

From

Additional Chief Secretary to Government Haryana,
Town & Country Planning Department,
Haryana, Chandigarh.

To

1. Managing Director, HSIIDC, Sector-6, Panchkula.
2. Chief Administrator, HSVP, Sector-6, Panchkula
3. Director, Town & Country Planning Department, Haryana, Chandigarh.
4. Director, Urban Local Bodies Department, Haryana, Panchkula

Memo No. Misc-2339-(HBC)-Loose-II/7/9/2022-2TCP

Dated:27.06.2022

Subject:- Amendment in the Haryana Building Code, 2017 [Chapter-1, 10, Appendix A, BR-I and BR-V (A2)].

In exercise of the powers conferred under Code 13.2 of the Haryana Building Code, 2017 and with reference to the Haryana Government, Department of Town & Country Planning, Structural Safety Guidelines published on 29th of April, 2022, the following amendments in the Haryana Building Code, 2017 are being made to incorporate the said Structural Safety Guidelines as part of the Haryana Building Code-2017, namely:-

1. In the Haryana Building Code, 2017 (herein after called the said code), in Chapter-1, in Code 1.2,
 - (i) after clause (xlvii), the following clause (xlvii-a) shall be inserted :
“(xlvii-a) “Geotechnical Engineer” means a person having post-graduation in geotechnical engineering with minimum 10 year experience in Geotechnical engineering practice in designing and field work, or, Doctorate in Civil engineering or Geotechnical engineering with minimum 5 year experience in Geotechnical engineering practice in designing and field work. (Please see Appendix-A)”
2. In the said code, in Chapter 10:
 - (ii) the existing title ‘Chapter-10: Structural Materials’ shall be substituted with the following title, namely, ‘Chapter-10: Construction Materials and Safety’;
 - (iii) the existing code number and heading shall be substituted as per following:

Existing code number and heading	Substituted with the following code/ sub-code number and heading
a) 10.1 Materials	10.1 Construction Materials and Structural Design
b) 10.2 Foundations	10.1.1 Foundations
c) 10.3 Building Services	10.1.2 Building Services
d) 10.4 Plumbing Services	10.1.3 Plumbing Services
e) 10.5 Construction Practices and Safety	10.1.4 Construction Practices
f) 10.6 Damp Proof Course	10.1.5 Damp Proof Course

- (iv) after Code 10.1, the following Code 10.2 shall be inserted, namely:-

“10.2 Structural Safety Measures for high risk buildings

Notwithstanding anything to the contrary, as contained in this Code, in order to ensure the structural safety measures in high risk buildings, the provisions laid down hereunder shall be mandatory for the purpose of obtaining various approvals for building plan, undertaking construction, occupancy of a building and its post construction maintenance.

10.2.1 Empanelment of Structural Engineer, Proof Consultant, Supervising Engineer and Geo Technical Engineer:

- a) for building of height more than 70m, the Form BR-I as well as Form BR-V (A2) shall also be signed by Geotechnical Engineer, having a Masters degree in Geotechnical Engineering from a recognized institution and having atleast 10 years of professional experience in the said field.
- b) structural engineer, proof consultant, supervising engineer and geotechnical engineer shall be empanelled through an online application. The eligibility criteria in this regard is laid down at Appendix-A.
- c) committee shall be constituted for such empanelment under the Chairmanship of a serving or retired Chief Engineer PWD(B&R). Such committee shall also include two technical members to be co-opted by the Chairman of the Committee.

Note: In case the Engineer Member, Controlled Area Tribunal, fulfils the criteria, he may be designated as the ex-officio Chairman of the committee.

- d) an application for empanelment shall be accompanied by the documents as follows:
 - i. identification card (Aadhar card/Passport/PAN card)
 - ii. qualification degree (As per eligibility)

- iii. detail of experience alongwith list of projects carried out.
- iv. undertaking regarding experience declared by the applicant in point no. iii. above
- v. undertaking that the applicant has not been blacklisted from any association/organization.
- e) on receipt of application for such empanelment, the committee shall scrutinize the same and assign a specific date and time to the applicant for physical verification of the documents. The committee shall have the discretion to call the applicant for personal interview.
- f) the empanelment of structural engineer, proof consultant, supervising engineer and geotechnical engineer shall remain an ongoing process.
- g) after approval of the committee, a unique empanelment ID shall be assigned to each applicant and this unique ID shall be applicable for all future requests for approval of building plans and occupation certificate.

