, or the Authority may take assistance of the Police department to remove the structure as it deem fit.

12.4 BUILDING TO BE VACATED

The Authority may on prima facie evidence of inspections/findings that structural elements in a building or building construction appear to be unsafe, may declare the building to be vacated until such records and evidences are produced by the applicant and his/her consultant engineer. The Authority shall keep a record of its findings in detail.

13. ARCHITECTURAL CONTROL

Any building proposed to be built in an important area of the city or in the case of important monumental building or proximity to building of historical importance, the building schemes may be referred to a broad base committee comprising of a panel of Architects, Planners and non-Governmental Organizations to be chaired by Chairperson of Meghalaya Urban Development Authority who will be the agency to identify such areas.

The identified areas, which need protection, shall be referred to the committee who in turn will be made responsible to protect such areas.

14. MAINTENANCE OF BUILDINGS

In case of building older than fifty years, it shall be the duty of the owner of a building, to get his building inspected by a Registered Structural Engineer (RSE) within a year from the date of coming into force of these byelaws. The Structural Inspection Report as given in Appendix –C, shall be produced by the owner to the Authority. If any action, for ensuring the structural safety and stability of the building is to be taken, as recommended by Registered Structural Engineer, it shall be completed within five years. For other buildings, the owner shall get his building inspected after the age of building has crossed forty years. The procedure shall be followed as per above byelaw.

15. PROTECTIVE MEASURES IN NATURAL HAZARD PRONE AREAS

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

16. FEES FOR BUILDING PERMISSION

- 16.1. The rates for residential, commercial, institutional, apartment, educational, storage, industries, major proposals etc., shall be chargeable as per the rate approved by the Government from time to time. The rate for Special Building category shall be fixed at a higher rate
- 16.2. For erection of Reception & Transmission Towers, an installation fee shall be charge and subsequently annual renewal fee shall be chargeable as per the rates approved by the Government from time to time.
- 16.3. No fees for building permission is required for plot area less than 75 Sq.m (LIG/EWS categories).
- 16.4. The fixation of these fees shall be governed by the following: -
 - (i) For erection of new building shall be as per Schedule of Fees.

- (ii) For re-erection of existing building the fees chargeable shall be the same as for erection of new building.
- (iii) For addition and alteration in the existing building, the fees shall be chargeable on the added portion only.
- (iv) For revised plan of an already sanctioned building a processing fee as fixed by the Authority and approved to by the Government shall be paid by the applicant.
- (v) For change of use and variation of rates, the fees chargeable shall be the difference between the two, subject to the conditions that
 - (a) The revised plan is in conformance with the building bye laws applicable for that particular use and the building plans are compatible for that use.
 - (b) No fees to be refunded in case there is change of use of higher rate to lower rate, e.g. Commercial to residential use.
- (vi) For renewal of building permission, the processing fees as fixed by the Authority and approved to by the Government shall be paid and the validity shall be 18 months.

17. INSPECTION

General Requirements: - The building unit intended to be developed shall be in conformity with byelaw on requirement of site. Generally all development work for which permission is required shall be subject to inspection by the Authority as deemed fit. For Grade I & II the applicant shall keep a board at site of development mentioning the holding number , plot number, sub plot number, permission number, name of owner, name of Architect on Record, Engineer on Record, Developer, Structural Engineer on Record, Construction Engineer on Record or whichever is applicable.

All construction work shall be subject to inspection as prescribed in Forms VII and VIII by the Authority periodically.

- (a) On receipt of notice of commencement of work, the owner and the consultant architect/licensed technical personnel supervising the construction shall be present at site on the day and time of giving the alignment of the building(s).
- (b) After excavation of the foundation pits or trenches the owner and the consultant architect/licensed technical personnel supervising the construction shall be present at site on the day and time of giving the alignment of the building(s). It is mandatory for the Authority to inspect and approve the same. Any deviations or rectifications required shall be approved to by the authority within 14 days from the date of submission of the revised layout/ structures design drawing etc by the applicant during the above period, all construction activities shall be temporarily stopped by the applicant.

- (c) On completion of column upto plinth and before its casting, the owner and the consultant architect/licensed technical personnel supervising the construction shall be present at site on the day and time after giving due intimation of 14 days to the Authority for approval.
- (d) Any other stages of construction.
- (e) On completion of work after the receipt of completion certificate.

Non compliance on the part of the owner, the licensed technical personnel to comply with the above provisions would result in the Authority declaring the building “Unauthorized Building” and necessary action against the offenders will be initiated by the Authority.

It is incumbent on the owner and the consultants to intimate to the Authority of the association of the consultants involved in the building construction and the substitutions thereof during the period of construction till its completion.

SECTION – B GENERAL BUILDING REQUIREMENTS

18. REQUIREMENT OF SITES

Any piece of land shall be used as a site for construction provided;

- (i) The proposed use conforms to the Master Plan, Zonal Plan under Meghalaya Town & Country Planning Act, 1973.
- (ii) The site is properly drained or capable of being drained.
- (iii) The site have proper means of access.
- (iv) The site is not prone to land slide.
- (v) Generally, no earth cutting shall be permitted in order to achieve more no. of basements and all building proposals shall follow the slope profile of the plot and such earth cutting shall be limited to a maximum of 3.00 meters only. However the Authority may relax the same owing to site conditions and the maximum earth cutting height shall be upto the crest of the RCC wall being limited to 6.00 m only.

NO LAND SHALL BE USED AS A SITE FOR THE CONSTRUCTION OF BUILDING-

- (i) If the site is found to be liable to liquefaction as per soil survey report under the earthquake intensity of the area, except where appropriate protection measures are taken.

- (ii) If the Authority finds that the proposed development falls in the area liable to flooding, except where protection measures are adopted to prevent flooding damage.

19. REQUIREMENT OF SITE PLAN

- (i) In hilly terrain, the site plan should include location of landslide prone areas, if any, on or near the site, detected during reconnaissance. The Authority in such case shall cause to ensure that the site is away from such landslide prone areas.
- (ii) The site plan on a sloping site should also include proposals for diversion of the natural flow of water coming from uphill side of the building away from the foundation.

20. EXTERIOR OPEN SPACE

The building envelop shall be governed by the following minimum clear open space and setbacks:-

(i) Front setback

- (a) Every building abutting a street/footpath shall have a front setback with a minimum width of 3 meters from the front property line to the front building envelop.
- (b) In case the site fronts on two streets, both of which are major roads, then the front setback shall be a minimum of 3.00 m from the edge of both the roads' right of way.
- (c) In case the plot fronts two streets, one of which is a major road and the other a minor road but having the potential of being developed into a major road and or leading to an attraction zone(s), then the front setback shall be a minimum of 3.00 m from the edge of both roads' right of way.

(ii) Side and Rear setback

Every building shall have a minimum clear side and rear setback as prescribed in these byelaws. No use is permitted in this open space except steps and soak pit or in case this space is 3.00 m wherein parking of vehicles is allowed.

21. MINIMUM PLOT SIZES

- (i) **Residential:** - The minimum plot size shall be 93 Sq.m. In case of govt. lease properties the minimum plot size shall be as determined by the govt. from time to time.
- (ii) **For commercial:** - The minimum plot size shall be 50 Sq.m with a minimum width of 6 metres.

- (iii) **For services, light, cottage and handloom industries:** - The minimum size of plot shall not be less than 50 Sq.m. For automobile workshop a minimum plot size shall be 300 sq.m.
- (iv) **For medium industry:** - The minimum size of the plot shall be 10,000 sq.m.
- (v) **For auditorium, Museum, Library:** - The minimum size of the plot shall be 1000 sq. mts.
- (vi) **For LIG/EWS Income Housing:** - For categories falling under LIG/EWS, an income certificate from respective Deputy Commissioner is also required for waiving of building permission fees. Typical plan upto 50 mts sq. single storied building can be obtained from Meghalaya Urban Development Authority with nominal cost for obtaining building permission.

22. DISTANCE FROM ELECTRICITY LINES

No verandah, Balcony or the like shall be allowed to be erected or re-erected or new addition or alteration made to a building within a distance quoted in Table-II below in accordance with the Current Indian Electricity Rules and its Amendments from time to time.

TABLE-II

		Vertically	Horizontally
a)	Low and Medium Voltage lines and services lines	2.5 meter	1.2.metre
b)	High voltage lines upto and including 33,000 V.	3.7 meter	2.0 meter
c)	Extra high voltage lines beyond 33.00 V	3.7. meter	2.0 meters(plus 0.3 (plus 0.3 meter for every additional 30,000 V 30,000 V. or part thereof)

23. REQUIREMENT OF PARTS OF BUILDING

Table III - Minimum Size and Width of Different Component of residential Premises

Table III

Sl.No.	Component of Building	Min. requirement for plots upto 50 sq.mt.	
1.	Habitable Room	Area	7.50 sq.mt.
		Width	2.10 mt.
2.	Kitchen	Area	3.30 sq.mt.
		Width	1.50 mt.

3.	Pantries	Area	Not applicable
		Width	Not applicable
		Height	Not applicable
4.	Bathroom	Area	1.20 sq.mt.
		Width	1.00 mt.
5.	W.C.	Area	1.00 sq.mt.
		Width	0.90 mt.
6.	Combined Bath & W.C.	Area	1.80 sq.mt.
		Width	1.00 mt.
7.	Store	Area	No restriction
		Width	No restriction

TABLE- IV

SIZES AND AREA REQUIREMENT				
Sl. No.	Type of room	Maximum Floor Area	Minimum floor area	Minimum height
1.	Mezzanine floor	Maximum coverage of 33.3 % of plinth area of the room size	9.50 sq m.	3.00m
2.	Loft	Maximum coverage 26% of room sizes		1.50 m
3.	Ledge	Maximum coverage 25% of room sizes.		2.20 m.
4.	Garages		3 x 6 sq.m	2.40 m.
5.	Parapet			1.00 m.
6.	Staircase	Maximum height of riser =15 – 17.5 cm	Minimum length of tread = 27 – 30 cm	Max. no of steps in one single flight is 14

Note: Maximum height of riser & tread for all types of special buildings & those above 12m height shall 15 cm & 30 cm respectively.

24. OTHER REQUIREMENT OF PARTS OF BUILDING

24.1 Kitchen, Bathroom and Water closet:

Every kitchen, bathroom and water closet shall:-

- (i) be so planned that one of its wall shall open to external air by ventilator/exhaust fan etc.;
- (ii) No room containing water-closets shall be used for any purpose except as a lavatory and no such room shall open directly into any kitchen or cooking space by a door, window or other opening. Every room containing water-closet shall have a door completely closing the entrance to it.
- (iii) A flue, if found necessary for a kitchen and;
- (iv) In case of 4-storey building, a refuse chute may be provided. They shall be constructed with the I.S. 6024-1973 Code of practice for construction of refuse chute in multi-storey building.

TABLE V

Combined Ventilation Shaft for Kitchen and Toilet

Height of the building (in floors.)	Minimum size of ventilation shaft (in sq.m.)	Minimum width of the shaft (in m.)
Up to 4 floors	3.0	1.5

Provided further that no chajja shall be allowed in any ventilation shaft

Provided also that no ventilation shaft may be required for fully air-conditioned building, or mechanically ventilated toilet, kitchen, bath and water closet.

24.2 Mezzanine Floor:

In case of a Mezzanine floor the following conditions shall be provided:-

- (i) It conforms to the standards of living rooms as regards lighting and ventilation in case the area of mezzanine floor is 9.5 Sq.m or more.
- (ii) It is so constructed so as not to interfere under any circumstances with the ventilation of the space over and below it;
- (iii) Such mezzanine floor is not sub-divided into small compartments in case of residential buildings;
- (iv) Such mezzanine floor or any part of it shall not be used as a kitchen

24.3

Plinth:

The plinth of any part of a building shall be raised above ground level or road level provided adequate drainage of site is assured. In no case, this shall not be less than 0.45 meter. Every interior court-yard or garage shall be raised by a minimum of 0.15 meter above ground level and shall be satisfactorily drained.

24.4

Roof:

The roof shall be so constructed permit effective drainage of the rain water thereof by means of sufficient rain water pipes of adequate sizes, joined and fixed so as to ensure dampness does not occur in any part of the walls or foundations of the buildings or those of an adjacent building.

25.

PROVISION OF LIFTS

Provision of lifts shall be mandatory for Hospitals, Nursing Homes having more than one storey. For all other buildings viz. apartments, flats etc. more than 3 floors in height provision of a lift are mandatory.

26.

EXITS AND MEANS OF ACCESS

26.1

All exits and means of access shall be as per provisions of National Building Code 2005

26.2

Minimum width provisions for Stairways.

The following minimum clear width provisions shall be made for each stairway:

- (a) Residential building - 1.00 mt
- Other residential building e.g. flats
Hostels, group housing guest houses, etc. - 1.20 mt
- (b) Assembly buildings like Auditorium theatres and
Cinemas. - 2.0 mt
- (c) All other buildings including hotels - 1.5 mt
- (d) Institutional building like hospitals - 2.0 mt
- (e) Educational building like School & Colleges - 1.5 mt

26.3.

Minimum width provisions for passageway / corridors

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

- (a) Residential buildings, dwelling unit type - 1.00 mt
- Residential buildings, e.g. hostels etc - 1.20 mt

(b)	Assembly buildings like Auditorium theatres and Cinemas	-	2.00 mt
(c)	All other buildings including hotels	-	1.50 mt
(d)	Hospital, Nursing homes etc	-	2.40 mt

SECTION-C

STRUCTURAL SAFETY AND SERVICES

27. STRUCTURAL DESIGN

For any building construction work under the jurisdiction of these bye-laws, structural design/retrofitting shall only be carried out by a Structural Engineer on Record (SER) or Structural Design Agency on Record (SDAR). Proof checking of various designs/reports shall be carried out by the Authority as per Table-VI wherever applicable.

Generally, the structural design of foundations, elements of masonry, timber, plain concrete, reinforced concrete, pre-stressed concrete and structural steel shall conform to the provisions of part VI Structural Design Section-1 Loads, Section-2 foundation, Section-3 wood, Section-4 Masonry, Section-5 Concrete & Section-6 Steel of National Building Code of India (NBC), taking into consideration the Indian Standards as given below.

27.1 For General Structural Safety:

- i) IS: 456:2000 "Code of Practice for Plain and Reinforced Concrete
- ii) IS: 800-1984 "Code of Practice for General construction in Steel
- iii) IS: 801-2975 "Code of Practice for Use of Cold form Light Gauge Steel Structural Members in General Building Construction
- iv) IS 875 (Part 2): 1987 Design Loads (other than earthquake) for buildings and structures Part 2 Imposed Loads
- v) IS 875 (Part 3): 1987 Design Loads (other than earthquake) for buildings and structures Part 3 Wind Loads
- vi) IS 875 (Part 4): 1987 Design Loads (other than earthquake) for buildings and structures Part 4 Snow Loads
- vii) IS 875 (Part 5): 1987 Design Loads (other than earthquake) for buildings and structures Part 5 special Loads and Load Combination
- viii) IS: 883:1966 "Code of Practice for Design Structural Timber in Building
- ix) IS: 1904:1987 "Code of Practice for Structural Safety of Buildings: foundation"
- x) IS: 190:1987 "Code of Practice for Structural Safety of Buildings: Masonry Walls

- xi) IS: 2911 (Part I): Section 1: 1979 “Code of Practice for Design and Construction of Pile Foundation Section 1
- Part 1: Section 2 Based Cast-in-situ Piles
- Part 1: Section 3 Driven Pre-cast concrete Piles
- Part 1: Section 4 Based Pre-cast Concrete Piles
- Part 2: Timber Piles
- Part 3: Under Reamed Piles
- Part 4: Load Test on Piles

27.2 For Cyclone/Wind Storm Protection:

- xii) IS: 875 (3)-1987 “code of Practice for Design Loads (other than earthquake) for Buildings and Structures, Part 3, Wind Loads”
- xiii) Guidelines (Based on IS 875 (3)-1987) for improving the Cyclonic Resistance of Low rise houses and other building

27.3 For Earthquake Protection:

- xiv) IS: 1893-2002 “Criteria for Earthquake Resistant Design of Structures (Fifth Revision)”
- xv) IS: 13920-1993 “Ductile Detailing of Reinforced Concrete Structures subjected to Seismic forces-Code of Practice”
- xvi) IS: 4326-1993 “Earthquake Resistant Design and Construction of Buildings-Code of Practice (Second Revision)”
- xvii) IS: 13828-1993 “Improving Earthquake Resistant of Low Strength Masonry Buildings-Guidelines”
- xviii) IS: 13827-1993 “Improving Earthquake Resistant of Earthen Buildings-Guidelines”
- xix) IS: 13935-1993 “Repair and Seismic Strengthening of Buildings-Guidelines”

27.4 For Protection of Landslide Hazard:

- xx) IS: 14458 (Part 1): 1998 Guidelines for retaining wall for hill area: Part 1 Selection of type wall.
- xxi) IS: 14458 (Part 2): 1997 Guidelines for retaining wall for hill area: Part 2 Design of retaining/breast wall.
- xxii) IS: 14458 (Part 3): 1998 Guidelines for retaining wall for hill area: Part 3 Construction of dry stone walls
- xxiii) IS: 14496 (Part 2): 1998 guidelines for preparation of landslide-Hazard zonation maps in mountains terrains: Part 2 Macro-zonation.

