

**BUILDING**

**BYE**

**LAWS**

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**BUILDING BYE-LAWS**

**MUNICIPAL BUILDING BYE-LAWS AND RESTRICTION IN DESIGNING OF  
BUILDINGS**

## **1. INTRODUCTION:-**

1. The growth of civilization has also resulted in more and more laws, regulations, and restrictions and of course their violations as well.

☐ There are laws and laws, all around such as constitutional, civic laws, traffic laws, marriage laws, financial laws, personal laws etc.

☐ while some of the laws are essential for the humanity, there are other which held ion the proper and planned growth of civilization in general, in the olden days human beings had been wandering from place to place in search of livelihood but the modernization have put an end to all such adventures.

☐ Knowledge, have developed lot of conveniences for their

☐ proper living.

Human beings no longer have to roam around for proper shelter but live in better planned and construction of such houses, same basic rules and regulations which may be termed as ‘building Byelaws are absolutely necessary.

## **2.IMPORTANCE OF BUILDING BYB-LAWS:-**

Building by laws are made to ensure orderly development of localities in urban areas so that every houses is assured of good ventilation and no building affects the lighting and ventilation of neighbors.

There has to be laws or regulations binding on the prospective builders, if not, the building constructed will be:

1. Un-scientific

2. Unhealthy

Inconvenient for the people to occupy.

1. Even a jungle in a planned way will be aesthetically satisfying the needs of the occupants and to enable them to stay or live in a healthy environment.

❖ The buildings should not be constructed merely with profit motive without paying any attention to the health and comfort of the in-habitants.

- ❖ The buildings must get sufficient sunshine, air and ventilation.
- ❖ Open spaces should be well planned.
- ❖ The buildings should create better environment.
- ❖ The buildings should be located in healthy surroundings and should have an aesthetic appearance.
- ❖ But to achieve all this, there has to be a suitable regulations or what are know as model building bye-laws, enforced strictly by the authorities, and followed by the builders honestly and truthfully.
- ❖ 2.2 These buildings Bye Laws Are Drawn Up By A Panel Experts In Various Branches Of The Building Industry Such As:
  - ❖ Town Planning
  - ❖ Architecture
  - ❖ Civil Engineering
  - ❖ Electrical Engineering
  - ❖ Air-conditioning
  - ❖ Fire-fighting and administration etc.
  - ❖ Theses building bye-laws when formulated are enforced on all buildings whether constructed by government, local bodies, private persons or agencies.

### **GENERAL PRINCIPLES OF BUILDING BYB - LAWS:**

The building bye-laws are generally based on the following principles:

1 The building bye-laws should be reasonably rigid and adequately flexible as they have to be sometimes revised according to the improvements effected in science and engineering and as per peculiar circumstances existing at the time.

These laws should be advantageously used for the common good of the people.

2 Minimum standards should be properly laid down and they should be strictly made to be adhered to by all concerned.

3 minimum floor space and cubic space per member should be insisted upon.

4 The size of any room should not be less than a specified minimum.

.5 taking into consideration the number of inmates in the building the minimum window space and sanitary conveniences should be insisted upon.

At least one window of the specified size/area should be provided in each room to open either on a street or open yard.

6 The room should receive direct light and air from exterior open space on at least two sides to satisfy ideal conditions of air circulation.

7 There should be some healthy relations between the cubic contents of the room building and open spaces around.

The width and extent of the open space depends upon the height of the structure.

8 The height of the building is fixed as per the zone in which it is built.

The width of the street should never be exceeded by the height of the building there.

.9 The openings admitting light and air should bear a prescribed ratio to the floor space.

10 The set backs should be correctly followed.

### **THE SET BACKS SHOULD BE CORRECTLY FOLLOWED.**

1 The minimum distance between individual buildings should be rigidly controlled.

.2 Necessary water supply and sanitary connections should be made to every unit.

.3 There should be uniformity as regards drainage connections, water supply, gas and electricity.