10.2.2 Third party inspection during Construction: Third Party Inspection Agencies (TPIA) working in the field shall be empanelled to ensure desired quality of construction and structural safety.

- a) TPIAs shall be empanelled after following the process of advertisement in leading newspapers and publication on the departmental website.
- b) the minimum eligibility criteria for empanelment as Third Party Inspection Agencies (TPIA) shall be as follows:
 - i. be a member of Indian Association/Society of Structural Engineers or registered with municipal corporations/ CPWD/ State PWD or other similar Government organisations.
 - ii. possess at least 05 years of experience in the field of consultancy and conducting structural audit of high rise buildings.
 - iii. have at least two empanelled structural engineers with atleast 10 years' experience as structural engineer.
 - iv. the company must have clear track record and not be blacklisted from any organization/Government department/authority.
- c) an application for empanelment as TPIA shall be accompanied by the documents as follows:
 - i. registration ID of the firm/company
 - ii. PAN card of the firm/company alongwith ITR of last three years.
 - iii. address Proof of the company
 - iv. list of technical staff alongwith details of their qualification.
 - v. detail of Experience alongwith list of projects carried out.
 - vi. authorisation letter/board resolution from the company.
 - vii. undertaking that the applicant has not been blacklisted from any association/organization.
- d) the scope of work for such TPIA shall comprise of following but not limited to:
 - i. scrutinizing/verifying drawings and specifications
 - ii. ensure that execution of work is undertaken at site in accordance with architectural as well as structural drawings.
 - iii. reporting of on-site inspections periodically.
 - iv. inspection/testing and sampling of quality of material, water, workmanship, safety parameters at construction site etc.
 - v. performing final inspections upon building completion and certify that the building is safe to occupy before grant of occupation certificate
- e) the firms/companies intending to be empanelled shall apply online alongwith the requisite documents. The constitution of empanelment committee as envisaged for empanelment of structural engineer, proof consultant, supervising engineer and geotechnical engineer under sub-code 10.2.1 above shall be adopted.
- f) on receipt of application, the committee shall assign a specific date and time to the applicant for physical verification of documents. The committee shall have the discretion to call the applicant for personal interview.
- h) after approval of the committee, a unique empanelment ID shall be assigned to the TPIA and this unique ID shall be applicable for all future third party inspections.
- g) at the time of approval of building plan, the developer shall have an option to select a TPIA of its choice, who shall be engaged by the developer for such purpose. The cost

of third party inspection of the site shall be borne by the developer. The consent of the TPIA shall also be submitted alongwith the approval of building plan.

- h) the inspection agency shall carry out periodic inspection of site, not less than once every quarter during the progress of construction works and submit their periodic report directly to the Department. A TPIA once engaged shall not be replaced by any other under normal circumstances. Under exceptional circumstances, the Director may allow such change based on merits, after receipt of a joint request in writing citing specific reasons for such change.
- i) on the completion of construction, the TPIA shall submit a certificate to the effect that the construction has been carried out in accordance with the approval as well as after following all statutory requirements including Bureau of Indian Standards Code and that the building is fit to occupy.

10.2.3 Action against complaints on quality of construction: Empanelment of 'Fact Finding Agency' (FFA) shall be undertaken to carry out the inspection of site on the complaints referred by competent authority and submit a clear fact finding report within 15 days as to whether detailed 'Structural Audit' is required or not.

- a) the empanelment of FFAs shall follow the same procedure as that prescribed for TPIA. The FFAs shall be awarded assignments either on rotation or as per the procedure finalized by the competent authority in this regard.
- b) the FFA shall give a clear report on whether the damage requires maintenance work or an extensive structural audit is required.
- c) the payment to FFAs may be made from the 1% labour cess fund as maintained and operated by the respective competent authority.
- d) the FFAs shall recommend the remedial measures to be carried out by the developer company immediately.

10.2.4 Post construction Structural Audit: After receipt of recommendation of the FFA regarding necessity of detailed structural audit, the structural audit shall be carried out by one of the empanelled Structural Audit Agency (SAA) to perform structural audit of the buildings post construction.