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

28. Structural Design Basis Report:

In compliance of the design with the above Indian Standard, the Structural Engineer on Record will submit a structural design basis report in the format given in Appendix-B covering the essential safety requirements specified in the Standard.

29. Seismic Strengthening/Retrofitting:

Prior to seismic strengthening/retrofitting of any existing structure, evaluation of the existing structure as regards vulnerability in the specified wind/seismic hazard zone shall be carried out by a Registered Structural Engineer/Registered Structural Design Agency. If as per the evaluation of the Registered Structural Engineer/Registered Structural Design Agency, 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: (a) for masonry buildings reference is to be made to IS:4326 and IS: 13935 and (b) for concrete buildings and structures reference to be made to BIS code on evaluation and seismic strengthening for retrofitting of RCC buildings under preparation at present.

30. Review of Structural Design:

- (i) The Competent Authority shall create a Structural Design Review Panel (SDRP) consisting of Senior Structural Design Engineers on Record and Structural Design Agencies on Record, whose task will be to review and certify the design prepared by Structural Engineer on Record or Structural Design Agency on Record whenever referred by the competent authority.
- (ii) The Reviewing Agency shall submit addendum to the certificate or a new certificate in case of subsequent changes in structural design
- (iii) Table-VI Gives requirements of SDRP for structures of different complexities.

TABLE-VI

PROOF CHECKING REQUIREMENTS FOR STRUCTURAL DESIGN

Sl. No.	TYPE OF STRUCTURE	SUBMISSION FROM SER OR SDAR	TO BE PROOF-CHECKED
1	HIGHRISE BUILDING, BUILDINGS ABOVE 2000M ² PLINTH AREA AND MORE THAN GROUND + 3 (RCC/STEEL FRAME STRUCTURE)	SDBR*	TO BE CHECKED
		Preliminary design	TO BE CHECKED
		Structural design/drawings	TO BE CHECKED
2	PUBLIC BUILDINGS WITH MORE THAN 1000 M ² PLINTH AREA GROUND + 3 AND ABOVE	SDBR*	TO BE CHECKED
		Preliminary design	TO BE CHECKED
		Structural design/drawings	TO BE CHECKED
3	A. SPECIAL STRUCTURES B. SPECIAL BUILDINGS	SDBR*	TO BE CHECKED
		Preliminary design	TO BE CHECKED
		Structural design/drawings	TO BE CHECKED

*** SDBR- STRUCTURAL DESIGN BASIS REPORT**

Notes:

- Public building means assembly of large number of people including schools, hospitals, courts etc.
- Special structure means large span structures such as stadium, assembly halls, or tall structures such as water tanks, TV tower, chimney, etc. and the requirement by the Competent Authority for third party verification will depend on the type of structure.

31. Supervision:

All construction including load bearing buildings upto 3 storeys shall be carried out under supervision of the Construction Engineer on Record (CER) or Construction Management Agency on Record (CMAR).

32. Structural Requirements of Low Cost Housing:

Notwithstanding anything contained herein, for the structural safety and services for development of low cost housing, the relevant provisions of applicable IS Codes shall be enforced.

33. QUALITY OF MATERIALS AND WORKMANSHIP

All materials and workmanship shall be of good quality conforming generally to accepted standards of Bureau of Indian Standards Specification and codes as included in Part V Building Materials and part VIII Constructional Practices and Safety of National Building Code of India 2005.

34. QUALITY CONTROL AND INSPECTION

34.1. **Inspection:** - All the construction for buildings in Grade I and II, 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).

34.2. **Certification of safety in quality of construction:** - Quality auditor on Record (QAR) or Quality Auditor Agency on Record (QAAR) shall give a certificate of quality control as per proforma given in Appendix-D. Quality Inspection Programme to be carried on the site shall be worked out by Quality Auditor on Record/Quality Audit Agency on Record, in consultation with the owner, builder, Construction Engineer on Record/Construction Management Agency on Record.

35. BUILDING SERVICE

The planning, design and installation of lifts and escalators shall be carried out in accordance of part VIII Building Services, section 2 Electrical Installations, Section 3-Air Conditioning and heating, Section V Installation of lifts and Escalators of National Building Code of India 2005.

36. PLUMBING SERVICES

The planning, design, construction and installation of water supply, drainage and sanitation and gas supply system shall be in accordance with Part IX Plumbing

services Section I-Water supply, section 2-Drainage and sanitation and Section 3 – Gas supply of National Building Code of India 2005.

37. FIRE SAFETY DETECTION AND EXTINGUISHING SYSTEM

- (i) The Authority while according permission shall follow the Code of Practice and Standards of Requirements recommended in the National Building Code of India.
- (ii) Fire protection and extinguishing system shall conform to accepted standards and shall be installed as recommended in the National Building Code of India and to the satisfaction of Directorate of Fire Services.

38. PROTECTION AGAINST HAZARDS

38.1. PROTECTION OF AREAS FROM EARTHQUAKES

- i) In those areas where there are no dangers of soil liquefaction or settlements or landslides, all building structures and infrastructures in such areas should be designed using the relevant Indian Standards as provided in the Building Regulations and the National Building code.
- ii) Soils subjected to liquefaction potential under earthquake shaking can be improved by compaction to desired relative densities, so as to prevent the possibility of liquefaction.
- iii) Buildings and structures could be founded on deep bearing piles going to non-liquefiable dense layers.
- iv) Steep slopes can be made more stable by terracing and construction of retaining walls and breast walls, and by ensuring good drainage of water so that the saturation of the hill slope is avoided.
- v) Any other appropriate engineering intervention to save the building structures or infrastructure from the fury of the earthquake.

Note: The protective action given under (ii) and (v) will usually involve large amount of costs and should only be considered in the case of large and costly structures. For ordinary buildings the cost of improvement of the site will usually be uneconomical, hence bad sites should be excluded by Land Use Zoning.

38.2. PROTECTION FROM CYCLONIC WIND DAMAGE

- i) Buildings, structures and infrastructures in the cyclone prone areas should be designed according to the Indian Standards and Guidelines as provided in the Regulations and the National Building code.
- ii) Light utility structures used for electrical transmission and distribution and towers for communications, chimney stacks of industrial structures require special design considerations against the cyclonic wind pressure, suction and uplifts.
- iii) In case the buildings, structures and infrastructures are founded on marine clay deposits it will be advisable to adopt either under-reamed or long piles which should penetrate the marine clay layer and rest on dense **sand stratum**, or individual column footing with a reinforced concrete beam located at the level of the ground, or a continuous reinforced concrete strip footing, using a very low bearing pressure.

- iv) Wherever the topsoil could become slushy due to flooding, the top layer of 30 cm depth of soil should not be considered for providing lateral stability.\
- v) In storm surge prone areas, it will be preferable to construct the community structures, like schools, cyclone shelters, etc. by raising the level of the ground protected by provision of retaining walls at sufficient distance away from the building taken to such depth that no erosion takes place due to receding storm surge. Alternatively, construct the community structures on stilts with no masonry or bracing upto the probable maximum surge level.

38.3. PROTECTION OF AREAS FROM FLOODS

This may require one or more of the following actions:

- i) Construction of embankments against the water spills from the source of flooding like rivers, large drains etc.
- ii) Construction of high enough embankments/bund around the planning area.
- iii) Raising the planning area above the high flood level.
- iv) Construction/improvement of drainage paths to effectively drain the water from the planning area.
- v) Construction of buildings and structures on deep foundations going below the depth of scour or on stilts with deep enough foundations under water.
- vi) Flood proofing works such as the following:
 - Providing Quick Drainage facility, consisting of
 - Revitalization of secondary and primary drainage channels after establishing the drainage blockage points;
 - Provision of additional waterways;
 - Clearing of clogged cross drainage works;
 - Providing Human and Animal Shelters for population living within embankments in the form of raised platform or use of available high ground.
- vii) Anti-erosion actions in affected areas.
- viii) Any other suitable measure.

Note: Similar protection methods could be used against flooding caused in cyclone prone areas by high intensity rains or by the storm surge. The concept of land zoning should be kept in mind for areas where protection works are taken up to decide inter-se priority for location of structures considering possibility of failure of protection works during extreme disaster events.

SECTION – D

MINIMUM SETBACKS, PARKING SPACES & HEIGHT STIPULATION FOR ALL TYPES OF BUILDINGS

39. Parking Space

- (a) No off-street parking space shall be less than 15 sq.m. (3.0 m in width and 5.0 m in length), for a motor car, with a minimum head room of 2.4 m, if parked in a covered area.
- (b) The minimum width of circulation driveway to be provided for adequate maneuvering of vehicles shall be 4.00 m for cars and 5.00 m for trucks exclusive of parking space referred to in (1) above. However, a projection from a height above 5.50 m from the ground level may be permitted keeping the mandatory open space open to sky
- (c) The parking layout plan shall be so prepared that the parking space for each vehicle becomes directly accessible from driveway or circulation driveway or aisles. However stack car parking arrangement will be allowed in such a way that every car can be moved by shifting not more than one car.
- (d) The Parking spaces shall be located beyond the mandatory setback spaces as provided in these Bye-Laws.
- (i) For building with different uses, the area of parking space shall be worked out on the basis of respective uses separately and parking space to be provided for the total number of vehicles thus required.
- (ii) In case of a plot containing more than one building, parking requirement for all buildings shall be calculated on the basis of consideration of the area of respective uses.

The Minimum Off-Street Parking space shall be as shown in table-VII below.

Table- VII

Sl. No	Type of occupancy	One parking space for every	Size of car parking space
1.	Commercial	50 sq.m. of floor area.	3m x 5m
2.	Residential & Apartment Houses (flats)	100 sq.m. of floor area	3m x 5m
3.	Offices	100 sq.m. of floor area	3m x 5m
4.	Hotels	4 guest room provided	3m x 5m
5.	Theater & Auditorium	10 seats of accommodation.	3m x 5m
6.	Institutional	100 sq.m of floor area	3m x 5m
7.	Hospital, Nursing Homes	75 sq.m of floor area	3m x 5m

40. The specific Floor Area Ratio and Plot Coverage stipulations shall be as per Table VIII below.

**TABLE VIII
FLOOR AREA RATIO & MAXIMUM COVERAGE**

Sl. No.	Type of Occupancy	Maximum permissible (F.A.R)	Maximum permissible (coverage percentage of plot area)	Maximum Floor permissible (excluding basement)	Maximum Height permissible (In meters)
1.	2.	3.	4.	5	6
1.	Residential Bungalow	2.0	50%	4	15 mts With ground floor parking 19 mts.
2.	Residential Apartment	2.0	50%	4	15 mts With ground floor parking 19 mts
3	Institutional	1.5	40%	4	15 mts With ground floor parking 19 mts
4	Mercantile (Commercial)	2.0	60%	4	15 mts With ground floor parking 19 mts
5	Public or Semi-Public Business	2.0	50%	4	15 mts With ground floor parking 19 mts
6	Assembly	1.5	40%	4	15 mts With ground floor parking 19 mts
7	Industrial	1.5	40%	3	12 mts With ground floor parking 16 mts.
8	Storage	2.0	70%	3	12 mts With ground floor parking 16 mts
9	Hazardous	1.2	25%	2	8 mts with ground floor parking 12 mts.
10	Special Buildings	3.0	50%	6	23 mts with ground floor parking 27 mts.
11	Industrial Zone (factory)	1.0	40%		As per functional requirement.

Note 1:- If the Ground Floor is exclusively earmarked for Covered Parking purposes, an additional floor with height as indicated above shall be permitted and the Ground Floor covered parking will not be counted for F.A.R.

Note 2:- Mumty (stair cover) over staircase on top floor, atrium / cut outs Machine room for lift on top floor as required for the lift machine room installations shall not be taken for FAR calculations. Lift shaft (s) for one floor only shall be taken for FAR calculation.

Note 3:- Rockery, well and well structures, plant, nursery, water-pool. Swimming pool (if uncovered), platform around a tree, water tank; fountain, bench, ramps, compound wall, gate, slide, steps outside building, domestic washing place, swing, fire escape staircase, overhead water tank on top of buildings, underground suction tank having roof slab 0.50 mtr. above ground level, cooling tower of A.C. plant rest above the top roof slab and Drainage culvert,

conduit, catch-pit, chamber, gutter, culvert on drains shall not be taken for FAR calculations.

41. Special Exemption: In case of special building where the plot coverage of the proposed building is less than the maximum permissible coverage, maximum additional 2 floors above the permissible floor maybe permitted by the government at a higher rate of building permission fee provided the proposed total floor area is within the permissible F.A.R. limit.

42. The minimum setbacks would be as per Table IX below.

TABLE IX

Plot Size (in Sq. Mts.)	Minimum Front Setback (in Mts.)				Minimum Setbacks other sides (in Mts.)	
	Abutting road width				Rear side	Other sides
	Single lane /footpath	Double lane	Four lane	Six lane		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Less than 200	3.00	3.00	4.50	4.5	1.00	1.00
Above 201 & width <8m	3.00	3.00	4.50	4.5	1.80	1.20
Above 201 & width >8m	3.00	3.00	4.50	4.5	1.80	1.80
Above 300 & up to 400	3.00	3.00	6.00	9.00	2.50	1.80
Above 400 & upto 500	3.00	3.00	6.00	9.00	3.00	1.80
Above 500 & upto 750	3.00	3.00	6.00	9.00	3.00	1.80
Above 750 & upto 1500	3.00	3.00	6.00	9.00	3.00	1.80
Above 1500 & upto 2500	3.00	3.00	6.00	9.00	3.00	1.80
Above 2500	3.00	3.00	6.00	9.00	3.00	1.80

NOTES:-

- (i) The setbacks are to be left after leaving the affected area of the plot/site, if any, for road widening.
- (ii) Where the lighting and ventilation of a building is through the means of a chowk or inner courtyard or interior open space/duct, such open space shall be open to sky and of area at least 9.00 sq m and no side shall be less than 2.00m.

- (iii) For all residential/institutional/industrial plots above 750 sq m, 5 % of the site area has to be developed as tot-lot/landscaped area and trees planted and maintained. Such organized open space could be in more than one location and shall be of regular shape.
- (iv) In all plots 750 sq m and above, provision shall be made for earmarking an area of 3m X 3m for the purpose of sitting of public utilities like distribution transformer, etc. within the owner's site.
- (v) In case of plots 300 sq m and upto 750 sq m, it is permitted to transfer up to 1.00 m of setback from one side to the other side, and in case of plots above 750 sq m, it is permitted to transfer up to 2.00 m of setback, which needs to be uniform at any given point, subject to maintaining of minimum building envelop in the front.

43. REQUIREMENTS FOR HIGH RISE BUILDINGS

- (i) The building requirements and standards other than heights and setbacks specified in the National Building Code of India, 2005 shall be complied with.
- (ii) Such buildings shall be undertaken by owners by engaging registered architects/ licensed technical personnel/builders/developers. The designs and building plans shall be countersigned by the owner, licensed developer, registered architect, licensed technical personnel who shall be responsible for the supervision, structural safety, earthquake safety, fire safety and specifications compliance of such buildings. Buildings shall be designed for compliance with earth quake resistance and resisting other natural hazards. The Completion Certificate shall mention that the norms have been followed in the design and construction of buildings for making the buildings resistant to earthquake, compliance with structural safety and fire safety requirements.
- (iii) The work of the building services like sanitation, plumbing, fire safety requirements, lifts, electrical installations, and other utility services shall be executed under the planning, design and supervision of qualified and competent technical personnel.
- (iv) The parking requirements shall comply as given in these byelaws. The parking facilities and vehicles driveways etc. shall be maintained to the satisfaction of the Authority.
- (v) Provide for rain water harvesting/ recycling of waste water in the building.
- (vi) All public & private buildings used by the public shall be designed and constructed to provide facilities to the persons with disabilities as prescribed in the National Building Code of India, 2005 & Section E of Meghalaya Building Bye Laws 2011.

- (vii) In all buildings irrespective of above height provisions, the requirements of parts of the building like size and area requirements of habitable rooms, kitchen, bathrooms and Water closets, other areas, corridor and staircase widths, service ducts, etc. shall conform to the National Building Code of India,2005.

44. REQUIREMENTS FOR SPECIAL STRUCTURES

44.1. INDUSTRIAL BUILDINGS (FACTORIES, WORKSHOPS ETC.)

- 44.1.1. 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 mt. measured from the floor level to the lowest point in the ceiling provided that this bye-law shall not apply to room intended for storage, godowns and the like purposes but only in rooms occupied by workers for purposes of manufacture.

In case of small factories, employing less than 50 workers for purposes of manufacturing and carrying on a class of manufacturing covered under the flatted factories and service industries, the Authority may allow minimum height upto 3.60m.

- 44.1.2. Requirements of water supply, drainage and sanitary installation shall be as per National Building Code 2005 but in no case less than 1 W.C. and one urinal shall be permitted.
- 44.1.3. (i) Each working room shall be provided with adequate number of exits not less than two in number.
- (ii) No exit shall be less than 1.20 m in width and 2.10 m in height and doors of such exit shall be so arrange that it can be opened easily from inside.
- 44.1.4. No staircase, lobby corridors or passage shall be less than 1.20 m in width.
- 44.1.5. There shall be provided at all time for each person employed in any room of factory at least 3.50 sq. m of the floor space exclusive of that occupied by the machinery and a breathing space of at least 15 cum. (Further the provision of part VIII section 1 lighting and ventilation of National Building code of India shall be followed).
- 44.1.6. 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.