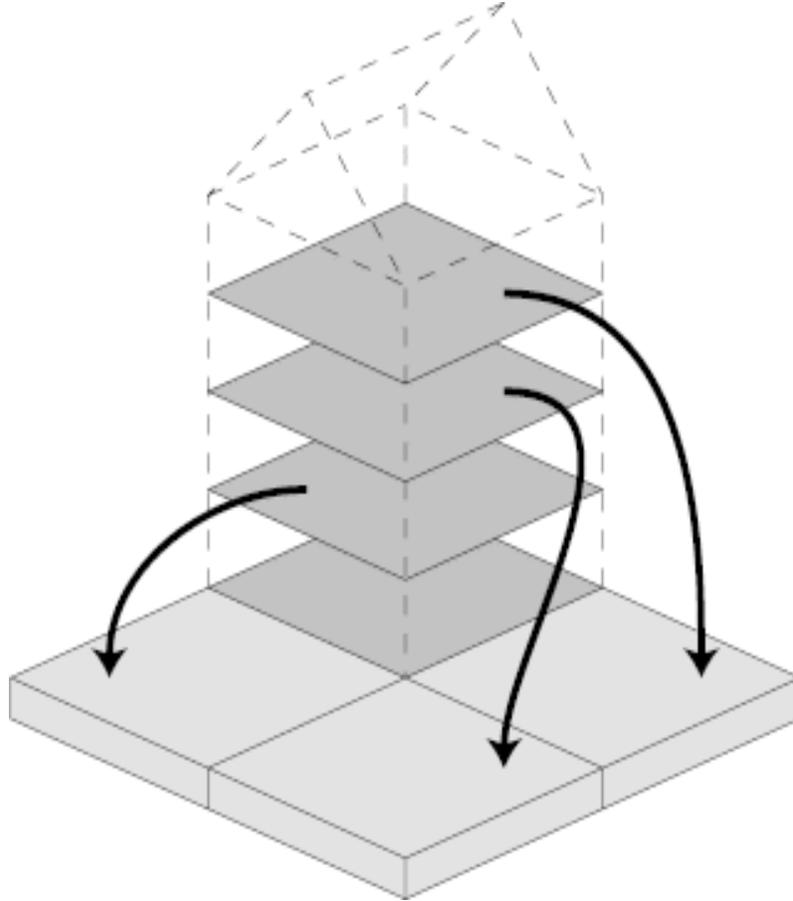
.4 The buildings should have adequate fire-fighting arrangements if over 69 ft. in height.

5 In fact, it is essential that there should be control over the user of the buildings and control over the materials and construction of the building.

### **Floor Area Ratio**

- **As a formula: Floor Area Ratio = (Total covered area on all floors of all buildings on a certain plot) / (Area of the plot)**
- The Floor Area Ratio (FAR) or Floor Space Index (FSI) is the ratio of the total floor area of buildings on a certain location to the size of the land of that location, or the limit imposed on such a ratio.
- The Floor Area Ratio is the total building square footage (building area) divided by the site size square footage (site area).
- Thus, an FSI of 2.0 would indicate that the total floor area of a building is two times the gross area of the plot on which it is constructed, as would be found in a multiple-story building.

## FAR EXPLAINED



The illustration above shows a Floor Area Ratio (FAR) of 1.0. This simply means that, if the area of the plot is 100 square meters, then 100 square meters of gross floor area has been built on the plot. The illustration above shows a 4-story building covering 1/4 of the site, giving a FAR of 1.0. Four floors of 25 square meters each are built on a site of 100 square meters.

The reference design for carefree cities is based on a FAR of 1.5. Here are some ways to get to a FAR of 1.5:

Build a 2-story building on 75% of the site ( $2 \times 0.75 = 1.5$ )

Build a 3-story building on 50% of the site ( $3 \times 0.5 = 1.5$ )

Build a 4-story building on 37.5% of the site ( $4 \times 0.375 = 1.5$ )

**Example :**

**Calculate no of story if FAR is 150% ground coverage is 25%**

$$\text{FAR} = \frac{\text{Total covered area on all floors of all buildings on a certain plot} \times n \times 100}{\text{Area of the plot}}$$

$$150 = N \times 25 \times 100 / 100$$

$$N = 150 / 25$$

$$N = 6 \text{ Stories}$$

## **DELHI BUILDING BYE-LAWS**

Before we go further, let us know that general building bye-laws as prevalent in Delhi.

