Annexure 7 – Risk Based Classification of Buildings

The purpose of these guidelines is to provide building certifiers with guidance on how to meet their responsibilities for sufficient inspections. Guidelines for the inspection of building work will not only help ensure safe community outcomes through higher levels of statutory compliance of buildings, but will also encourage accountability among building industry practitioners

The Risk Based Classification for Buildings has been prepared as below includes several components like:

a. Classifying and Assessing Buildings - Building classifications and assessments are important for determining the frequency and scope of inspections. Not all buildings face the same risks. Thus risk evaluation requires a holistic approach, and understanding the risks associated with different types of buildings is essential for successful risk-based inspections. Hence the Buildings have been divided into High Risk, Medium Risk and Low Risk based on various parameters like Fire Safety, Height of the Buildings, Experience of design and building team, Floor area, Vulnerability to Natural Disasters and Slope.
b. Identifying who will conduct inspections - Risk-based classification of Buildings that has been introduced has been tied to the Inspection Mechanisms and clearly identify the body which will conduct which type of inspection at what stage of the buildings. These inspections clearly outline the body who will be responsible for ensuring that buildings are constructed according to safety standards.
c. Identifying the responsibilities of those authorities –The identified inspecting body have clearly defined qualifications, competence, functions and responsibilities in the bye laws and additionally, necessary mechanismshave been put in place in the bye laws to ensure strict compliance from the inspecting bodies / professionals.

Building certifiers are required to undertake sufficient inspections of buildings at stages at which the building development approval states the work must be inspected. In practice, this means that a building certifier is required to take a holistic view of a building rather than just consider a single aspect, such as structural adequacy.

A risk matrix forms part of the guidelines and complements the risk-based approach to inspections.

Risk Matrix on Various Parameters

Parameters	Risk Level		
	Low risk	**Medium risk**	**High risk**
Building Classification	**Low hazard occupancies** as defined in NBC-2005, Part-4, Annex-B& non-assembly buildings	**Moderate hazard occupancies** as defined in NBC-2005, Part-4,Annex-B& open assembly buildings	**High hazard occupancies** as defined in NBC-2005, Part-4,Annex-B&closed assembly buildings

Height	**Plains**	Buildings upto 9.0 meters height	More than 9.0 meters above ground upto 21.0 metres height	More than 21.0 metres in height
	Hills	Buildings upto 7.5 meters height	More than 7.5 meters above ground upto 9.0 meters height	More than 9.0 metres in height
Floor Area		Covered area on each floor less than 350sq. mt. of all non-residential buildings &all residential buildings	Covered area on each floor more than 350 sq. mt.and less than 500 sq. mt. of all non-residential buildings	Covered area on each floor more than 500sq. mt. of all non-residential buildings
Slope		Less than or equal to 10 degrees	Greater than 10 degrees & less than 26.5 degrees	26.5 degrees and above
Experience of the Design and Building Team		Practitioners designing and constructing the building have been involved with more than 3 (three) buildings of the same classification	Practitioners designing and constructing the building have been involved with, and completed, fewer than 3 (three) buildings of the same classification.	Practitioners designing and constructing the building have no previous experience relating to the proposed classification or building type.

All the parameters shall be assessed separately to classify the building low, medium or high risk in that particular parameter and the overall risk category of the building will be determined on the basis of the highest risk category for any parameter. The inspections shall be done specifically for the identified risk nature.

In addition to the above Risk Based Classification, the concerned Authority will further determine whether the location of plot is faced by any of the known risks in terms of Natural Disasters like flood, bushfire, earthquake zone 4 / 5, landslide, contaminated land, cyclone, landslide, avalanche, soil liquefaction etc. and take necessary corrective action to reduce such risks by either requesting modification from the application in their submitted building plan or rejecting the application, in case the incidence of any such risk is very high.