45. EDUCATIONAL BUILDING (SCHOOL/COLLEGES)

- 45.1. No basement or cellar room shall be designed, constructed, altered, converted or used for the purpose of study or instructions.
- 45.2. The minimum size of a cellar room, study room or room used for purposes of instruction shall be 5.50m x 4.50m and no part of such room shall be distant more than 7.50m from an external wall abutting on the requisite open space. Every such room shall have minimum ventilation to the extent of $1/5^{\text{th}}$ of its floor area.
- 45.3. A minimum of 1.00 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.
- 45.4. Every assembly room, gymnasium shall have a minimum clear height of 3.60 m except under a girder which may project 0.60 m below the required ceiling height. A clear internal height under balcony or a girder shall not be less than 3.00 m. A minimum room height for classroom in all schools and other institutions shall not be less than 3.00 m. The minimum head room under beams shall be 2.75 m.
- 45.5. Exit requirements shall conform to National Building Code 2005. No door shall be less than 1.20 m in width and 2.20 m in height.
- 45.6. Requirement of water supply, drainage and sanitary installation shall conform to National Building Code 2005.

46. SPECIAL BUILDINGS

In addition to the requirements specified under Building byelaws, the following byelaws shall also be applicable.

- 46.1. **Minimum Requirements:** The following requirement shall be provided:
- 46.1.1. The aggregate area of foyer exclusive of all passages shall be provided at every sitting-level at the rate of 0.1 sq.m per seat at that level, subject to minimum foyer width of 4.50 m.
- 46.1.2. Entry and exit passages of minimum 3 meters width shall be provided.
- 46.1.3. Water-room and snack-bar shall be provided.
- 46.1.4. The booking-office shall always be so located that intending purchasers of tickets does not have to queue up in open space.

- 46.2. Plinth: The plinth shall be measured at the foyer level and it shall not be less than 0.45 m.
- 46.3. Corridor: No landing, lobby, corridor or passage, not being an internal passage between and/or across rows of seats, intended for use as an exit; shall be less than 3m in width and there shall be no recess or projections in the walls of such passages or corridors within 1.80m of the ground.
- 46.4. Doors: The auditorium doors shall be provided at the rate of not less than one door of a dimension of 1.50 m in width and 2.10 m in clear height for every 150 seats or part thereof. All outside doors for the use of the public shall be made to open outwards and in such manner that when opened, they shall not obstruct any gangway, passage, stairway or landing. These doors shall be provided in such a way that they open in aisles or cross-aisles provided under these byelaws.
- 46.5. Balcony, its height, floor of an auditorium and arrangement of seats:
- 46.5.1. The height of the bottom balcony of the gallery shall be less than 3m from the floor of the auditorium.
- 46.5.2. The clear distance between the backs of two successive rows shall not be less than 1m. But for seats with rocking backs it may be 0.90m.
- 46.5.3. The minimum width of balcony steps shall be 0.80m provided that for the front and rear steps this distance shall be 0.90m.
- 46.5.4. The minimum height of the roof or ceiling at the highest steps of the balcony shall be 3.00m and at no place the distance between the nodding and the lowest projection ray shall be less than 2.40m.
- 46.5.5. The minimum width of the seat shall be 0.50m provided that 25 percent of the total seats may permit upto the width of 0.45m to adjust the staggering of the seats. The width of the seats shall be measured from centre of hand rails or arm rests.
- 46.6. Aisles: Clear aisles not less than 1.20m in width shall be formed at right angles to the line of seating in such number and manner that no seat shall be more than 3.80m away from any aisles measured in the line of seating. Where all these aisles do not directly meet the exit doors, cross aisles shall be provided in such number and manner that no row of seats shall be more than 7 meters away from cross-aisles. The width of cross aisles shall be 1.20m provided further that in computing the number of cross-aisles, the door connecting the aisles with foyer shall be considered as cross-aisles.

Explanation: The first cross-aisles in such a case shall be provided after the fourteen rows from the door.

- (i) Sanitary Accommodations:
 - (ii) Water closet at the rate one for 100 seats or part thereof and urinals at the rate of two for 75 seats or part thereof, at each seating level shall be provided.
 - (iii) One wash-basin for every 200 seats or part thereof shall be provided.
 - (iv) The above conveniences shall be suitably apportioned between two sexes.
 - (v) Such water-closet and urinals shall be in accessible location and shall be provided with signs plainly indicating their purpose and the sex for which they are meant.
- 46.7. Visibility requirement:
- 46.7.1. The seat nearest to the screen shall not be nearer than the effective width of the normal picture (ratio 1:1.33). This distance shall be $\frac{3}{4}$ in case of cinema scope and other wide angles techniques and one half in case of 70 mm presentations.
 - 46.7.2. The elevation of the balcony seats shall be such that line of sight is not inclined more than 30° to the horizontal.
 - 46.7.3. The seats should preferably be staggered side-ways in relation to those in front, so that a spectator in any rows is not looking directly over the head of the person immediately in front of him.
 - 46.7.4. The position and height of the screen shall be regulated in such a way that the maximum angle of the line of vision from the front seat to the top of the screen shall not exceed 50.
- 46.8. Ventilation : Every auditorium shall be lighted and ventilated by doors, ventilators and windows abutting on an interior or exterior open space which shall not be less than $\frac{1}{5}^{\text{th}}$ of the total floor area provided that if exhaust fans are installed or if the auditorium is air-conditioned, the requirement of this clause may be suitably relaxed.
- 46.9. Minimum Requirement of Stairs:
- 46.9.1. Except where otherwise provided under these Regulations/bye-laws the minimum clear width of all the stairs shall be 1.50m.
 - 46.9.2. No stair-case shall have a flight of more than 15 steps or less than 3 steps and width of the landing between such flights shall be of the same width of the stair-case. The tread of the step shall not be less than 30 cms. The riser shall not be higher than 10 cms.

- 46.9.3. No space less than 2.40m in height shall be allowed under the floor of auditorium.
- 46.9.4. Except for a double-decker-cinema or theatre, the access to the auditorium from the ground floor, if it is on upper floor or on stilts shall be provided by not less than three stairs: two of which shall be exit stairs. The clear width of these next stairs shall not be less than 2m.
- 46.9.5. The access to balcony floor from auditorium floor shall be provided by not less than three stairs, two of which shall be exit stairs provided that if one exit stair is to be provided instead of two, its minimum width shall be 2.40m.
- 46.9.6 In case of double-decker cinema or theatre:
- The access to upper class auditorium from ground floor shall be provided by at least three stairs out of which two shall be exit stairs with minimum clear width of 2 Mts.
 - The access to lower class auditorium from ground floor shall be provided by at least two stairs, one of which shall be exit stair.
- 46.10. No permission shall be given for converting existing air-conditioned cinema theatre into non-air-conditioned cinema theatre.

SECTION E

FACILITIES FOR PERSONS WITH DISABILITIES

47. Applicability:

These byelaws are applicable to all private and public buildings (proposed and existing) used by the public and shall not be restricted to a single floor or storey but shall allow free & full accessibility to the entire building.

48. Definitions:

48.1 Non-Ambulatory Disabilities: Impairment that regardless of cause or manifestation, for all practical purpose, confines individuals to wheelchairs

48.2 Semi-Ambulatory Disabilities: Impairments that cause individuals with difficulty or insecurity, individuals using braces or crutches, arthritis, and those with pulmonary and cardiac ills may be semi-ambulatory.

48.3 Hearing Disabilities: Deafness or hearing handicaps that might make individual insecure in public area because he is unable to communicate or hear warning signals.

48.4 Sight Disabilities: Total blindness or impairments affecting sight to the extent that the individuals functioning in public areas in insecure or exposed to danger.

- 48.5 Wheel Chair: Chair used by disabled people for mobility. The standard size of the wheel chair shall be taken as 1050mm x 750mm.
50. **Guiding/Warning Floor Materials:** The floor materials to guide or warn the visually impaired persons with a change of colour or material with different texture and easily distinguishable from the rest of the surrounding floor materials is called guiding warning floor materials. The materials with different texture give audible signals with sensory warning when a person moves on this surface with walking stick. It is meant to give the directional effect or warn a person when at critical places.
51. **Visual Signage:** Appropriate identification of specific facilities within a building for the persons with disabilities should be done with proper signage. 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 readable by using suitable letter size (not less than 20 mm) high. For visually impaired persons, information board in Braille on the wall at a suitable height and it should be possible to approach them closely. To ensure safe walking there should not be any protruding sign which creates construction in walking. Public address system may also be provided in busy public areas.
- The symbols/information/should be in contrasting colour and properly illuminated because people with limited vision may be able to differentiate amongst primary colours.
52. **Site Planning:** To accommodate the persons with disabilities and elderly people each building and its site should be planned and designed as an integral unit from the very beginning of the design process.
- 51.1 **Walks and Paths:** Walking should be smooth, hard level surface suitable for walking and wheeling. The minimum walkway width should be 1200 mm. and for moderate two ways traffic should be 1650 mm -1800 mm. Longitudinal walk gradient should be 3 to 5 % (30 mm to 0.50 mm in meter). When walk exceed 60 meter in length it is desirable to provide rest area adjacent to walk at convenient intervals with space for bench seats. For comfort the seat should be between 350 mm to 425 heights but not over 450 mm. Texture change in walkways adjacent to sitting will be desirable for blind persons.
- 51.2 **Parking:** For parking of vehicles the following provisions shall be made: -
- 51.2.1. Surface parking for two car spaces shall be provided near entrance for the persons with disabilities with maximum travel distance of 30 m from building entrance.
- 51.2.2. The width of parking shall be a minimum of 3.60 m
- 51.2.3. The information stating that the space is reserved for wheel chair users shall be conspicuously displayed.

- 51.2.4. Guiding floor materials shall be provided for a device, which guides visually impaired persons with audible signals, or other devices, which served the same purpose, shall be provided.
- 51.3. **Building requirements:**
- The specified facilities for the building for persons with disabilities shall be as follows:-
1. Approached to plinth level.
 2. Corridor connecting the entrance/exit for the handicapped.
 3. Stairways.
 4. Lift.
 5. Toilet.
 6. Drinking water.
- 51.4 **Approach to plinth level:** Every building should have at least one entrance accessible to the disabled and shall be indicated by proper signage. This entrance shall be approached through a ramp together with the stepped entry.
- 51.5. **Ramped Approached:** Shall be finished with non-slip materials. Minimum width of ramp shall be 1000 mm with maximum gradient 1:12 length of ramp shall not exceed 9.0 m having 800 mm. high handrails on both sides.
- 51.6 **Exit/Entrance Door:** Minimum clear opening of the entrance door shall be 900mm.
- 51.7 **Entrance Landing:** Entrance landing shall be provided adjacent to ramp with a minimum dimension of 1800 mm x 2000 mm. finishes shall have a non-slip surface with a texture traversable by a wheel chair.
- 51.8 **Corridor connecting the entrance/exit for the handicapped:** The corridor shall be provided as follows: -
- (a) "Guiding floor materials' shall be provided for device than emit sound to guide visually impaired persons.
 - (b) The minimum width shall be 1500 mm.
 - (c) In case of level difference, slope ways shall be provided with a slope of 1:2.
 - (d) Handrails shall be provided for ramps /slope ways.
- 51.9 **Stairways:** One of the stairways near the entrance/exit for the disabled shall have the following provisions:-
- (a) The minimum width shall be 1350 mm.
 - (b) Height of riser shall not be more than 150 mm.
 - (c) Maximum number of riser on flight shall be 12.
 - (d) Handrails shall be provided on both sides.

- 51.10 **Lifts:** Wherever lifts is required as per bye-laws, provision for at least 1 lift shall be made for the wheel chair user with the following cage dimensions of lift recommended for passengers lifts of 13 persons capacity.
- Clear internal depth -1100 mm
- Clear internal width -2000 mm.
- Entrance door width -900 mm.
- (a) A handrail not less than 600 mm long at 900mm – 1000 mm above floor level shall be fixed adjacent to the control panel
- (b) The lift lobby shall be of minimum 1800mm x 1800 mm or more.
- (c) The time of an automatically closing door should be minimum of 5 seconds and the closing speed should not exceed 0.25 metre/sec.
- (d) The Cage interior should be provided with a device that audibly indicates the floor the cage has reached and indicates that the cage door for entrance/exit is either open or closed.
- 51.11 **Toilets:** - One special W.C. in a set of toilet shall be provided for the use of disabled with essential provision of wash basin near the entrances for the handicapped. The minimum size of a toilet shall be 1500 mm x 1750 mm. The minimum clear opening of the door shall be 900 mm and the door shall swing out. Suitable arrangement of vertical horizontal handrails with 50 mm clearance from wall shall be made in the toilet. The W.C. seat shall be 500 mm from the floor.
- 51.12 **Drinking Water:** Suitable provision of drinking water shall be made for the disabled near the special toilet provided for them.
- 51.13 **Designing for Children:** In the buildings meant for the pre-dominant use of the children, it will be necessary to suitably alter the height of the handrails and other fittings and fixtures etc.

SECTION F

REQUIREMENTS OF GROUP DEVELOPMENT, GROUP HOUSING/ CLUSTER HOUSING/ RESIDENTIAL ENCLAVES AND ROW HOUSING SCHEMES

52. **General Requirement:** Such developments shall be considered where the site is developed together with building constructions and all amenities and facilities and not disposed as open plots.
- 52.1. All Group Development Schemes, Group Housing Scheme / Cluster Housing Scheme applications shall in addition to the requirements under these byelaws, be accompanied by:
- 52.1.1. A Services and Utilities Plan as per standards for water supply system, drainage and storm water disposal system, sewerage system , rain water harvesting structures, and for other utilities.

- 52.1.2. A landscaping plan including rain water harvesting/ water recycling details.
- 52.1.3. Parking & internal Circulation Plan along with Common pool parking area plan, if any.
- 52.1.4. The minimum plot size of EWS/LIG category = 75 sq m.
- 52.1.5. The minimum plot size of MIG category = 240 sq m.
The above shall be drawn on suitable scale with relevant details.
- 52.2. The minimum plot size for Group Housing Schemes and Group development Schemes shall be 4000 sq m.
- 52.3. In case of housing in large plots or blocks, the proposals should be promoted with the immediate improvement of the accessibility of the site from the nearest main road by way of an approved Road Development Plan by the Authority with a minimum width of 9 m which should be implemented by the licensed developer within a period of three years.
- 52.4. All Group Housing Schemes/ Group Development Schemes/ Cluster housing / Residential Enclaves and row type development schemes shall be developed with complete infrastructure facilities and amenities as stated at (a) and (b) above. At least 25% of the land and dwelling units should be earmarked for LIG and EWS category.
- 52.5. The guidelines and requirements as given in the National Building Code for Low Cost Housing / Government orders shall be followed.

53. GROUP DEVELOPMENT SCHEMES & GROUP HOUSING SCHEMES

Group Housing Schemes are reckoned as Apartment blocks in two or more blocks. These could be high-rise or simple walk-up units. Group Development Schemes are reckoned as Building in two or more blocks in a campus or site, and could be normal height buildings or high-rise blocks or combination of both.

- 53.1. The open spaces/setbacks for such type of development shall be as follows:

TABLE X

Height of building block	Distance to be maintained from periphery to building block	Distance between two blocks
Up to 3 floors	3 m	2 m
4 floors	4 m	3 m

- 53.2. Common amenities and facilities like shopping center, community hall or center / club house etc. are required to be provided in up to 5 % of the area and shall be planned and developed in cases where the units are above 50 in number and not be part of the residential blocks.
- 53.3. A through public access road of 9 m width with 2-lane black-topped is to be developed on any one side at the periphery/ as per suitability and feasibility for the convenience of accessibility of other sites and lands located in the interior.

- 53.4. In case of blocks up to 12 m height, access through pathways of 6m width branching out from the internal roads/loop road would be allowed. All internal roads and pathways shall be developed as per standards.
- 53.5. Minimum of 10 % of site area shall be earmarked for organised open space and be utilized as greenery, tot lot or soft landscaping, etc. and shall be provided over and above the mandatory open spaces. This space may be in one or more pockets.
54. **ROW TYPE HOUSING:**
- 54.1. Minimum site area : **1000 sq m Maximum site area 4000 sq.m**
- 54.2. Minimum size of individual plots for row houses : 50 sq m.
Not more than 8 plots shall be developed in a row.
Separation between two blocks shall not be less than 6 mt, which may be an open space or an alley
Only internal staircase would be allowed.
- 54.3. Minimum width of internal roads: 9 m ;
Internal cul-de-sac road 6m with max. length 50 mt. is allowed
- 54.4. Minimum open space : 10 % of site area
- 54.5. Minimum setbacks: Front 3m ; Rear 1.8 m
The setbacks in a row can be interchangeable.
- 54.5. In case of very large projects more than 5 acres, common amenities and facilities like shopping center, community hall/club house etc. are required to be provided in 5 % of the area.