The building bye-laws, as published by the Delhi Development authority, are quite voluminous one and cannot be dealt with in a short lecture like the one we are under-taking to day.

However, we shall try to know a few of the main and important factors only and leave out the details for the more zealous to study from the books at their convenience.

4.1 No person shall erect, re-erect or make alterations or demolish any building are cease the same to be done without first obtaining a separate

A separate building permit for each such building from the authority.

This permit shall be valid for two years from the date of issue and a fresh permit shall be necessary to proceed further with the work as per bye-laws.

The building should not be constructed merely with profit health and comfort of the inhabitants.

The buildings must get sufficient sunshine, air and ventilation. Open spaces

should be well planned. The buildings should create better environment. The buildings should be located in healthy surroundings and should have an aesthetic appearance. But to achieve all this, there has to be a suitable regulations or what are know as model building bye-laws, enforced strictly by the authorities, and followed by the builders honestly and truthfully.

### **CONTRIL FOR BUILDING/BUILDINGS WITHIN USE PREMISES**

#### **Minimum Setback**

The provision of minimum setbacks for different sizes of plots for all categories of use shall be as per the following table unless otherwise prescribed.

<b>Plot Sizes (in sq m.)</b>	<b>Min</b>	<b>Setback</b>	<b>Front</b>	<b>Rear</b>	<b>Side</b>	<b>Side</b>
Up to 60			0	0	0	0
Above 60 & up to 150			3	0	0	0
Above 150 & up to 300			3	3	0	0
Above 300 & up to 500			3	3	3	0
Above 500 & up to 1000			6	3	3	3
Above 1000 & up to 2000			9	3	3	3
Above 2000 & up to 4000			9	6	6	6
Above 4000 & up to 10,000			15	6	6	6
Above 10,000			15	9	9	9

#### **Parking Standard**

Parking space shall be provided for different types of development as per norms given in the following table.

The standard given are in equivalent car space (ecs) and it includes scooters, cycles and also light and heavy commercial vehicles in case of whole sale market and industrial areas etc.

<b>Sl. No. Use/Use premises</b>	<b>Equivalent Car Spaces (ECS) per 100 sqm. of floor area</b>
A. (i) Commercial plotted development	2.00 ECS
(ii) Metropolitan city Centre i.e. Connaught place & its extension	
(iii) Asaf Ali Road	
(iv) Press Area	
(v) Non-Hierarchical Commercial centers	
<b>(B)</b> (i) District Centers	1.67 ECS
(ii) Hotel	
(iii) Cinemas	
<b>C. (i) Residential Group Housing [Cluster Courts Housing]</b>	2[1.80 ECS per 100 sq.m. of floor area upto 165 sq. m]
(ii) Plotted Housing (Plots above 200 sq m.)	
(iii) Community Centre	
(iv) Local shopping centre	2[1.33 ECS per 100 sq.m. of building area for area beyond 165 sq.m.]
(v) Convenience shopping centre	
(vi) Nursing home, Hospital (other than government)	
(vii) Govt. office	
(viii) Social & cultural institutions	
(ix) Mixed use	
D. (i) College & university 1[& Public Schools]	1.00 ECS
(ii) Light & Service Industry	0.67 ECS
(iii) Flatted Group Industry	
(iv) Extensive Industry	
E. (i) Government Hospitals	2.50 ECS
Wholesale Trade	(Including parking for loading and unloading)
Freight Complex	

pecific Premises 1[Residential Plotted Development(001)				
Sl No.	Area of the plot (sqm) <sup>1</sup>	Maximum ground coverage %	Maximum FAR	Maximum height in metres
(1)	(2)	(3)	(4)	(5)
1	Below 32	90%	350	15
2	Above 32 to 50	90%	350	15
3	Above 50 to 100	90%	350	15
4	Above 100 to 250	75	300	15
5	Above 250 to 500	75	225	15
6	Above 500 to 1000	50	150	15
7	Above 1000 to 1500	40	120	15
8	Above 1500 to 2250	40	120	15
9	Above 2250 to 3000	40	120	15
10	Above 3000 to 3750	40	120	15
11	Above 3750	40	120	15

### Parking Space

**1** The parking spaces to be provided in building shall be as per the recommendations contained in Master Plan/Zonal Plans and the regulations of Delhi Development Authority. In areas not covered specifically by the above and for occupancies where specific provisions are not made, the parking spaces shall be in accordance with Bye-law No.13.2.