Timelines of Clearances (NOCs) from Various Agencies

Sl. No.	Type of approval	Approving Authority	Stage of project	Normal Duration (Days)	Reduced Duration (Days)	Activity Sequence
A	Intimation of Disapproval (IoD)	Development Authority/ Municipality	Pre-construction	30	5	Start Activity
B	Building Plan Approval	Development Authority / Municipality	Pre - construction	30-60	50 / 15 *	Following A
C	Road Access	NHAI/PWD	Pre-	30-60	5	Following B

			construction			
D	Ancient Monument Approval	Archaeological Survey of India (ASI)	Pre-construction	30-60	5	Following B
E	Environment Clearance	Ministry of Environment	Pre-construction	180	Only for large project	Following B
F	Borewell Registration Certificate	Central Ground Water Authority	Pre-construction	15	5	Following B
G	Fire Fighting Scheme Approval	Fire Department	Pre-construction	30	15	Following B
H	AAI Height NoC	Civil Aviation Department	Pre-construction	30-60	10	Following B
I	Defence Clearance	Ministry of Defence	Pre-construction	180	10	Following B
J	Building Permit Issue (All NOCs)	Development Authority/ Municipality	Pre-construction		1	Max of After C-I
	SUBTOTAL				**26 (MAX)**	
K	Electric Substation NoC (Substation / Transformers in the building)	Electricity Distribution Authority	During Construction	15	5	After J
L	Damp Proof Certificate (On Site)	Development Authority	During construction	7	3	After J
M	Pollution Clearance	State Pollution Control Board	During construction	30-60	5	After K
N	**Construction Complete**		**Time depends on the project Scale and Size**			

S.	Type of approval	Approving	Stage of	Normal	Reduced	Activity

No.		Authority	project	Duration (Days)	Duration (Days)	Sequence
O	Building Completion Certificate	Empanelled Architect	Post – Construction	-	-	After N
P	Service Plan Clearance and Service Connections	Service Departments / Parastatals	Post construction	30	10	After O
Q	Occupancy Certificate	Development Authority/ Municipality	Post construction	15	2	After P
	Sub total				**17**	

**** Detailed Timeline for Building Plan Approval as per Approval (Letter Number 507/UHUDA-109/E.D.B/2015-16 dated 14.03.2016***

S. No.	Concerned Authority	Number of Days
For Commercial, Multiple and Group Housing Scheme		
1	Lekpal / Patwari	05
2	Planning Section	05
3	Junior Engineer	15
4	Asst. Engineer	05
5	Executive Engineer	05
6	Superintending Engineer	05
7	Secretary	05
8	Vice Chairman	05
	Total	50
For Single Dwelling Unit		
1	Lekpal / Patwari	02
2	Planning Section	02
3	Junior Engineer	03
4	Asst. Engineer	02
5	Executive Engineer	01
6	Superintending Engineer	01
7	Secretary	02
8	Vice Chairman	02
	Total	15

Explanatory Notes:

1. *The above Table and Chart indicates that the processes after the applicant applies for building approval with clear land title and possession of land. Hence, clearances related to CLU and Land Title has not been considered.*

2. *The table illustrates the duration of clearances obtained in Normal course and suggests the reduced duration of 26 days (Pre- Construction) if the Approving Authority* ***adopts online sanctions.***

3. *Clearances indicated at S Nos. C-I are concurrent with applications at the pre-construction stages, wherein their process of approval can be taken up simultaneously.*

4. *Clearances indicated at S Nos. K-M are concurrent with applications during-construction stage, wherein their process of approval can be taken up simultaneously.*

5. *S.No. P has to be linked with S No. O, once applicant receives the* ***Completion Certificate,*** *service plan clearances and connections would be deemed to be sanctioned.*

Inspections Basis the Risk Based Classification

Name Of Inspection	Time Of Inspection	Risk Category Of Building		
		Low	Medium	High
Preliminary Inspection (as per sanctioned drawing)	At completion of plinth level	Self-inspection and Certification by Supervision Engineer or Architect	Self-inspection and Certification by Supervision Engineer or Architect	By Sanctioning Authority
Intermediate Inspection	At completion of<= 15mt height	Not required	Third party Inspection by empanelled Structural Engineer	Third party Inspection by empanelled Structural Engineer
Final Inspection	At Building Completion	By Sanctioning Authority	By Sanctioning Authority, Fire Dept. and any other line departments*	Joint Inspection - Third party Inspection by empanelled Structural Engineeralongwith Sanctioning Authority, Fire Dept. and any other line department*
Surprise Inspection	At any time	Not required	Minimum one Inspection by Sanctioning Authority	Minimum TwoInspections by Sanctioning Authority
Complaint Based Inspection	At any time	Whenever a complaint is received by the Sanctioning Authority		
Periodic Occupancy	After obtaining	Not required	Once after Every 5 years	Once after Every 3 years