55. CLUSTER HOUSING

- 55.1. Minimum site area: **1000 sq m Maximum site area 4000 sq.m**
- 55.2. Minimum plot size for cluster house: 25 sq m with maximum number of 20 houses in a cluster
- 55.3. Minimum size of cluster open space: 36 sq m with a minimum width of 6m
- 55.4. Minimum access road to the Cluster Housing Complex: 9 m
Internal access may be through pedestrian paths of 6 m
- 55.6. Minimum space between two clusters: 6m which may be utilized as pathway/alley
- 55.7. Building setbacks: No setbacks are needed for interior clusters as the lighting and ventilation is either from the central open space of cluster and the surrounding pedestrian pathway/ access road of the cluster. However, interior courtyards may be provided for larger plots and building areas to facilitate lighting and ventilation. For end clusters sides that are abutting peripheral thoroughfare roads, setback shall be as given in Table X.

56. RESIDENTIAL ENCLAVES:

- 56.1. These would be allowed as gated development that are exclusive housing areas with common compound wall with access control through gates and having their own facilities and amenities. The housing units may comprise of row houses, semi-detached, detached or Apartment blocks or a mix or combination of the above. The building requirements would be as per the given type of housing.
- 56.2. Residential enclaves would be permitted only in those sites that give through access of minimum 9 m peripheral road for the neighbouring plots or lands that are located in the interior. They would be governed by good design standards and not impinging on the overall accessibility and circulation network of the area.
- 56.3. Minimum size of site: **4000 sq m. Maximum size of site 10.00 hectares in Greater Shillong Planning Area and 5.00 hectares in other towns.**
- 56.4. Size of plots and height permissible: as per type of housing and requirements as given above for the respective type of housing.
- 56.5. Minimum Common Open space: 10 % of site area.
- 56.6. Building setbacks: As per type of housing & requirements given above for the said type of housing and as per Table X.
- 56.7. Internal Road requirements:
- 9.0 to 18 m for main internal approach roads;
 - 9 m for other internal roads and
 - 8 m for cul-de-sacs roads between 50-100 m length
 - 9 m for looped roads

SECTION-G

REGULATIONS FOR RESIDENTIAL TOWNSHIPS

Notwithstanding the byelaws as defined in Section A-Administration, the following Regulations for Residential Townships shall be applicable as stipulated herewith.

57. SHORT TITLE, EXTENT AND COMMENCEMENT

- 57.1. This regulation may be called “Meghalaya Regulations for Residential Townships”.
- 57.2. Notwithstanding any definition in Section A of the Bye Laws, definition given in this chapter will be applicable for interpretation of the provision of this chapter
- 57.3. It shall come into force on such date as per order of the State Government.

58. APPLICABILITY

- 58.1. These regulations shall apply to any Residential Townships proposed in the state of Meghalaya.

59. DEFINITIONS

59.1. “**Act**” shall mean the Meghalaya Town and Country Planning Act 1973 (Assam Town and Country Planning Act, 1959 as amended and adopted by Meghalaya);

59.2. “**Authority**” shall mean authority as defined under Act;

59.3. “**Competent Authority**” shall mean any person / persons or authority or authorities; authorized by the Authority as the case may be to perform such functions as may be specified under these regulations;

59.4. “**Township Developer**” shall mean and include a owner /person/persons/registered cooperative society/association/firm/company/joint ventures/institution/trust entitled to make an application to develop any township;

Provided that for Residential Townships having Foreign Direct Investments (FDI), these shall be regulated as per Govt. of India norms;

59.5. “**Greater Shillong Planning Area**” shall mean the Master Plan Area as defined in Shillong Master Plan 1991-2011 or the subsequent Master Plans to be notified for Shillong;

59.6. “**Gross Plot Area**” shall mean area after subtracting of the land under Public purpose infrastructure from the total area of the township;

59.7. “**Floor area ratio (FAR)**” shall mean FAR permissible under MBBL;

59.8. “**Government**” shall mean the Government of Meghalaya;

59.9. “**Residential Township**” shall mean a parcel of land owned by a township developer subject to;

- a. Minimum 65% of the land eligible for developing, after deducting the land used for public purpose infrastructure, is put to residential use;
- b. Minimum area not less than 10.00 hectares in case of Greater Shillong Planning Area and an area not less than 5.00 hectares in case of other towns;

In conformity with the intent and spirit of these regulations, the State Government may, if required in appropriate cases, relax the criteria for the minimum land required to be eligible for a residential township.

59.10. “**Notified Areas**” shall mean an area requiring special attention considering its overall balanced development and is notified under these regulations;

59.11. “**Infrastructure**” shall includes roads, streets, open spaces, parks, playgrounds, recreational grounds, water and electricity supply, street lighting, sewerage, drainage, storm water drainage, public works and other utility services and conveniences;

59.12. “**Cross over Infrastructure**” shall be the part of the infrastructure which is required to pass through the township so as to provide the facility to the township vicinity area;

59.13. **“Public Purpose Infrastructure (PPI)”** shall mean the infrastructure provided as per these regulations which the developer shall:

- develop, as per prescribed guidelines and on completion transfer it to the Authority;
- operate and maintain for the maintenance period;
- shall carry out development as per the specifications approved by the Authority;

For the Purpose of administration the PPI shall vest with the Authority;

59.14. **“Zone”** shall mean the zone as designated in the prevalent sanctioned development plan;

59.15. **“MBBL”** shall mean the prevalent Meghalaya Building Bye-Laws applicable to the State of Meghalaya;

59.16. **“Maintenance Period”** shall mean minimum period of seven years after which the developer may hand over to the Authority, the infrastructure and land for public purpose. This period shall be calculated from issue of building permit;

59.17 **“Prescribed Officer”** shall be Town Planning Officer of Meghalaya Urban Development Authority having jurisdiction over the proposed township area or any other officer notified for the purpose by the Government.

60. DUTIES OF THE PRESCRIBED OFFICER

For the purpose of these regulations, the prescribed officer:

60.1. Shall within 30 days from the receipt of the application, scrutinise the plan as per these regulations and recommend to the Government to approve or reject the proposal with reasons;

60.2. Shall monitor and approve the stages of construction as per provisions of MBBL;

60.3. May deny, after giving reasons in writing, if the proposal of the township forms a part of any notified water body or any difficult area;

60.4. May recommend to the Government to allow the benefits available under any scheme of the State or Central Government;

60.5. Shall carry out surveys and studies for any area to be considered for allowing specific benefits under these regulations and recommend to the Government to declare any area to be a notified area.

61. STATE LEVEL SCREENING COMMITTEE

State Level Screening Committee of the member mentioned hereunder shall review the proposals received from the Prescribed Officer and recommend to the State Govt. for approval or otherwise.

1	Principal Secretary, UAD	Chairman
2	Principal Secretary, Rev	Member
3	Principal Secretary, Law	Member
4	Director, UAD	Member Secretary

62. PROCEDURE TO NOTIFY AN AREA

- 62.1. Subject to the provisions of these regulations and the MBBL, the State govt. may on recommendation from the State Level Screening Committee on a proposal received from the Prescribed Officer, notify any area, which would require special benefits under these regulations.
- 62.2. The Government shall notify such area in the official gazette declaring any area to be notified area specifying the extent of limits of such area.
- 62.3. For awareness, the Government shall publish the notification in at least two daily local newspapers.

63. PROCEDURE FOR SECURING THE PERMISSION

- 63.1. Subject to the provisions of these regulations and the MBBL, any township developer intending to develop any residential township under these regulations, may apply under section 13 of the Meghalaya Town and Country Planning Act, 1973 (Assam Town and Country Planning Act, 1959 as amended and adopted by Meghalaya), to the prescribed officer along with the required documents.
- 63.2. With regard to procedure, the manner of application, the documents to be submitted, unless otherwise prescribed, the provisions of MBBL shall apply mutatis mutandis.

64. CONTENTS OF THE TOWNSHIP PROPOSALS: The proposal shall include:

- 64.1. Master Plan of the area:
- demarcating the details for all parcels of land separately for
 - Public purpose infrastructure;
 - Primary infrastructure;
 - Rest of the uses.
- 64.2. Detailed area statement of each parcel of land as mentioned in 8.1 and the FAR calculations;
- 64.3. Layout of buildings and infrastructure as per MBBL;
- 64.4. Detailed plans for the buildings and infrastructure;

- 64.5. Estimates to develop the infrastructure separately for crossover infrastructure, other infrastructure;
- 64.6. Details of project finance;
- 64.7. Management plan including proposals for maintenance and upkeep;
- 64.8. Proposal expressing the ability to develop and maintain such project.

65. PUBLIC PURPOSE INFRASTRUCTURE

- 65.1. Cross over infrastructure and roads

- 65.1.1 Cross over infrastructure:

The cross over infrastructure shall be provided as per the specifications of the Authority;

The total area of the cross over infrastructure shall be minimum 5% of the Township area of 20 hectares, and for each additional area of 10 hectares the cross over infrastructure shall be provided @ 6%.

- 65.1.2. Roads:

Minimum area for roads shall be 15% of the township area excluding the area for cross over infrastructure;

The road network shall be provided in proper hierarchy and as per the standard road widths proposed for the area by the Authority;

Should match with the proposed primary/secondary level roads in the vicinity;

Should include sufficiently wide road as prescribed by the Authority, on a part of the boundary where primary/secondary level road does not abut;

Within 6 mts distance on either side of the road, trees shall have to be planted and maintained till the maintenance period.

66. OTHER AMENITIES

7% of gross plot area for school, health centres, other public amenities and commercial uses; and

8% of gross plot area for organised open spaces, parks and garden, catering to the neighbourhood with public access. Such plots shall have a minimum area not be less than 2000 sq mts;

The township developer shall have to provide space for fire brigade services. Such services shall be operated and maintained by the township developer but for the purpose of administration, it shall be manned by the State Fire Services staff.

67. SOCIALLY & ECONOMICALLY WEAKER SECTION HOUSING (SEWH) AND OTHER INFRASTRUCTURE

67.1. Socially & Economically Weaker Section Housing (SEWH):

The township developer shall develop 20% of the gross plot area for housing for socially & economically weaker sections and 5% consumed FAR as floating floor space attached with other residential dwelling units to be used for the servants, drivers etc;

The township developer shall develop the SEWH as per the regulations to be prescribed by the Authority;

To meet the difference of cost of construction of SEWH and cost of selling such units to the socially and economically weaker sections, the State Government will provide incentives to the township developer. Such incentive will be prescribed by the State Government;

The township developer shall develop and dispose such housing units in consultation with the Authority.

68. PHYSICAL PLANNING PARAMETERS

68.1. Filling up or reclamation of low-lying or swampy areas, or levelling up of lands as required;

68.2. Planning and design of lay-out of new streets or roads, construction, diversion, extension, alteration, improvement and closing up of streets and roads and ensure that there is no discontinuance of communications in any cases;

68.3. Planning and design of layout of new streets and roads/cycle tracks giving access to the existing habitation if any within or in its vicinity or likely for any town planning scheme in the vicinity to develop in future. Width and alignment of such roads shall be suggested by the Authority;

68.4. Design the circulation pattern to include segregation of pedestrian and vehicular traffic, entry control, access of emergency vehicles to every block, provision of adequate parking etc;

68.5. Plan and design the neighbourhood regarding circulation system, including safety requirements. This shall be governed by the BIS or as per the norms of the Authority;

68.6. Design the sewerage system for reuse of water and zero discharge and arrange to operate on permanent basis;

68.7. Provide system to harvest rainwater for ground water recharge;

68.8. Provide for roof top rain water harvesting;

68.9. The developer shall plan to provide 140 lpcd of potable water;

- 68.10. Ensure to collect, treat and dispose drainage in the township area. However for future shall make provision for connecting it to the city drainage system;
- 68.11. Ensure continuous and quality power supply;
- 68.12. Provide connectivity to nearest primary or secondary level road;
- 68.13. The natural drainage pattern shall be maintained without any disturbances. However measures to improve efficiency will be allowed;
- 68.14. Transit space and facility of segregation of biodegradable and recyclable solid waste shall have to be provided;
- 68.15. Space and separate access required as per rules shall have to be provided for power distribution;
- 68.16. For public areas and commercial building, so far possible provided energy of non-conventional sources;
- 68.17. Street-lights shall be operated using solar power as far as possible;
- 68.18. Make provision for Harvesting & Recharging system of Rain Water;
- 68.19. Shall comply with the regulations for natural hazard prone areas;
- 68.20. Minimum 200 trees per hectares of appropriate species, shall have to be planted and nurtured for the maintenance period;
- 68.21. Suitable landscape shall have to be provided for open space and gardens;
- 68.22. Urban design and heritage to be ensured.
- 69. RESPONSIBILITIES OF THE TOWNSHIP DEVELOPER:** The township developer shall with regard to the township shall:
 - 69.1. Acquire/own/pool the land at his own expenses;
 - 69.2. Provide at his own expense the facilities mentioned in clause 8 and 9;
 - 69.3. Develop the township at his cost as approved;
 - 69.4. Develop the land and buildings within for public purpose infrastructure as approved;
 - 69.5. Provide an undertaking about the terms and conditions to maintain and upkeep of the infrastructure;
 - 69.6. Disclose to the beneficiaries the entire details of the plan, design, the contract and other details affecting the beneficiaries;
 - 69.7. For the maintenance period, maintain and upkeep as per the undertaking, the infrastructure other than the public purpose infrastructure;
 - 69.8. For the maintenance period, maintain and upkeep the land and property used for public purpose infrastructure;

- 69.9. Develop the public purpose infrastructure as per the specifications prescribed by the prescribed committee;
- 69.10. On issue of building use permission, the township developer shall execute a bank guarantee equivalent to 2% of the cost incurred for the infrastructure. The authority shall revoke this bank guarantee if required to maintain the infrastructure. On expiry of the maintenance period, this guarantee shall be converted into a corpus fund of the members of the cooperative society;
- 69.11. On expiry of the maintenance period, he shall transfer the public purpose infrastructure, free from all encumbrances to the competent authority. To this effect the township developer shall give an undertaking;
- 69.12. On issue of the building permit, organize to form a registered cooperative society of all beneficiaries, elect a promoter/president, issue share capital to each of the beneficiary;
- 69.13. The developer shall create the common facilities and community utilities as per clause No.9 (public purpose infrastructure) and handed over to the Authority after the maintenance period;
- 69.14. In disposing off the housing units the provisions of the Meghalaya Transfer of land (Regulation) Act will be followed.

70. GRANT/REFUSAL OF THE PERMISSION

- 70.1. On the receipt of the recommendation of the authority or otherwise, the State Government under section 14 of the Act, may relax the MBBL and these regulations to grant or refuse the proposal;
- 70.2. Validity and lapse of the permission shall be according to the provisions of MBBL;
- 70.3. Interpretation of these regulations:
 - 70.3.1. If any question or dispute arises with regard to interpretation of any of these regulations the decision of the State Government shall be final;
 - 70.3.2. In conformity with the intent and spirit of these regulations, the State Government may, if required in appropriate cases, use the discretionary powers to decide in any of the matters.

71. FLOOR AREA RATIO

The FAR to be followed for this regulation shall be as prescribed in the MBBL.

72. BUILT-UP AREA, COVERAGE AND HEIGHT RESTRICTIONS

The Built-up area, coverage and height restrictions to be followed for this regulation shall be as prescribed in the MBBL.

73. ZONING, GROUND COVERAGE & OTHER REGULATIONS

- 73.1. Irrespective of any zone, uses in the township shall be permissible as proposed in the application under these regulations. Provided that such permission can be denied by the State Government on account of safety.
- 73.2. Where ever not mentioned, the provision OF MBBL shall be apply mutates mantis.
- 73.3. Even after approval under these regulations, permissions from Department of forest and Environment and Meghalaya State Pollution Control Board for EIA clearance and necessary permission from relevant department, as required shall be mandatory.

74. DEVELOPMENT OF EXTERNAL SERVICES (OFFSITE INFRASTRUCTURE)

The township developer shall provide the offsite infrastructure and shall:

- 74.1. Connect to the existing road or development plan road or town planning scheme road and maintain the prescribed width as prescribed by the Authority.
- 74.2. The developer shall himself provide water supply at his own or connected with the city system.
- 74.3. Arrange to collect, treat and dispose in the township area. However for future shall make provision connect to the city drainage system.
- 74.4. Arrange for the power supply.
- 74.5. Bear the entire cost for the offsite infrastructure.

75. SUPERVISION AND MONITORING OF THE QUALITY OF CONSTRUCTION

- 75.1. To ensure that the quality of construction of public purpose infrastructure the Authority shall ensure to supervise the quality and timely execution of the project as per provisions of MBBL.
- 75.2. The developer shall deposit 2% of the estimated cost of cost of public purpose infrastructure. Such deposit shall be refunded once the consultant furnishes the completion certificate to the Authority and the Authority accepts the same.

76. GRIEVANCES REDRESSAL

- 76.1. Any occupant of any of the buildings who is entitled to use the facilities shall have a right to lodge his complain before the Authority.
- 76.2. The Authority shall, on the merits, address the issues and:
 - direct the developer to resolve the issue.
 - may resolve the issue by reconstructing/repairing at the cost of developer.

- 76.3. The Authority shall recover the cost by revoking the bank guarantee for the cost incurred for the works required to be done by the prescribed authority as per above clause.

SECTION –H

MISCELLANEOUS PROVISIONS

77. INSTALLATION OF COMMUNICATION TOWERS

- 77.1. **Definition:** Communication tower shall include antennae fixtures, fabricated antenna, tower to install the telephone lines and transmission towers. This will not include the antennas installed for domestic purpose, namely television antennas or dish antennas.