- a) The eligibility for empanelment of Third Party SAA and the documents required would be same as for TPIA as prescribed in sub-code 10.2.2 above.
- b) the scope of work for such TPIA shall comprise of following but not limited to:
 - i. structural audit shall be carried out as a qualitative assessment in accordance with latest guidelines of Indian Society of Structural Engineers. Visual health inspection of buildings covering internal, external and common areas, marking in floor plans all the visible defects, deterioration and quantification.
 - ii. assessment of damages of RCC members through NDT (Non-Destructive Testing).
 - iii. finding the probable causes of damages, seepage/leakages and status of external plumbing installations.
 - iv. preparation of detailed report based on visual inspection, NDT, suggesting/ phasing out priority wise repair/ remedial and retrofitting measures.
 - v. detailed inspections of the quality of material, workmanship etc.
 - vi. scrutinizing/verifying drawings and specifications
 - vii. field testing and sampling of construction material etc.
 - viii. review of structural drawings to evaluate the structural stability and safety of the building constructed as per current circumstances.
 - ix. estimation of structural capacity on the basis of the tests (Non Destructive Evaluation Tests).
 - x. Analysis of observation and test for assessment of mechanism and cause of damage, distress and durability requirements.
 - xi. tests to confirm reinforcement locations, types of reinforcement, bar diameters and their mechanical properties, strength of existing concrete and other properties for reinforced concrete structures.
 - xii. for load bearing masonry constructions, appropriate testing be done to evaluate the masonry strength.
 - xiii. analysis of test results to establish statistical equivalent material properties.
 - xiv. limits of faulty construction.
 - xv. structural audit agency shall give clear recommendation on the safety of the building, possible remedial and retrofitting steps.
- c) for empanelment as SAA, the procedure prescribed for TPIA shall be followed.

- d) the SAA shall prepare detailed report based on visual inspection, Non Destructive Testing (NDT), suggesting/ phasing out priority wise repair/ remedial and retrofitting measures.
- e) the agency carrying out the structural audit shall give clear recommendation on the safety of the building, possible remedial and retrofitting steps.
- f) the cost of structural audit shall be borne by developer company or the Residents Welfare Association (RWA), as applicable.
- g) the report of the structural audit shall also be forwarded to the concerned 'Haryana RERA Authority' for further necessary action against the Developer Company (Penal action/Penalty/Cost) as per the provisions of the Real Estate (Regulation and Development) Act, 2016.
- h) the SAA carrying out the structural audit shall be different from the TPIA for the same project to avoid conflict of interest in such matter.

10.2.5 Alteration in building by allottees/RWA

- a) the developer company shall handover all the approved as built drawings and structural drawings to the respective allottee as well as to the RWA on grant of possession for an apartment and handing over of the colony to RWA, as the case may be. The drawing may be in soft/hard copy.
- b) no alteration shall be carried out by the allottees/RWA from the approved as built drawings and structural drawings. Any alteration, without damaging the load bearing structural components, after occupation can be carried out only with prior approval/recommendation of empanelled structural engineer engaged by Resident Welfare Association/Developer Company. In case of alteration, allottee shall be solely responsible for any structural damage to the building.
- c) the RWA shall be responsible for maintaining a record of various works got carried out by different allottees and the supervising Architect and Structural Engineer on whose advise such renovation/ refurbishment of the apartment is carried out.
- d) the RWA shall also be responsible for getting structural audit conducted for a building which is more than 30 years old. Further, periodical structural audit may be got conducted based on the advice received from SAA in this regard. The cost of all such structural audits shall be borne by the respective RWAs.

3. In the said code, for Appendix-A, the following shall be substituted, namely:-

"Appendix A: Qualification and Competence of Architect/ Engineer/ Supervising Engineer/ Structural Engineer/ Proof Consultant/ Supervisor/ Geotechnical Engineer.

Sr.no.	Professional	Qualification	Competency/ Functions
1.	Architect	Registered with valid membership of the Council of Architecture, India as prescribed under the Architect's Act 1972.	<ul style="list-style-type: none"> • Prepare, sign all plans and submissions of building plans under Code 4 • Further supervise construction of all buildings and issue certificate of supervision and completion of all buildings pertaining to Architectural aspects, as stated in this code.
2.	Engineer	Graduate in Civil Engineering from recognized Indian or foreign university, having Associate membership of The Institution of Engineers (India).	<ul style="list-style-type: none"> • Supervise all building construction including preparation of service plans, structural drawings, details and calculations of buildings upto 1000 square metres plot area and 15.0 metres height referred in Form BR-V(A1).
3.	Supervising Engineer	Graduate in Civil Engineering from recognized Indian or foreign university, having Associate membership of The Institution of Engineers (India), with minimum three years of experience.	<ul style="list-style-type: none"> • Supervise all building construction and issue certificate of supervision and completion of all buildings pertaining to structural aspects, as stated in this code.
4.	Structural Engineer	Post-Graduate in Structural engineering from recognized Indian or Foreign University, having Associate	<ul style="list-style-type: none"> • The Structural Engineer shall be competent to prepare the structural design, make calculations and design