**2** One car space per 92.93 sq. m. of the covered area. This parking can be provided in any manner, i.e. covered or open. In providing the parking, care has to be taken that 50% of the open space is left for landscaping and is not accounted for into parking calculations.

#### Note: Area for each car space:

- (i) Basement 35 sq.m.

- (ii) Stilts 30 sq.m.
- (iii) Open 25. sq.m.

**3** Parking space shall be provided with adequate vehicular access to a street and the area of drive, aisles and such other provisions required for adequate direction of vehicle shall be inclusive of the parking space stipulated in these rules.

**4** If the total parking space required by these rules is provided by a group of property owners for their mutual benefits, such parking shall meet the requirements under these rules subject to the approval of the Authority.

**5** In addition to the parking spaces provided, for buildings of Mercantile (Commercial), Industrial and Storage, at the rate of one such space for loading and unloading activities for each 100 sq.m. of floor area or fraction thereof exceeding the first 200 sq.m. of floor area, shall be provided.

**6** Parking lock-up garages shall be included in the calculation of floor space for F.A.R. calculations unless they are provided in the basement of a building or under a building constructed on stilts with no external wall.

**7** Parking spaces shall be paved and clearly marked for different types of vehicles.

**8** In the case of parking spaces provided in basements, at least two pumps of adequate width and slope (see Bye-law No. 16) shall be provided, located preferably at opposite ends.

**Parking Standard**

Parking space shall be provided for different types of development as per norms given in the following table. The standards given are in equivalent car space (ECS) and if includes parking for all types of vehicles i.e. cars, scooters, cycles and also light and heavy commercial vehicles. In case of wholesale markets and industrial area etc.

Sl. No.	User/Use Premises	Equivalent Car Spaces (ECS) per 100 sqm. Of floor area
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<b>A.</b>	(i) Commercial plotted development (ii) Metropolitan City Centre i.e. Connaught Place & its extension of Ali Road (iv) Press Area (v) Non-Hierarchical Commercial Centres	2.00 ECS
<b>B.</b>	(i) District Centres (ii) Hotel (iii) Cinema	1.67 ECS
<b>C.</b>	(i) Residential Group Housing <sup>1</sup> [Cluster Court Housing] (ii) Plotted Housing (Plots above 200 sqm.) (iii) Community Centre (iv) Local Shopping Centre	2[ 1.80ECS per 100 sq. m. of floor area upto 165 sq.m.]
	(v) Convenience shopping Centre (vi) Nursing Home, Hospitals (Other than Government) (vii) Govt. Office (viii) Social & Cultural Institutions (ix) Mixed Use	2[1.33 ECS per 100 sq. m. for area beyond 165 sq.m.]
<b>D.</b>	(i) 'College & University 1[& Public Schools] (ii) Light & Service Industry (iii) Flatted group Industry (iv) Extensive Industry	1.00 ECS
<b>E.</b>	(i) Government Hospital	0.67 ECS
<b>F.</b>	(ii) Wholesale Trade (iii) Freight Complex	2.50 ECS (including parking for loading and unloading)

<b>Sl.No.</b>	<b>Type of Occupancy</b>	<b>Consumption per head per day (in liters)</b>
<b>1.</b>	Residential:	
	(a) in living units	135
	(b) Hostels with lodging accommodation (per bed)	180
<b>2.</b>	Educational	45
	(a) Day Schools	135
	(b) Boarding Schools	
<b>3.</b>	Institutional (Medical Hospitals)	
	(a) No. of beds not exceeding 100	340
	(b) No. of beds exceeding 100	450
	(c) Medical quarters and hostels	135
<b>4.</b>	Assembly-Cinema theaters auditoria etc. (Per seat of accommodation)	15
<b>5.</b>	Governmental or semi-public business	45
<b>6.</b>	Mercantile (Commercial):	
	(a) Restaurants (per seat)	70
	(b) Other business buildings	45
<b>7.</b>	Industrial:	
	(a) Factories where bath rooms are to be provided	45 30
	(b) Factories where no bath rooms are required to be provided	
<b>8.</b>	Storage (including warehousing)	30
<b>9.</b>	Hazardous	30
<b>10.</b>	Intermediate Stations (excluding mail and express stops)	45 (25)*
<b>11.</b>	Junction Stations	70 (45)*
<b>12.</b>	Terminal Stations	45
<b>13.</b>	International and Domestic Airports	70

#### **Per Capita Water Requirements for various Occupancies/Uses**

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

Note:- The number of persons for Sl. Nos. 10 to 13 shall be determined by the average number of passengers handled by the station daily; due consideration may be given to the staff and workers likely to use the facilities.