77.2. **Application for permission**

- 77.2.1. Location: The telecommunication Infrastructure shall be either placed on the building roof tops or the ground or open space within the premises.

77.2.2. Type of structure:

- (i) Steel fabricated tower or antennas 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.

- 77.2.3. Requirement: Every applicant has to furnish the following -
- (i) Obtain/procure the necessary permission from the “Standing Advisory Committee on Radio Frequency Allocation” (SACFA) issued by Ministry of Telecommunications.
 - (ii) Site plan in the scale of 1:200
 - (iii) Agreement with the owner of the land/building containing his consent alongwith proof of ownership.
 - (iv) Drawing of tower with complete details including specifications of foundations and design parameters.
 - (v) Height of the tower alongwith its elevation.
 - (vi) In case the tower is in the vicinity or adjoining to high or low tension line then the distance from the same shall be clearly indicated in the drawings. NOC from the Me SEB has to be furnished accordingly.
 - (vii) Produce the structural stability certificate from the registered structural engineer which shall be the liability of both parties i.e. the engineer and the company erecting the tower.
 - (viii) In case it is a RTT, the applicant has to produce/submit approved buildings plans along with the structural safety certificate from the registered structural engineer that the building can take the additional load of the tower.
 - (ix) For GBTs, a soil test report has to be submitted.
 - (x) Indemnity bond to take care of any loss or injury due to accident caused by the tower (including a declaration to the effect that the application shall take special precaution for fire safety and lightning and he shall be solely responsible for paying all kinds of compensation and damages and would be responsible for ant civil or criminal case arising there from).
 - (xi) Mobile companies shall indicate the capacity of tower or antenna in megawatt.
 - (xii) In case the tower is proposed in residential areas or in the vicinity thereof or near public or semi-public buildings, NOC from owners of adjoining buildings and requisite stakeholders shall have to be obtained.
 - (xiii) No towers shall be permitted to be erected within 100m radius of schools, colleges, hospitals, nursing homes, religious institutions, lifeline buildings and the like. Antenna should not face hospitals nursing homes, religious institutions, lifeline buildings and the like and should be placed at a minimum of 3mts above the base.
 - (xiv) In case the mobile tower is proposed to be installed in the vicinity of any airport, NOC from the Airport authorities shall be submitted.

77.2.4. Projections:

- (i) No Pager and/or Telephone Tower shall project beyond the existing building envelop of the building on which it is erected in any direction.

- (ii) The distance of the tower from the electric line or pole or tower thereof shall not be less than the height of tower plus requisite distance from respective high or low tension line.

77.2.5. Any other information / data required by the Authority

77.3. **Sharing of tower:**

The telecom operators may share the towers for fixing their respective antennas. The same are required to adhere to the prescribed technical requirements, so as to curtail multiplicity of towers as well as to optimize the use of the existing ones.

78. SIZES OF SEPTIC TANKS

Table XI

No of user	Length in Meter	Width in Meter Domestic tank	Liquid depth in Meter
5	1.50	0.75	1.00
10	2.00	0.90	1.00
15	2.00	0.90	1.30
20	2.30	1.10	1.30
50	4.00	1.40	1.30
For Housing colonies			
100	8.00	2.60	1.00
150	10.60	2.70	1.00
200	12.40	3.10	1.00
300	14.60	3.90	1.00
Hostels, Boarding Schools			
50	5.00	1.60	1.30
100	5.70	2.10	1.40
150	7.70	2.40	1.40
200	8.90	2.70	1.40
300	10.70	3.30	1.40

79. ACQUISITION OF LAND

The Authority may refuse to grant permission for any construction or addition or alteration of building if any site is intended to be acquired by the Government for any public purpose for which a Notification under section 4 of land acquisition Act has been published. In the case of plots, proposed to be sub-divided the sanction of the Authority for such Sub-division shall be obtained under section 27 of Meghalaya Town country Planning Act, 1973.

80. New Plot

80.1. **Addition to existing Plot:** When one or more new plots of land are added to one or more premises by way of amalgamation or otherwise, the existing

buildings on any such plots may be considered to be in accordance with these byelaws at the material time when the building/buildings was/were sanctioned are satisfied considering amalgamated plot to be one parcel of land. Addition and alteration to the sanctioned building or addition of a new building or new block or newly added land/lands may be permitted as per prevailing byelaws considering amalgamated land to be one parcel of land.

(b). **Sub-Division of Plots**

When a plot has fully utilised its coverage & F.A.R., further sub division is not permissible. However if some percentage of coverage & F.A.R.is left after sub-division, the sub-divided plots are entitle only the balance coverage & F.A.R.

81. Linking of two blocks

If there are two adjacent plots or adjacent buildings belonging to the same owner, gangways between these two buildings may be permitted at any level, subject to the condition that it does not obstruct movement of vehicles or fire vehicles, as the case may be, the minimum width of the gangway being not less than that of a stairway.

82. Rain Water Harvesting

82.1. Water Harvesting: Water harvesting through storing of water runoff including rainwater in all existing and new buildings on plots of 100 sq.mt. and above will be mandatory. The plans submitted shall indicate the system of storm water drainage along with points of collection of rain water in surface reservoirs or in recharge wells.

82.2. Soft Cover: Provision for soft cover should be included in the plan for building sites-

82.2.1. For any building having a minimum covered area of 500 sq. m, the applicant should provide soft cover of at least 15% of the plot area.

82.2.2. For any other building, having lesser covered area, the soft cover should be atleast 10% of the plot area.

83. Recycling of waste water

All buildings having a covered area of 500 Sq.mts or minimum discharge of 10,000 lt. and above per day shall incorporate waste water recycling system. The recycled water should be used for non drinking purposes.

84. INCENTIVES FOR OWNERS LEAVING MORE SETBACKS / RAIN WATER HARVESTING / RECYCLING OF WASTE WATER:

84.1. The following incentives in terms of rebate in building permission fees will be given by the Authority for owners or their successors-in-interest who:

84.1.1. Construct the building /blocks by leaving more setbacks than the minimal stipulated in these byelaws:

Leaving 1.5 times or more the minimum setbacks in all sides: 10 % rebate on building permission fees will be allowed provided the setbacks has to be on all sides to qualify for the rebate. Leaving more on one side and the minimum on other sides would not qualify for such rebate.

84.1.2. Undertake both recycling of waste water and rain water harvesting structures: 10 % rebate on building permission fees will be allowed.

84.1.3. Where owners provide at least 25% additional parking space over and above the minimum they would be allowed for a rebate of 10 % in building permission fees.

85. Energy Conservation Building: Building or building complexes having a connected load of 100 KW will be regulated as per the Energy Conservation Code 2007 as amended. Generally buildings or complexes having air conditioned area of 1,000 sq m or more will also fall under this category.

86. Applicability of the Bye Law to the existing Building

86.1. The provisions of these bye-laws shall not apply to the existing building, however in case of any addition, alteration, erection or re-erection in the existing building, the provision of this bye law shall apply.

87. GASOLINE (MOTOR FUEL) FILLING STATIONS AND GASOLINE FILLING CUM SERVICE STATIONS

87.1. DEFINITIONS

87.1.1. The term "Filling station" is a piece of retail business engaged in supplying and dispensing of Gasoline (Motor Fuel) and motor oil essential for the normal operation of automobiles.

87.1.2. The term "Filling cum Service Station" is a place of retail business engaged in supplying goods and services essential for the normal operation of automobiles. These include dispensing Gasoline and Motor oil the sales and services of tyres, batteries and other automobiles accessories and replacement item and washing and lubrication. They do not include the body of tender work, painting or other major motors repairs and over hauling.

- 87.2. Clearance of installation of the Petrol Pump under provisions of the Petroleum Act, 1934 read with Petroleum rule, 1973 rules 155 of the Petroleum Rule 1937 is to be sanctioned by the District Magistrate
- 87.3. N.O.C., is to be obtained from Public Works Department for all proposals whether in the National Highway, State Highway etc., While N.O.C. is issued, due consideration are to be given on factors like congestion of the locality, movement of vehicles traffic in the particular road etc.
- 87.4. Layout plans for installation of the facilities at the retail outlet such as underground tank, pipeline, dispensing pump. Sale room/office. Drainage, toilets, electrical layout are to be approved by the Explosive Department, Government of India.
- 87.5. The distance to be kept from the dispensing pump of the three side i.e., side and rear should not be less than 15 meters distance from a residential house. The frontage should conform as per the Indian Road Congress 13 – 1967 (IRC – 13. 1967). For installation of Petrol Pump the recommended practice for location and layout of roadside, motor filling and motor fuel filling-cum-service station should conform as per the Indian road congress 12-1983 and 13-1967 (IRC – 12 – 1983), (IRC – 13 – 1967).
- 87.6. The following shall be applicable for locating the petrol pump cum service stations.
- 87.6.1. Minimum distance from the road intersections.
- | | | | |
|-----|---|---|---------|
| (a) | For minor roads having less than 30 mt. R/W | : | 50 mt. |
| (b) | For major roads having R/W 30 mt. or more | : | 100 mt. |
- 87.6.2. The minimum distance of the property line of pump from the center line of the Road should not be less than 15 meters on roads having less than 30 mt. R/W. In case of roads having 30 mt. or more R/W the R/W or the road should be protected.
- 87.6.3. Plot Size
- | | |
|-----|---|
| (a) | Only filling stations 30 mt. x 17 mt. and small size 18 mt. x 15 mt. (for two and three wheelers) |
| (b) | Filling-cum-service station minimum size 36 mt. x 30 mt. and maximum 45 mt.x 33 mt. |
| (c) | Frontage of the plot should not be less than 30 mt. |

(d) Longer side of the plot should be the frontage.

87.6.4. Other Controls

87.6.4.1. Filling-cum-service station (size 30 mt. x 36 mt. x 45 mt.)

- i. Ground coverage : 20%
- ii. FAR : 20
- iii. Max. Height : 6 mt.
- iv. Canopy Equivalent to permissible ground coverage within setback line.
- v. Front Setback : Min. 6 mt.

87.6.4.2. Filling Station (size 30 mt. x 17 mt. and 18 mt. x 15 mt.)

- i. Ground coverage : 10%
- ii. FAR : 10
- iii. Max.Height : 6 mt.
- iv. Canopy Equivalent to permissible ground coverage within setback line.
- v. Front Setback : Min. 3 mt

87.6.5. Other Regulations

(i) Shall be acceptable to explosive/Fire Deptt.

(ii)Ground coverage will include canopy area

(iii)Mezzanine if provided will be counted in FAR

87.7. Compressed Natural gas (CNG) Mother Station

- (i) Plot Size (Max.) : 36 mt. x 30 mt.
- (ii) Maximum ground coverage : 20%
- (iii) Maximum Height : 45 mt. (single storey)
- (iv) Building Component Control room/office/Dispensing room Store, pantry and W.C.

88.

Occupancy:

The occupancy of any building or part thereof shall be governed by the following provisions. The usage of plots proposed for development/re-development shall be governed by the provisions contained in the Development Plan of the Town or City or any detailed Town Planning Scheme prepared for the locality, provided where no such Plan exists, the Usage of Plots shall be approved by the Authority.

88.1 The description of the Occupancies are given below:-

88.1.1. Residential Building: These shall include any building in which sleeping accommodation is provided for normal residential/hostels purposes.

88.1.2. Residential Apartment (Flats): These shall include one or two or multi family dwellings with residential accommodation.

88.1.3. Institutional buildings: - These shall include any building or part thereof used for School, College, Primary and Nursery School, education or research purpose, Hospitals, clinics, homes for the aged and inform convalescent homes and orphanages ,mental hospital etc.

88.1.4. Mercantile (Commercial) Building: These shall include any building or part of the building, which is used for display and sale of merchandise such as shops, stores, markets etc., either wholesale or retail, banking and financial institutions, Private business houses and professional establishments of doctors, dentists, tailors etc. beauty parlour, barber shops, news stands, milk booths, lunch counters, restaurants, Hotels and Motels.

88.1.5. Government or Semi-Public Business Buildings: these shall include any building or part of building, which is used for the transaction of public business, for records keeping, accounts and similar purposes. Local, Estate and Government Offices, court Houses. Public utility buildings including slaughterhouse, jails and prisons etc., will be covered by this use.

88.1.6. Assembly Buildings: these shall include any building or part of a building, where group of people (exceeding 100) congregate or gather for amusement, recreation, social, religious patriotic civil, travel and similar purposes for example, Theaters, cinemas, Assembly Halls for Educational, Dramatic or theatrical presentation, Auditorium, Exhibition Halls, Art Galleries, Museums, Libraries etc.

88.1.7. Industrial Buildings: these shall include any building or part of a building or structure in which products or materials of all kinds and properties are fabricated, assembled or processed e.g., Workshops, Assembly Plants, Laboratories, Handicrafts, Laundries, Dairies, Saw Mills, Power Plants etc.

- 88.1.8. Storage Buildings: These shall include any building or part of building used primarily for the storage or sheltering (including servicing, processing or repairs) of goods, wares or Merchandise except those that involve highly combustible or explosive products or materials. Example like Warehouses, Freezing Plants, Freight etc.
- 88.1.9. Hazardous Buildings: These shall include any building or part of a building, which is used for the storage, handling, manufacture or processing of highly combustible, explosive, poisonous, irritants, toxic or noxious materials or products or materials producing dust.
- 88.1.10. 'Special Building' – Means those buildings with large scale activities at a time such as Hotel of 4 star category & above, Public Institutions, Hospitals, Shopping malls with Multiplexes, I.C.T./ BPO's, Universities having a minimum plot area of 6000 sq.m and a minimum plinth area of 3000 sq.m.
- 89. Repeal and Savings-** The Meghalaya Building Bye Laws, 2001 is hereby repealed.

APPENDIX-A

A.1. QUALIFICATIONS OF THE TECHNICAL PERSONNEL

The qualifications of the technical personnel and their Competence to carry out different jobs for building permit and supervision for the purpose of licensing by the Authority shall be as given below.

A.1.1. ARCHITECT:

The qualifications of Architect eligible for license will be the Associate Membership of the Indian Institute of Architects or such Degree or Diploma, which makes him eligible for such membership, or such qualifications listed in Schedule XIV of Architect Act, 1972 and shall be registered under the Council of Architects. Practice of profession of Architecture by the registered architect should be strictly as per provision of the Architects Act, 1972 and their competence be as per comprehensive services as specified in Architect (Professional Conduct) Regulation, 1989.

A.1.2. REGISTERED STRUCTURAL ENGINEER (RSE)

On the basis of their academic qualifications and experience, Structural Engineers shall be "Registered" in four "Grades". The eligibility criteria for registration in each "Grade" and the "Scope of Work" which can be entrusted to the Structural Engineer of each "Grade" are given below. This registration shall be renewed every three years. The registration may be cancelled permanently or for a specified period for unprofessional conduct.

Grade-I

Scope of Work: To prepare structural design and structural drawings of High rise buildings, Educational Institutes, Hospitals, Public Buildings, Special Structures, Lifeline Buildings and the likes.

Eligibility:

- (i) B.E. Civil or equivalent with minimum 5 years experience (after attaining the degree) in structural design work at a responsible position as a structural designer OR;
- ii) M.E. Structures/Earthquake Engineering or Ph.D in Structural Engineering with minimum 2 years of experience (after attaining the degree) in structural design work at a responsible position as structural designer
- iii) The experience as stated above shall be under a Structural Engineer on Record (This requirement shall be waived for the first ten years of the promulgation of these Regulations).

Grade-II

Scope of work: To prepare structural design and structural drawings of various buildings having ground floor+3 upper floors (Plinth Area upto 2000m²).

Eligibility:

- i) B.E. Civil or equivalent with minimum 2 years experience (after attaining the degree) in structural design work at a responsible position as a structural designer OR;
- ii) M.E. Structures/Earthquake Engineering or Ph.D in Structural Engineering
- iii) The experience as stated above shall be under a Structural Engineer on Record

Grade-III A

Scope of work: To prepare structural design and structural drawings of various buildings G+2 and upto 250 sq.meters total floor area.

Eligibility:

(1) M.E (2) B.E (Civil) (3) Diploma in Civil engineering + AMIE

Grade III B

Scope of work: To prepare structural design and structural drawings of various buildings G+2 and upto 150 Sq.meters total floor area.

Eligibility:

(1) M.E (2) B.E (Civil) (3) Diploma in Civil engineering + AMIE (4) Diploma in civil engineering + 10 years experience.

Grade IV

To prepare structural design and structural drawings of various buildings G+1 and upto 100 Sq.meters total floor area.

Eligibility:

(1) M.E (2) B.E (Civil) (3) Diploma in Civil engineering +AMIE (4) Diploma in civil engineering + 5 years experience.

- v) The experience as stated above shall be under a Structural Engineer on Record (This requirement shall be waived for the first three years of the promulgation of these Byelaws.

A.2. REGISTRATION OF PROFESSIONALS:

The Authority shall register Town Planners (RTP), Architects (RA), Engineers (RE), Structural Engineers (RSE), Structural Design Agencies (RSDA), Geo-Technical Engineers (RGE), Construction Engineers (RCE), Construction Management Agency (RCMA), Quality Audit Agencies (RQAA), Developers (RD), wherever applicable, till such time there is no legislative frame for the professionals like engineers and others similar to Architects Act 1973. Application for registration shall be submitted by these professionals to the competent authority. Registration shall be valid for a period of one year and shall be renewable.