		membership of Institute of Engineer, India with minimum three years experience in structural engineering practice with designing and field work.	details for all buildings and undertake their supervision referred in Form BR-V(A2).
5.	Proof Consultant	i) Structural Engineer or a group/firm of Structural Engineers having post-graduate qualification in structural engineering, having Associate membership of Institute of Engineer, India with ten years experience in structural design and evaluation thereof, for multi-storeyed and specialized structure, and/ or an institute of the following type: ii) Institute of Structural Engineers (India). iii) Central Building Research Institute, Roorkee. iv) Various engineering institutes, like: a) Indian Institute of Technology; b) Punjab Engineering College, Chandigarh; c) National Institute of Technology; d) Any other institute of repute;	<ul style="list-style-type: none"> • Evaluation/ checking of the structural design of the buildings referred in relevant Form BR-V(A2).
6.	Supervisor	i) Two years diploma in Draftsman Civil with seven years experience under a qualified Architect/Civil Engineer for building design, construction and supervision; or ii) Three years diploma in Civil Engineering/Architectural Assistantship with five years experience under a qualified Architect/Civil Engineer for building design, construction and supervision; or iii) B.Tech Civil, B.Tech (Building Engineering Management or equivalent);	<ul style="list-style-type: none"> • To prepare, sign and submit building plans and supervise construction of building upto 200 Sqm (8 marla) and 15 mtr. Height, under Code 4. • The Supervisor shall get his/her empanelment renewed annually for the first 2 years and it shall be renewed for a period of 3 years thereafter.
7.	Geotechnical Engineer	Post graduate in geotechnical engineering with minimum 10 year experience in geotechnical engineering practice in designing and field work. <u>or</u> Doctorate in civil engineering or geotechnical engineering with minimum 5 year experience in geotechnical engineering practice in designing and field work.	<ul style="list-style-type: none"> • Evaluation/checking of the design of the buildings above 70 m height as mentioned in BR-V (A2)

4. In the said code, in Form BR-I, at the end of para 3, the following shall be inserted, namely:-
 "C. Geotechnical Engineer (Required, in case of high rise building of height more than 70 meter):
- Name of Engineer:
 - Qualifications:
 - Complete Address:
 - E-Mail:
 - Mobile no:"
5. In the said code, in Form BR-V(A2),-

- (i) for the words and sign, “and the Proof Consultant.”, the following words and sign, namely, “the Proof Consultant and the Geotechnical Engineer (for buildings above 70mt height).”, shall be substituted;
- (ii) at the end, the following shall be inserted, namely:-

“Certificate of Geotechnical Engineer (For building above 70 meter height)

The structural design has been checked from geotechnical perspective and has been found to be in order. The design is in accordance with the provisions of the National Building Code and the relevant Bureau of Indian Standard Codes (with latest amendments) including Bureau of Indian Standard Codes for safe bearing capacity, required depth for foundation, stability of excavated slopes and safety of the adjoining structures, structures resistant to earthquakes and other natural hazards by considering all relevant affecting/ governing aspects, the strata and sub-soil conditions. The local soil conditions, its load bearing capacity and the underground water table etc. have also been kept in view in the design.

Dated_____

Signature of Geotechnical Engineer

Mobile No: _____

Email ID: _____ ”

-Sd/-

Superintendent

For: Additional Chief Secretary to Government Haryana,
Town & Country Planning Department

Endst. No. Misc-2339-(HBC)-Loose-II/7/9/2022-2TCP

Dated:-27.06.2022

A copy is forwarded to the following for information and further necessary action:

1. Chairman, RERA, Panchkula.
2. Chairman, RERA, Gurugram.
3. All the Administrative Secretary to Government of Haryana.
4. All the Head of Department of Haryana Government.
5. All the Managing Director/Chief Administrators of Board and Corporations of Haryana Government.

-Sd/-

Superintendent

For: Additional Chief Secretary to Government Haryana,
Town & Country Planning Department