### FLUSHING STORAGE CAPACITIES

Sl.No.	Classification of Buildings	Storage Capacity
1.	For tenements having common convenience	900 liters nett. Per WC seat.
2.	For residential premises other than tenement having common conveniences	270 liters nett. For one WC seat and 180 liters for each additional seat in the same flat.
3.	For Factories and Workshops	900 liters per WC seat and 180 liters per urinal seat
4.	For Cinemas, Pubic assembly halls etc.	900 liters per WC seat and 350 liters per urinal seat.

### DOMESTIC STORAGE CAPACITIES

Sl.No.	No. of Floors	Storage Capacity	Remarks
<b>For Premises Occupied as Tenements with Common Conveniences:</b>			
1.	Ground Floor	Nil	Provided no downtak fittings are installed
2.	Floors 2,3,4,5 and upper floors	500 liters per tenement	-
<b>For Premises Occupied as Flats or Blocks:</b>			
1.	Ground Floor	Nil	Provided no downtak fittings are installed
2.	Floors 2,3,4,5 and upper floors	500 liters per tenement.	-

Note 1

:- If the

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

Note 2:- The above storage may be permitted to be installed provided that the total domestic storage calculated on the above basis is not less than the storage calculated on the number of down take fittings according to the scales given below:

Down take taps	70 litres each
Showers	135 litres each
Bathtubs	200 litres each

### **Sanitation Requirement for Shops and Commercial Offices**

Sl.No.	Fitments	For Personnel
<b>1.</b>	Water Closet	One for every 25 persons or part thereof exceeding 15 (including employees and customers). For female personnel 1 per every 15 persons or part thereof exceeding 10.
<b>2.</b>	Drinking Water Fountain	One for every 100 persons with a minimum of one on each floor
<b>3.</b>	Wash Basin	One for every 25 persons or part thereof.
<b>4.</b>	Urinals	Same as Sl.No.3 of Table 15.
<b>5.</b>	Cleaner's Sink	One per floor minimum, preferably in or adjacent to sanitary rooms

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

### **Sanitary Requirements for Educational Occupancy**

Sl No	Fitments	Nursery Schools	Boarding Institution		Other educational Institutions	
			For Boys	For Girls	For Boys	For Girls
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	Water Closet	One per 15 pupils and part thereof	One for every 8 pupils or part thereof	One for every 6 pupils or part thereof	One/40 pupils or part thereof	One/25 pupils or part thereof
2.	Ablution Taps	One in each water closet	One in each water closed	One in each water closet	One in each water closet	One in each water closet
<b>One water tap with drainage arrangements shall be provided for every 50 persons or part thereof, in the vicinity of water closed and urinals.</b>						
3.	Urinals	-	One per every 25 pupils or part thereof	-	One per every 20 pupils or part thereof	-
4.	Wash Basins	One per 15 pupils or part thereof	One for every 8 pupils or part thereof	One for every 6 pupils or part thereof	One per 40 pupils or part thereof	One per 40 pupils or part thereof
5.	Baths	One bath sink per 40 pupils	One for every 8 pupils or part thereof	One for every 6 pupils or part thereof	-	-
6.	Drinking water fountains	One for every 50 pupils or part thereof	One for every 50 pupils or part thereof	One for every 50 pupils or part thereof	One for every 50 pupils or part thereof	One for every 50 pupils or part thereof
7.	Cleaner's sink	-	One per floor minimum			

**Question:**

1. What is the importance of Building Bye Laws?
2. Why building bye laws is important for human life?
3. What is the general principal of building bye laws?
4. Floor area ratio with example explained.
5. Explain in brifly local Delhi building bye laws?