A.2.1. REGISTERED ENGINEER:

Registered Engineers are those graduate Engineers who are registered by local bodies to prepare drawings and other documents for obtaining development permission.

A.2.2. REGISTERED CONSTRUCTION ENGINEER (RCE):

- (A) The requirements for registration shall be:
 - i) B.E. Civil; or equivalent with two years experience in construction OR;
 - ii) Diploma in civil Engineering with seven years experience in construction
 - iii) B. Arch or its equivalent with two years of experience in construction
 - iv) The experience as stated above shall be under one or more Construction Engineer on Record of under one or more reputed construction companies. Such company of companies established within or outside the area of jurisdiction of the Authority shall be of minimum ten years of standing.
- (B) The registration shall be renewed every one year.
- (C) The registration may be cancelled for unprofessional conduct permanently or for a specified period

A.2.3. REGISTERED CONSTRUCTION MANAGEMENT AGENCY (RCMA)

- (A) The requirement for registration shall be
 - i) Owner of a proprietary firm shall be an RCE
 - ii) Fifty percent partners of a partnership firm shall be RCE
 - iii) A designed officer of a limited company shall be RCE

- (B) The registration shall be renewed every one year.
- (C) The registration may be cancelled for unprofessional conduct permanently or for a specified period

A.2.3. REGISTERED QUALITY AUDITOR (RQA)

- (A) The requirements for registration shall be:
 - i) B.E. Civil; or equivalent with five years experience in testing of building materials including concrete and/or experience in quality control work with a reputed construction agency
 - ii) M.E. (Civil) or equivalent with two years experience as above
 - iii) B.Arch or equivalent with five years of experience in quality control aspects of construction
 - iv) The experience as stated above shall be under one or more registered quality inspector/s of in quality work under one or more reputed construction agencies of minimum ten years of standing from within or outside the area of jurisdiction of the Authority.
- (B) The registration shall be renewed after every one year.
- (C) The registration may be cancelled for unprofessional conduct permanently or for a specified period

A.2.4. REGISTERED QUALITY AUDIT AGENCY (RQAA)

- (A) The requirement for registration shall be
 - i) Owner of a proprietary firm shall be QAR
 - ii) Fifty percent partners of a partnership firm shall be QAR
 - iii) A designed officer of a limited company shall be QAR
- (B) The registration shall be renewed every three years
- (C) The registration may be cancelled for unprofessional conduct permanently or for a specified period

A.2.5. REGISTERED GEO-TECHNICAL AGENCY (RGA)

For foundation work, where required as per Regulation services of a Geo-Technical Agency on Record

- (A) The requirement for registration shall be
 - i) Owner of a propriety firm shall be M.E (or equivalent) in Geo-Technical Engineering with minimum 10 years of experience
 - ii) Fifty percent of a partnership firm shall have educational qualifications as in (i) but a minimum 5 years experience
 - iii) A designated officer of a limited company shall have qualifications as (i)
 - iv) The experience as stated above shall be under one or more Geo-Technical Agency on Record. Such agencies established within or outside the area of jurisdiction of the Authority shall be of minimum ten years of standing
 - v) The agency has a Registered Laboratory. Any individual possessing qualifications as in (i) and hiring services of either GAR or Registered Testing Laboratory shall also be eligible for registration.
- (B) The registration shall be renewed every one year.
- (C) The registration may be cancelled for unprofessional conduct permanently or for a specified period

A.2.6. TOWN PLANNER ON RECORD (TPR)

The qualifications, responsibility and the professional charges shall be applicable as prescribed by the Institute of Town Planners, India for their members for rendering professional services.

B.1 APPOINTMENT OF PROFESSIONALS:

The Owner/ Developer shall appoint Town Planner on Record (TPR), Architect on Record (AR), Engineer on Record (ER), Structural Engineer on Record (SER), Structural Design Agency on Record (SDAR), Geotechnical engineer on Record (GER), Construction Engineer on Record (CER), (CMAR), and Quality Auditor on Record (QAR) and Quality Audit Agency on Record (QAAR) as required A proper written agreement(s), in a standard format(s), should be entered upon with such professional(s) engaged.

B.2 APPOINTMENT OF PROFESSIONALS

B.2.1 The Owner/Developer shall appoint the following professionals, out of the registered professionals described in B.1 above for every project as required.

- Town Planner on Record (TPR)
- Architect on Record (AR)
- Engineer on Record (ER)

- Structural Engineer on Record (SER)
- Structural Design Agency on Record (SDAR)
- Geo-Technical engineer on Record (GER)
- Construction Engineer on Record (CER)
- Construction Management Agency on Record (CMAR)
- Quality auditor on Record (QAR)
- Quality Audit Agency on Record (QAAR)

B.2.2. The Owner/Developer shall submit a list of the appointed professionals on Record with the application for building permission to the Authorities. (Consent/undertaking from these professionals needed in the required format at the time of seeking building permission)

B.2.3. In case the Owner/Developer change any of the professional on Record intimation to that effect shall be sent to the competent authorities, along with a no-objection certificate from the professional who is being changed.

B.3 GENERAL DUTIES AND RESPONSIBILITIES APPLICABLE TO ALL PROFESSIONALS:

- A) Each professional shall clearly indicate on every plan, document and submission, prepared by him the details of his/her designation with registration number and date, full name and his/her address below the signature for identification.

- B) The Structural Engineer on Record and Architect on Record shall be responsible for adhering to the provisions of the relevant and prevailing 'Indian Standard Specifications'. They will not be held responsible for the severe damage or beyond the design forces provided in the above 'Indian Standard Specifications'.

B.3.1. STRUCTURAL ENGINEER ON RECORD (SER):

Duties and Responsibilities:

- (A) At the time of seeking permission from Authority for starting construction, the Owner shall submit an undertaking from SER or SDAR that
 - i) The SER/SDAR is agreeable to accept the assignment to prepare designs, drawings

- ii) The designs shall be carried out according to relevant national codes and specifications and good engineering practice
 - iii) A structural design report giving salient features of the structure, loads and soil characteristics and capacity, etc. shall be submitted in the prescribed format
- (B) In the case of high-rise buildings and special structures, SER/SDAR shall
- i) Prepare preliminary design of the structure in addition to the Report indicated in A (iii) above.
 - ii) Get required soil (geo-technical) investigation done from an approved laboratory and submit the report concerning the same in prescribed format to the Authority
 - iii) Get the Preliminary Design checked through third party verification by a member of Structural Design Review Panel and submit a certificate concerning the same to the Authority. Provided that in case of high rise buildings having seven or more structural floors and special structures detailed design verification of major structural components will be required.
- (C) All Reports and other submissions to the Authority by and on behalf of the SDAR shall only be signed by Registered Structural engineer (SER) as a proprietor, partner or as a designated officer of the company.
- (D) To prepare a report of the structural design
- a) To prepare detailed structural design and to prescribe the method and technique of its execution strictly on the basis of National Building Code or relevant Indian Standard Specifications
 - b) To prepare detailed structural drawings and specifications for execution indicating thereon, design live loads, safe soil bearing capacity, specifications of material, assumptions made in design, special precautions to be taken by contractor to suit the design assumptions etc whatever applicable.
 - c) To supply two copies of structural drawings to the supervisor
 - d) To advise the Owner/Architect/Engineer for arranging for tests and their reports for soil, building material etc. for his evaluation and design consideration
 - e) To prepare the revised calculations & drawings in case of any revision with reference to the earlier submission of drawings & design in a particular case
 - f) To inform in writing the Authority within 7 days, if for any reason, he/she is relieved of his appointment/responsibilities as the registered structural designer for the development.

B.3.2. CONSTRUCTION ENGINEER ON RECORD (CER)

All construction work shall be carried out under the supervision of a Construction Engineer on Record.

- a) To adhere strictly to the structural drawings, specifications and written instructions of the Structural Engineer on Record and Architect on Record/Engineer on Record
- b) To follow the provisions of N.B.C. or I.S. specifications as regards materials, components, quality control and the process of construction
- c) To provide for safety of workers and others during excavation, construction and erection
- d) To provide safe and adequate temporary structure required for construction and erection
- e) To bring to the notice of the structural designer and Architect/Engineer any situation of circumstances which in his opinion are liable to endanger the safety of the structure
- f) To deposit with the Authority one set of working drawings of the works executed along with the progress certificates before proceeding with the next stage of the work.
- g) He/she shall be in overall charge of the site and responsible for overall supervision of the work
- h) He/she shall ensure that all the work under his charge is carried out in conformity with the approved drawings and as per the details and specifications supplied by the registered Architect/Engineer
- i) He/she shall take adequate measures to ensure that no damage is caused to the work under construction and adjoining properties
- j) He/she shall also ensure that no undue inconvenience is caused in the course of his/her work to the people in the neighborhood.
- k) He shall also ensure that no nuisance is caused to traffic & neighboring people by way of noise, dust, smell, vibration etc. in the course of his/her work

B.3.3. CONSTRUCTION MANAGEMENT AGENCY ON RECORD (CMAR)

Construction work for a high-rise building or Special structures shall be carried out by a Construction Management Agency on Record.

Duties and responsibilities:

- (A) At the time of seeking permission from Authority for starting construction of a high-rise building or special structures, the Owner shall submit an undertaking from CMAR that
 - i) The CMAR is agreeable to accept the assignment to execute the project as per designs, drawings and specifications
 - ii) The CMAR shall install a Quality Assurance programme by retaining an independent Quality Audit Agency on Record (QAAR) and submit a certificate concerning the same to the Owner/Developer as well as to the Authority. The appointed QAAR shall be acceptable to the Owner/Developer. (The text is put in italics as it does not specifically apply/relate for registration.)
- (B) Upon completion of the construction work of the high-rise building and special structures the CMAR shall intimate to the Owner/Developer that the work has been carried out according to the design drawings and specifications and written instructions of SDAR as per guidance of the QAAR
- (C) The CMAR shall submit a report and certificate in the prescribed format from the QAAR that the quality assurance programme has been satisfactorily carried out on the construction work. This report and certificate shall be submitted to the Owner/Developer for final submission to the Authority
- (D) All Reports and other submissions to the competent Authority by and on behalf of the CMAR shall only be signed by Construction Engineer on Record (CER) as a proprietor, partner or as a designated officer of the company.

B.3.4. QUALITY AUDITOR ON RECORD (QAR)

- (A) The construction work of a high-rise building executed by CMAR shall be under an independent quality inspection programme prepared and implemented under the supervision of an independent QAR

B.3.5. QUALITY AUDIT AGENCY ON RECORD (QAAR)

For all high-rise construction and special structures, it will be necessary to have an Independent Quality Inspection Programme, which will be determined and executed by an Independent quality audit Agency on Record (QAAR).

- (A) At the time of seeking permission from competent authority for starting construction of a high rise building of special structures CMAR shall submit an undertaking from QAAR that:
 - (1) The QAAR is agreeable to accept the assignment to implement the quality inspection programme. AND that the appointed QAAR is acceptable to the Owner/Developer
 - (2) The QAAR will get all the testing of building materials, concrete etc. done by an independent approved testing laboratory.

- (B) During construction of a high-rise building and special structures the QAAR shall carry out necessary testing of materials as well as non-destructive testing of structural components with the help of approved testing laboratory and submit to the CMAR and the owner/developer the reports as per quality inspection programme.
- (C) Upon completion of the construction of high-rise building or the special structure the QAAR shall submit the report and certificate in the prescribed format based on the quality inspection programme. This report and certificate will be submitted to the CMAR and the owner/developer for final submission to the Authority.
- (D) All reports and other submissions to the CMAR by QAAR shall only be signed by Quality auditor on Record (QAR) as proprietor, partner or as a designated officer of the company.

B.3.6. GEO-TECHNICAL AGENCY ON RECORD (GAR)

All buildings described in Table-1 shall have, for foundation work, services of a Geo-technical Agency on Record.

Duties and Responsibilities:

- a) To carry out soil investigation at proposed locations as per specifications of Structural Engineer on Record (SER) of Structural Design Agency on Record (SDAR)
- b) To recommend various type foundation for proposed structure and loading with supporting calculations
- c) To enable SER or SDAR to take site decision in case strata different than soil investigation report is met with
- d) To list out precautionary measures so that there is no damage to adjacent property

C. PROFESSIONAL FEES FOR SER/SDAR AND CER/CMAR

- (i) Considering the responsibility of structural safety of a building falls on the shoulders of the “SER/SDAR” for its proper design and the “CER/CMAR” for proper construction, it is imperative that selection and appointment of these professionals is made carefully after verification of their antecedents and past experience.
- (ii) The fees to be paid to SER/SDAR for structural design may be specified keeping in view the size and complexity of the project, which may vary, based on the cost of the items of the structure enumerated below. “Excavation, dewatering, diaphragm wall, piling, base concrete, waterproofing of basement and other under ground structures, all grades of concrete, reinforcement, pre-stressing cables or tendons, structural

steel, load bearing masonry, parts of structural glazing or curtain walls to be designed against earthquake and wind forces, clamps for stone cladding”.

- (iii) Similarly, fees for construction management to CER/CMAR may be specified keeping in view the size and complexity of the project and the duration for which construction management services have to be provided on the basis of the total cost of the project.
- (iv) Proof checking: Fees for Proof checking where carried out may vary based on the cost of the structural items enumerated in (ii) above.

D. DEVELOPER:

Duties and responsibilities:

1. To obtain and submit to the Authority, along with application for development permission, each progress report and application for occupation certificate.
2. To appoint an Architect on Record/Engineer on Record and Structural Engineer on Record.
3. To obtain at relevant stages certificates from them, for submission to the Authority, that in designing the real estate development and providing detailed drawings and specifications for it they have complied with requirements as laid out in the GDCR Regulations.
- 4) To appoint a registered CER as site supervisor
- 5) To obtain and adhere to the quality assurance procedure prepared by the registered site supervisor
- 6) To adequately enable the site supervisor to carry out his responsibilities
- 7) To certify along with the site supervisor that construction of the real estate development has been carried out as per the design, detailed drawings and specifications provided by the Architect on Record/Engineer on Record and Structural Engineer on Record
- 8) To obtain building permission from the Authority prior to commencement of construction of the real estate development
- 9) To regularly submit progress reports and certificates as required by the Authority
- 10) To inform in writing the Authority within 7 days, if for any reason he ceases to be the developer or is relieved of his responsibilities as the developer of the real estate development
- 11) To inform in writing the Authority within 7 days, if for any reason any of the registered professionals appointed by him have been relieved of their responsibilities or have resigned

- 12) The appointment of the registered Architect/Engineer on Record shall mean that he (the Developer) has authorized the Architect on Record/Engineer on Record to do all things necessary and to take all adequate measures for preparing the design, drawings and specifications for the project and to appoint on his behalf appropriate persons to act as registered, clerk of works site supervisor, required for the proper execution of the project and to retain on behalf of the owner any other specialist or expert required on the work of the project.
- 13) He shall not cause or allow any deviations from the approved drawings in the course of the execution of the project against the instruction of Architect on Record/Engineer on Record/Site Supervisor on Record/Clerk of Works on Record/Structural Engineer on Record and shall bear all responsibility for any irregularity committed in the use and function of the building or its parts for which the approval has been obtained.
- 14) When no registered construction contractor or site supervisor is required to be appointed he shall be responsible for their duties and responsibilities under the byelaws.
- 15) He shall not commence the use of building or shall not give the possession to occupy the building to any one before obtaining the occupancy certificate from the Authority
- 16) He shall provide adequate safety measures for structural stability and protection against fire hazards likely from installation of services like electrical installation, plumbing, drainage, sanitation, water supply etc., wherever required under the regulations.
- 17) He shall exhibit the names of registered persons only on site and no additional names will be exhibited/displayed
- 18) He shall explain the construction design and its intended use as per approved plan only, to the prospective purchaser of the premises under construction
- 19) He shall make available copies of titles for the land, approved plans and all certificates issued to the Authority under these Byelaws.

E. OWNER:

“Owner”: in relation to any property, includes any person who is for the time being, receiving or entitled to receive, whether on his own account or on account of or on behalf of, or for the benefit of any other person or as an agent, trustee, guardian, manager or receiver for any other person or for any religious or charitable institution, the rents or profits of the property, and also includes a mortgaging possession thereof.

APPENDIX - B

STRUCTURAL DESIGN BASIS REPORT

1. This report to accompany the application for Building Permission.
2. In case information on items 3, 10, 17, 18 and 19 cannot be given at this time, it should be submitted at least one week before commencement of construction.

Part 1 General Data			
S. No	Description	Information	Notes
1	Address of the building <ul style="list-style-type: none"> • Name of the building • Plot number • Subplot number • TPS scheme a. Name b. Number • Locality / Township • District 		
2	Name of the owner		
3	Name of builder on record		
4	Name of Architect/Engineer on record		
5	Name of Structural Engineer on record		
6	Use of the building		
7	Number of storeys above ground level (including storey to be added later, if any)		
8	Number of basements below ground level		
9	Type of structure <ul style="list-style-type: none"> • Load bearing • R.C.C frame • R.C.C frame and shear walls • Steel frame • 		
10	Soil data <ul style="list-style-type: none"> • Type of soil • Design safe bearing capacity 		IS: 1893 Cl.6.3.5.2 IS: 1904
11	Dead load (unit weight adopted) <ul style="list-style-type: none"> • Earth • Water • Brick masonry • Plain cement concrete • Reinforced cement concrete • Floor finish • Other fill materials Piazza floor fill and landscape		IS:875 Part 1

12	Imposed (Live) loads <ul style="list-style-type: none"> • Piazza floor accessible to Fire Tender • Piazza floor not accessible to Fire Tender ♥ Floor loads ♦ Roof loads		IS: 875 Part 2
13	Cyclone / Wind <ul style="list-style-type: none"> • Speed • Design pressure intensity 		IS: 875 Part 3
14	Seismic zone		IS: 1893 (2002)
15	Importance factor		IS: 1893 (2002) Table 6
16	Seismic zone factor (Z)		IS: 1893 Table 2
17	Response reduction factor		IS: 1893 Table 7
18	Fundamental natural period -approximate		IS: 1893 CL. 7.6
19	Design horizontal acceleration spectrum value (A_h)		IS: 1893 CL. 6.4.2
20	♠ Expansion / Separation joints		

♥ Enclose small scale plans of each floor on A4 sheets

♦ In case terrace garden is provided, indicate additional fill load and live load

♠ Indicate on a small scale plan on A4 sheet

APPENDIX-B (continued)

Part 2		Load bearing masonry buildings																					
S. No.	Description	Information	Notes																				
1	• Building category		IS: 4326 CL. 7 read with IS: 1893 <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">Zone</td> <td>II</td> <td>III</td> <td>IV</td> <td>V</td> </tr> <tr> <td style="text-align: center;">Bldg</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">Ordinary</td> <td>B</td> <td>C</td> <td>D</td> <td>E</td> </tr> <tr> <td style="text-align: center;">Important</td> <td>C</td> <td>D</td> <td>E</td> <td>E</td> </tr> </table>	Zone	II	III	IV	V	Bldg					Ordinary	B	C	D	E	Important	C	D	E	E
Zone	II	III	IV	V																			
Bldg																							
Ordinary	B	C	D	E																			
Important	C	D	E	E																			
2	Basement provided																						
3	Number of floors including Ground floor (all floors including stepped floors in hill slopes)																						
4	Type of wall masonry																						
5	Type and mix of mortar		IS: 4326 CL. 8.1.2																				
6	Re: size and position of openings (see note No.1) • Minimum distance (b5)		IS: 4326 Table 4, Fig. 7																				

	<ul style="list-style-type: none"> Ratio $(b_1 + b_2 + b_3)/1_1$ or $(b_6 + b_7)1_2$ Minimum pier width between consequent opening (b_4) Vertical distance (h_3) Ratio of wall height to thickness 4 Ratio of wall length between cross wall to thickness 			
7	Horizontal seismic band <ul style="list-style-type: none"> At plinth level At window sill level At lintel level At ceiling level At eave level of sloping roof At top of gable walls At top of ridge walls 	IP TP NA <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	(See Note No. 2) IS: 4326 CL 8.4.6 IS: 4326 CL 8.3 IS: 4326 CL 8.4.2 IS: 4326 CL 8.4.3 IS: 4326 CL 8.4.3 IS: 4326 CL 8.4.4	
8	Vertical reinforcing bar <ul style="list-style-type: none"> At corners and T junction of walls At jambs of doors and window openings 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	IS: 4326 CL 8.4.8 IS: 4326 CL 8.4.9	
9	Integration of prefab roofing / flooring elements through reinforced concrete screed	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	IS: 4326 CL. 9.1.4	
10	Horizontal bracings in pitched truss <ul style="list-style-type: none"> In horizontal plane at the level of ties In the slopes of pitched roofs 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		

Notes:

- Information in item 6 should be given on separate A4 sized sheets for all walls with large number of openings
- IP. indicated "Information Provided"
 TP indicates "Information to be provided"
 NA indicates "Not applicable"
 Tick mark one box.

APPENDIX-B (continued)

Part 3 Reinforced concrete framed buildings			
S No.	Description	Information	Notes
1	Type of building <ul style="list-style-type: none"> Regular frames Regular frames with shear walls Irregular frames Irregular frames with shear walls Soft storey 		IS: 1893 CL. 7.1

2	Number of basements		
3	Number of floors including ground floor		
4	Horizontal floor system <ul style="list-style-type: none"> • Beams and slabs • Waffles • Ribbed floor • Flat slab with drops • Flat plate without drops 		
5	Soil Data <ul style="list-style-type: none"> • Type of soil • Recommended type of foundation <ul style="list-style-type: none"> - Independent footings - Raft - Piles • Recommended bearing capacity of soil • Recommended, type, length, diameter and load capacity of piles • Depth of water table • Chemical analysis of ground water • Chemical analysis of soil 		IS: 1498
6	Foundations <ul style="list-style-type: none"> • Depth below ground level • Type <ul style="list-style-type: none"> ▪ Independent ▪ Interconnected ▪ Raft ▪ Piles 		
7	System of interconnecting foundations <ul style="list-style-type: none"> • Plinth beams • Foundation beams 		IS: 1893 Cl.7.12.1
8	Grades of concrete used in different parts of building		
9	Method of analysis used		
10	Computer software used		
11	Torsion included		IS: 1893 CL. 7.9
12	Base shear <ol style="list-style-type: none"> a. Based on approximate fundamental period b. Based on dynamic analysis c. Ratio of a/b 		IS: 1893 CL. 7.5.3
13	Distribution of seismic forces along the height of the building		IS: 1893 CL. 7.7 (provide sketch)
14	The column of soft ground storey specially designed		IS: 1893 CL. 7.10
15	Clear minimum cover provided in <ul style="list-style-type: none"> • Footing • Column • Beams 		IS: 456 CL. 26.4

	<ul style="list-style-type: none"> • Slabs • Walls 		
16	<p>Ductile detailing of RC frame</p> <ul style="list-style-type: none"> • Type of reinforced used • Minimum dimension of beams • Minimum dimension of columns • Minimum percentage of reinforcement of beams at any cross section • Maximum percentage of reinforcement at any section of beam • Spacing of transverse reinforcement in 2-d length of beams near the ends. • Ratio of capacity of beams in shear to capacity of beams in flexure • Maximum percentage of reinforcement in column • Confining stirrups near ends of columns and in beam-column joints <ul style="list-style-type: none"> a. Diameter b. Spacing • Ratio of shear capacity of columns to maximum seismic shear in the storey 		<p><i>IS: 456 CL. 5.6</i> IS: 13920 CL. 6.1 IS: 13920 CL. 7.1.2 IS: 456 CL. 26..5.1.1. (a) IS: 13920 CL. 6.2.1 IS: 456 CL. 26.5.1.1. (b) IS: 13920 CL. 6.2.2 IS: 13920 CL. 6.3.5</p> <p>IS: 456 CL. 26.5.3.1 IS: 13920 CL. 7.4</p>

General Notes

1. A certificate to the effect that this report will be completed and submitted at least one month before commencement of construction shall be submitted with the application for Building Development Permission.
2. In addition to the completed report following additional information shall be submitted, at the latest, one month before commencement of construction.
 - 2.1. Foundations
 - 2.1.1 In case raft foundation has been adopted indicate K value used for analysis of the raft.
 - 2.1.2 In case pile foundations have been used give full particulars of the piles, type, dia, length, capacity
 - 2.1.3 In case of high water table indicate system of countering water pressure, and indicate the existing water table, and that assumed to design foundations.
 - 2.2. Idealization for Earthquake analysis.

- 2.2.1. In case of a composite system of shear walls and rigid frames, give distribution of base shear in the two systems on the basis of analysis and that used for design of each system
- 2.2.2 Indicate the idealization of frames and shear walls adopted in the analysis with the help of sketches
- 2.3. Submit framing plans of each floor
- 2.4. In case of basements, indicate the system used to contain earth pressures.

APPENDIX-B (continued)

Part 4 Buildings in structural steel			
1	Adopted method of Design	<input type="radio"/> Simple <input type="radio"/> Semi-rigid <input type="radio"/> Rigid	IS: 00; CL. 3.4.4 IS: 800; CL. 3.4.5 IS: 800; CL 3.4.6
2	Design based on	<input type="radio"/> Elastic analysis <input type="radio"/> Plastic analysis	IS: 00; Section-9 SP: 6(6)
3	Floor construction	<input type="radio"/> Composite <input type="radio"/> Non composite <input type="radio"/> Boarded	
4	Roof construction	<input type="radio"/> Composite <input type="radio"/> Non-composite <input type="radio"/> Metal <input type="radio"/> Any other	
5	Horizontal force resisting system adopted	<input type="radio"/> Frames <input type="radio"/> Braced frames <input type="radio"/> Frames and shear walls	Note: Seismic force As per IS:1893 would depend on system
6	Slenderness ratios maintained	Members defined in Table 3.1, IS: 800	IS: 800; CL. 3.7
7	Member of deflection limited to	Beams, Rafters Crane Girders Purlins Top of columns	IS: 800; CL. 3.13
8	Structural members	<input type="radio"/> Encased in concrete <input type="radio"/> Not encased	IS: 800; Section-10
9	Proposed materials	<input type="radio"/> General weld-able <input type="radio"/> High strength <input type="radio"/> Cold formed <input type="radio"/> Tubular	IS: 2062 IS: 8500 IS: 801, 811 IS: 806
10	Minimum metal thickness Specified for corrosion protection	<input type="radio"/> Hot rolled sections <input type="radio"/> Cold formed sections <input type="radio"/> Tubes	IS: 800; CL. 3.8 CL. 3.8.1 to CL 3.8.4 CL. 3.8.5 CL. 3.8.5
11	Structural connections	<input type="radio"/> Rivets <input type="radio"/> CT Bolts	IS: 800; Section-8 IS: 1929, 2155, 1149

		<input type="radio"/> SHFG Bolts <input type="radio"/> Black Bolts <input type="radio"/> Welding-field Shop (Specify welding type proposed) <input type="radio"/> Composite	IS: 6639, 1367 IS: 3757, 4000 IS: 1363, 1367 IS: 816, 814, 1395 7280, 3613, 6419 6560, 813, 9595
12	Minimum fire rating Proposed with method	<input type="radio"/> Rating..... hours <input type="radio"/> Method proposed- - In tumescent painting -Spraying -Quilting -Fire retardant boarding	IS: 1641, 1642, 1643

APPENDIX-C

STRUCTURAL INSPECTION REPORT

(This Form has to be completed by registered Structural Designer after his site Inspection and verification regarding compliance of all recommendation by the owner, which in the opinion of the registered structural designer are necessary for safety of the structure)

I. Description by title and location of the property including T.P. No., F.P. No etc:

II. Name of the present owner:

III. Description of the structure:

Class I or Class II (Briefly describe the property in general and the structure in particular)

(a) Function	(b) Framed construction							
	Residence (with or without shops)	or Apartments (with or without shops)	Office bldg.	Shopping centre	School, college	Hostel	Auditorium	Factory
	1	2	3	4	5	6	7	8
A. Load bearing masonry wall construction								
B. Framed structure								
Construction and structural materials	Critical load bearing element	Brick	RCC	Stone	Timber	Steel		
	Roof Floor	RCC	Timber	RBC	Steel	Jack-arch		

- IV. Year of construction
- Year of subsequent additions or rectification's (Please describe briefly the nature of additions or rectification's).
- V. Date of last inspection report filed: Last filed by whom (This does not apply to the first report).
- VI. Soil on which building is founded :
- i) Any change subsequent to construction :
 - ii) Nearby open excavation :
 - iii) Nearby collection of water :
 - iv) Proximity of drain :
 - v) Underground water tank :
 - vi) R.W. Pipes out – lets :
 - vii) Settlements :
- VII. The Super – structure (R.C.C. Frame structure) :
- i. Crack in beam or column nature and extent of crack
probable causes. :
 - ii) Cover spell :
 - iii) Exposure of reinforcement :
 - iv) subsequent damage by user for taking pipes,
conduits, hanging, fans or any other fixtures, etc. :
 - v) Crack in slab
 - v) Spalling of concrete or plaster of slab
 - vi) Corrosion of reinforcement :
 - vii) Loads in excess of design loads
- VIII. The Super – Structure (Steel Structure) :
- i) Paintings :
 - ii) Corrosion :
 - iii) Joint, nuts, bolts, rivets, welds, gusset plates :
 - iv) Bending or buckling of members
 - v) Base plate connections with columns or pedestals :
 - vi) Loading :
- IX. The Super – Structure (Load bearing masonry structure):
Cracks in masonry walls)

(Please describe some of the major cracks, their nature, extent and location, with a sketch, if necessary).

X. Recommendation if any

This is to certify that the above is a correct representation of facts as given to me by the owner and as determined by me after Site Inspection to the best of my ability and judgement.

The recommendations made by me to ensure adequate safety of the structure are complied with by the owner to my entries satisfaction.

(Signature of the Registered Structural Engineer)

Date: _____

Name of the registered structural Engineer:

Registration No.

Address:

APPENDIX-D

MODEL PROFORMA FOR TECHNICAL AUDIT REPORT

1. Design

	COMMENTS
1.1. Design/Drawings available?	Y/N
Design category Type design? <i>Specific design?</i>	Y/N Design to be collected to refer to Design Consultant/H.O.
Drawings prepared / checked by competent Authority?	Y/N
Design drawings / details Structural detailed included Earthquake/cyclone resistant features included?	Y/N Y/N
Design verified/vetted by Dept./Govt. approved agency/competent authority?	Y/N
Design changes approved by Dept./Govt. approved agency/competent authority?	Y/N

2. Foundation

2.1. Foundation used Existing/New

2.2.1 If existing foundation used

2.2.1. Depth of foundation below ground : <50cm/50-70/>70cm

2.2.2. Type of masonry : Stone/brick/PCC blocks

2.2.3. Thickness of masonry (above ground): 23cm/35/>35

2.2.4. Mortar used : Cement-sand/Lime/Mud

2.2.5. Mix of cement mortar : 1:4/1:6/Leaner

2.2.6. Height upto plinth : _____ cm

2.2.7. If stone mason

2.2.7.1 Through stones : Yes/No, if Yes Adequate/inadequate

2.2.7.2 Corner stones : Yes/No, if Yes Adequate/Inadequate

2.3. If new foundation used

- 2.3.1. Depth of foundation below ground : _____<50/50-70/>70cm
- 2.3.2. Type of masonry blocks : stone/bricks/PCC
- 2.3.3. Thickness of masonry above plinth : 23cm/35/>35cm
- 2.3.4. Mortar used : Cement-sand/lime/mud
- 2.3.5. Mix cement mortar (1:4) : Yes/No
- 2.3.6. Height up to plinth : <60/>60cm
- 2.3.7. If stone masonry
- 2.3.7.1 Through Stones : Yes/No, if yes Adequate/Inadequate
- 2.3.7.2 Corner Stones : Yes/No, if yes Adequate/Inadequate
- 2.4. Vertical reinforcement in foundation : Yes/No

3 Walling

- 3.1 Type of masonry : Stone/Brick/PCC Blocks
- 3.2 Mortar used : Cement-Sand/Lime/Mud
- 3.3 Mix of cement mortar : 1;4/1;6/Leaner
- 3.4 Thickness of wall : >23cm/23cm/23cm
- 3.5 Mixing of mortar : OK/Not OK
- 3.6 Joint Property filled : OK/Not OK
- 3.7 Wetting of bricks : Good/Medium/Poor
- 3.8 If stone masonry
- 3.8.1 Through Stones : Yes/No
- 3.8.2 Corner Stones : Yes/No
- 3.9 Overall workmanship : Good/Medium/Poor

4 Roofing

- 4.1 Type of roof : Flat/Sloping

4.2	If sloped	:	Morbid tiles/A.C. sheet/G.I. sheet
4.3	Purlins	:	Angle-Iron/Timber/NA
4.4	Truss type	:	_____
4.5	Anchorage with wall	:	Adequate/Inadequate/NA
5	Materials		
5.1	Cement		
5.1.1	Source	:	Authorised Dealer/Market
5.1.2	Type of cement	:	OPC/PPC/PSC
5.1.3	If OPC	:	Grade (33/43/53)
5.2	Sand		
5.2.1	Type of sand	:	River sand/Stone dust
5.2.2	Presence of deleterious material	:	Mild/Moderate/high
5.3	Coarse Aggregates		
5.3.1	Type coarse Aggregates	:	Gravel/Crushed Stone
5.3.2	Presence of deleterious material	:	Mild/Moderate/High
5.4	P.C.C. Blocks (Applicable for onsite production)		
5.4.1	Type of P.C.C. Blocks	:	Solid blocks/Hollow blocks
5.4.2	Ratio of concrete in blocks	:	_____
5.4.3	Interlocking feature	:	Yes/No
5.4.4	Coarse aggregates used	:	Natural/Crushed stone
5.5	Bricks Blocks, Stone etc.		
5.5.1	Strength (field assessment)	:	Low/Medium/High
5.5.2	Dimensional accuracy	:	Yes/No
5.6	Concrete		
5.6.1	Mix of concrete	:	(1:1 ½:3)/(1:2:4)/Design Mix
5.6.2	Batching	:	Weigh batching/Volume batching
5.6.3	Compaction	:	Vibrators/Thappies and rods

5.6.4	Workability	:	Low/Medium/High	
5.6.5	Availability of water	:	Sufficient/Insufficient	
5.6.6	Curing	:	Satisfactory/Unsatisfactory	
5.7	Reinforcing Steel			
5.7.1	Type of Steel	:	Plain mild steel/HYSD bars	
5.7.2	Source	:	Authorised Dealer/Market	
5.7.3	Whether IS marked	:	Yes/No	
5.7.4	Conditions of bars	:	Clean/Corroded	
5.7.5	Fixing of reinforcement as per drawings	:	Yes/No	
5.7.6	Suitable cover	:	Yes/No	
5.7.7	Spacing of bars	:	Regular/Irregular	
5.7.8	Overlaps as per specifications:		Yes/No	
5.8	Form Work			
5.8.1	Type of Form Work	:	Timber/Ply board/Steel	
5.8.2	Use of mould oil	:	Yes/No	
5.8.3	Leakage of cement slurry	:	Observed/Not observed	
5.9	Source			
5.9.1	Cement			
5.9.2	Sand			
5.9.3	Coarse Aggregates			
5.9.4	Bricks			
5.9.5	PCC blocks			
6	Seismic resistance features			
	Masonry Structures			
	Provision of bands at			
	Provided			
	Adequate			
	6.1.1.1 Plinth level		Yes/No	Yes/No

6.1.1.2 Skill level	Yes/No	Yes/No
6.1.1.3 Lintel level	Yes/No	Yes/No
6.1.1.4 Roof level (if applicable)	Yes/No	Yes/No

If sloped Roof, whether seismic bands are provide at

6.1.2.1 Gable wall top	Yes/No	Yes/No
6.1.2.2 Eaves level	Yes/No	Yes/No

Provision of vertical steel in masonry at

Provided	Adequate		
6.1.3.1 Each corner		Yes/No	Yes/No
6.1.3.2 Each T-junction		Yes/No	Yes/No
6.1.3.3 Each door joint		Yes/No	Yes/No
6.1.3.4 Around each window		Yes/No	Yes/No

Openings

6.1.4.1 Total width of openings (* -42% for double storey)	:	<50% / 50*-60% / >60%
6.1.4.2 Clearance from corner	:	OK / Not OK
6.1.4.3 Pier width between two openings	:	OK / Not OK

Framed Structures

Ductile detailing

6.2.1.1 Spacing of stirrup	:	OK /Not OK
6.2.1.2 Sizes of members	:	OK / Not OK
6.2.1.3 End anchorage	:	OK / Not OK
6.2.1.4 Lapping (length, location etc.)	:	OK / Not OK
6.2.1.5 Angle of stirrup hook	:	90 / 135 degrees

Any testing carried out by Owner / Engg. Supervisor on

Testing done Testing results

6.3.1 Water	Yes/No	OK / Not OK
6.3.2 Cement	Yes/No	OK / Not OK
6.3.3 Bricks / PCC blocks / Stones	Yes/No	OK / Not OK
6.3.4 Aggregate	Yes/No	OK / Not OK
6.3.5 Mortar	Yes/NO	OK / Not OK
6.3.6 Concrete	Yes/No	OK / Not OK
6.3.7 Reinforcement	Yes/No	OK / Not OK

Form for Application to Erect, Re-Erect or to make material Alteration in any Place in a Building

To,

The Meghalaya Urban
Development Authority

Sir/Madam,

I hereby give notice on behalf of Shri. (owner) that the owner intends to erect/demolish or make alteration the building situated at and in accordance with the building Bye-law No and I forward herewith, the following plans and specification duly signed by me and by the owner

1. Site plan, Building Plan, Section , Elevation
2. Ownership Title (lease/Conveyance/Sale Deed, etc)
3. Affidavit cum undertaking as per Form I(a)
4. Statement of Proposal and Certificate as per Form I(b) and (c)
5. Certificate of Undertaking as per Form I(d)
6. Structural Design Basis Report
7. Other document, as required Service Plan, Parking and circulation plan, Landscape Plan

- (i) The building plan has been prepared strictly as per the approved building Byelaws. The construction shall be carried out in accordance with the building plan and I shall be completely accountable for any lapse on my part up to within 6 months after obtaining completion certificate of the building.
- (ii) I am aware that in the event of building being constructed in violation of the sanctioned building plan approval, the Authority shall have the right to take action against me as it may deem fit and/or including referring the matter to Council of Architecture for taking disciplinary action against me.

.....
.....
Signature of the Owners

Name of owner(s)
Address of the owner(s)

(Signature of Registered
Architect/Engineer/Supervisor)
Registration No. of the
Architect/Engineer/Supervisor

Address of the Architect/Engineer/
Supervisor

Encl : A stated above

Dated

Affidavit-cum-Undertaking

(Affidavit of Architect / License Technical Personnel on Rs. 10/- Non-Judicial Stamp paper of specified amount to be Attested by Notary Public/Metropolitan Magistrate)

*I son/daughter of
Architect/License technical Personnel by profession having office at
Do hereby solemnly affirm and declare as under :*

- 1. That I am a Licensed Architect/Engineer/Supervisor/Plumber duly registered with the Authority vide registration No.
or
That I am an Architect by profession and duly registered with the Council of Architecture vide Registration No*
- 2. That I have been engaged as an Architect for preparing the Building plans and to supervise construction in respect of building of.....
situated at*
- 3. That I have prepared the building plans in respect of the aforesaid plot.*
- 4. That I have personally inspected the site. The plot has been demarcated at site and the size, shape and area of plot available at site tallies with the land document.*
- 5. That the ownership documents are in the shape of registered sale-deed/lease-deed in favour of the applicants and have been thoroughly examined and the ownership in favour of the applicant is in order.*
- 6. That there is no construction in existence at the plot and no construction shall be started before sanction of the building plans.*
- 7. That there is no encroachment on the Municipal land/road/other property and road widths as shown in the layout plan are available at site.*
- 8. That the proposal are in conformity with the terms and condition of lease deed which is still valid and period of construction as per lease-deed and the extension granted by the lessor is valid up to*
- 9. That the proposal have been prepared strictly in accordance with the Building Bye-laws/rules/regulation and practice of the department and no misinterpretation on inference of provision of Building Bye-Law has been done while preparing the plans. The construction shall be carried out strictly in accordance with the sanctioned building plans and in case any deviation is carried out, I shall inform the Authority within 48 hours.*

10. That in case the owner dispenses with my services at any stage whatsoever, I shall inform the Authority within 48 hours.

11. That mandatory setbacks have been proposed and shall be maintained in accordance with the setbacks marked in the layout plan/Master Plan/byelaws.

12. That nothing has been concealed and no misrepresentation has been made while preparing and submitting the building plans.

13. That in case anything contrary to the above is found or established at any stage, the Authority shall be at liberty to take any action as it may deem fit including revocation of sanction of building plans and debarring me for submission of building plans with the Authority and also lodge a complaint with the Council of Architecture for appropriate action/take action as deemed fit. (strike out whichever is inapplicable).

Deponent

Verification:

I the above named deponent do hereby verify at on thisof 20 that contents of the above affidavit are true and correct to my knowledge. No part of it is false and nothing has been concealed there from.

Deponent

Statement of the Proposal and Certificate
By the Owner and Registered Architect/Engineer

Classification of the Proposal(To erect/re-erect/demolition)
Building of.....situated at.....
Plot Areasq.mt. Size(in meter)

Area Statement

Description	Permissible	Proposed Sq.mt.	Remarks Sq.mt.
Max.Ground coverage			
Basement			
Ground Floor			
First Floor			
Second Floor			
Third Floor			
Total Floor area			
Floor Area Ratio			
No.of Dwelling Units			

Maximum height (in meters)

Setbacks	Permissible	Proposed (mt.)
Front		
Rear		
Left		
Right		

Parking spaces

Open Parking	Ground Floor Covered parking	Basement Total Parking (sq.mt)

We hereby certify that

1. Plot is lying vacant and no construction shall be started before sanction.
2. The plot is free from all encumbrances (owner responsibility).

Signature of Owner(s)

Signature of Registered Architect/Engineer

Name
(in block letters)
.....

Name
(in block letters)
Registration No.....

Address.....
.....

Address.....
.....

Dated

Dated.....

Form for specifications Proposed Building - above 250 sq mts in addition to Form I(b)
 The purpose (Residence, Office, Restaurant, Hotel, School, Hostel Cinema, Shop, Factory Others) for which it is intended to be used.....

Details of coverage on respective floor are given below:

	Existing(sq.mt)	Proposed(sq.mt)	Total (sq.mt)
1. Basement Floor.....			
2. Ground Floor			
3. Mezzanine Floor			
4. First Floor			
5. Second Floor			
6. Third Floor			
7.			
8.			
9.			
10.			

- (a) Approximate number of inhabitants proposed to be accommodated
- (b) The number of latrines, Urinals, Kitchens, Baths to be provided
- (c) The source of water to be used in the construction
- (d) Distance from public sewer
- (e) The materials to be used in construction Walls/Columns/Foundations/Roof/Floors

Signature of Registered Architect/Engineer
 Name.....
 Registration No.....
 Address

Certificate of Undertaking

To

Development Authority

Sir,

I hereby certify that erection/re-erection demolition or material alteration in / of belonging to situated at shall be carried out under my supervision and I certify that all the materials (type & Grade) and workmanship of the work shall be generally in accordance with the general specification submitted along with and the work shall be carried out according to the sanctioned plans which also included the services like drainage, sanitary, water supply, and electrical.

- 1. Certified that the Building Plans submitted for approval will satisfy the safety requirements as stipulated in the Building Bye-Laws and the information given therein is factually correct to the best of our knowledge and information.*
- 2. It is also certified that the structural design including safety from hazards based on soil conditions has been duly incorporated in the design of the building and the provisions will be adhered to during construction.*

Signature of Registered Architect Engineer/Supervisor

*Name of Registered Architect /Engineer/Supervisor
(In block letters).....*

Registration No. of Architect/ Engineer/Supervisor.

.....

Address of Registered Architect/ Engineer/Supervisor

.....

Dated :

FORM FOR NOTICE FOR COMMENCEMENT OF BUILDING WORK

To,

The Authority,
Meghalaya.

Sir,

I/We hereby certify that the erection, re-erection or material alteration in/ of building belonging tosituatedat will be commenced on _____ at.....AM. as per your building permission permission sanction No. _____ dated _____.

Signature of Owner (s)

Name (s) of the Owners (in block letters)

Address:

CERTIFICATE OF UNDERTAKING OF ARCHITECT/CONSTRUCTION ENGINEER ON RECORD

1. Certified that I am appointed as the Architect/ Construction Engineer on Record for the above mentioned work and that all the works under my charge shall be executed in accordance with the drawings and specifications prepared for the work.
2. I am fully conversant with the provisions of the Building Bye-Laws which are in force and about the duties and responsibilities under the same and I undertake to fulfill them in all respects.
3. I shall be present at site on the above date and time and alignment will be given as per the approved building envelop/ setbacks.

Signature of Architect/ Construction Engineer on Record _____

Name and License No. _____

Building Permission Sanction

BPS No.....
.....

Dated

To,

Subject : Sanction u/s.....

Sir or Madam,

With reference to your application dated for the grant of sanction to erect/re-erect/add to/alteration in the building to carry out the development specified in the said application situated in/at I have to state that the Authority subject to the following conditions and corrections done in the plans has sanctioned the same on

1. The plans are valid up to day Months.....
Year
2. The construction will be undertaken as per sanctioned plan only and no deviation from the bye-laws will be permitted without prior sanction. Any deviation done against the bye-laws is liable to be demolished and the supervising Architect/ License technical Personnel engaged on the job will run the risk of being black listed.
3. Violation of building bye-laws will not be compounded.
4. It will be the duty of the owner of the plot and the Architect / License Technical personnel preparing the plans to ensure that the sanctioned plans are as per prevalent Master Plan/Zonal Plan/Building Bye-laws. If any infringement of bye-laws remain unnoticed, the concerned Authority reserves the right to amend the plans as and when infringement come to the notice and concerned Authority will stand indemnified against any claim on this account.
5. A notice in writing shall be sent to Authority before commencement of the constructions of the building as per bye-laws. Similar notice will be sent to Authority when the building has reached up to foundation/foundation base/plinth level and at any other level as desired by the Authority.

6. *The owner shall not occupy or permit to occupy the building or use or permit to use the building or any part thereof affected by any such work until occupancy certificate is issued by the Authority.*
7. *Authority will stand indemnified and kept harmless from all proceedings in court and before other authorities of all expenses/claims which the Authority may incur or become liable to pay as a result or in consequences of the sanction accorded by it to these building plans.*
8. *The doors and window leaves shall be fixed in such a way that they shall not, when open project on any street.*
9. *The owner will not convert the house into more dwelling units on each floor than the sanctioned.*
10. *The building shall not be constructed within minimum distance as specified in Indian Electric Rules from voltage lines running on side of the plot.*
11. *The sanction will be void if auxiliary conditions mentioned above and other conditions imposed hereunder are not complied.*
12. *The owner will use the premises for the use, which has been sanctioned.*
13. *The owner will not proceed with the construction without having the supervision of an Architect/Engineer as the case may be. If he/she changes his Architect/Engineer. he/she shall inform the Authority about the appointment of new Architect/Engineer within 48 hours, with a proper certificate from him.*
14. *OTHER CONDITIONS:-*

Yours faithfully,

For

Encl: A set of sanctioned plan.

FORM FOR REFUSAL OF BUILDING PERMISSION SANCTION

To,
Shri/Smti. _____

Sir/Madam,

With reference to your application dated..... for the grant of building permission sanction at I am to inform you that the sanction has been refused by the Authority as the work does not comply with the following provisions of Meghalaya Town & Country Planning Act, 1973 and Bye-Laws made there under.

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10

Yours faithfully,

(Signature of Authority)
Meghalaya Urban Development Authority

Office Stamp

Form of Notice of Completion

To

The
..... Authority,

Dear Sir,

I/We hereby give notice that I/We have completed the erection of building/execution of the my building situated at.....in pursuance of the sanction granted by the Authority vide BPS No..... dated
I/We are enclosing the Certificate of the Architect/Licensed Technical Personnel.

2. Permission to occupy or use the building may be granted.

Yours faithfully,

Signature of owner.....

Name of owner.....
(In Block letters)

Address of the owner

.....

Dated :

Encl : As above

Form For Certificate of Architect/Engineer/Supervisor
(To be submitted along with notice of completion)

To

The
.....Authority,

Dear Sir,

We hereby certify that the erection, re-erection or material alteration in/at building of Shri/Smt.....situated at has been supervised by me and has been completed on according to the plans sanctioned, vide BPS Nodated The work has been completed to our best satisfaction, the workmanship and all the materials (type & grade) have been used strictly in accordance with general and detailed specifications. All the drainage/Sanitary/Water Supply work has been executed under our supervision and as per Building Bye-Laws. No provisions of the Building Bye-Laws and condition prescribed or order issued there under have been transgressed in the course of the work. The building is fit for use for which it has been erected/re-erected or altered/constructed and enlarged.

2. Certificate:

- (i) Certified that the building(s) has been constructed according to the sanctioned plan and structural design (one set of structural drawings as executed is enclosing) which incorporate the provisions of structural safety as specified in relevant prevailing IS codes standards/Guidelines.
- (ii) Further certified that water harvesting as well as waste water re-cycling systems have been provided as per the sanctioned building plan.
- (iii) It is also certified that construction has been one under our supervision and guidelines and adheres to the drawings submitted and the records of supervision have been maintained by us.

3. Permission to occupy of use the building may be granted.

4. Any subsequent change from completion drawings will be the responsibility of the owner(s)

(a) Signature of the owner
with date

(b) Signature of the Architect
with date

(c) Signature of the Structural Engineer
With date

(d) Signature of Supervisor/Engineer/
Group/Engineer with date
Name in Block letters, License No.

Address.

Address.

Dated:

FORM FOR OCCUPANCY CERTIFICATE

To,

Sir/Madam,

This is to certify the part / full development work / erection / re-erection or alteration in / of building / part building in Patta No. _____ situated at _____ Road / Street completed under the supervision of _____ licensed Architect / Engineer / Structural Engineer, License No. _____ is permitted to be occupied to the following condition.

1. _____
2. _____
3. _____
4. _____

Yours faithfully,

Meghalaya Urban Development Authority

Inspection Report

I working aswithhave carried out the inspection of Building belonging to Shri/Smt.....situated atin accordance with building permission sanction No
Dated

Alignment of the building as per approved plans has been given.

Accepted by:

1)Owner (name and signature).....date.....

2)Architect/License Technical Personnel (name and signature).....date.....

For the Authority:

Asst Engineer/Enforcement Inspector (i/c)

(Name and signature).....date.....

Intimation of Completion at different stages of construction work

To,

The
.....Authority.

Sir,

The construction up to footing trench/column up to plinth/plinth/slab level has been completed in the building of Shri/Smt.....situated atin accordance with your building permission sanction Nodated..... under my supervision and in accordance with the sanctioned plan.

You may please fix a convenient date and time to confirm the same

Yours faithfully,

Signature of Owner and Architect/Engineer

Name
(In Block letters)

Address

.....
The following deviation from the sanctioned plans have been noticed which are against the provision of Master Plan/Bye-laws are of non-compoundable nature.

Description of deviations noticed:

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.....

You may not proceed with further work till such time the deviations made are rectified and construction brought in conformity to sanction plans.

Yours faithfully,

For Authority