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मानक

IS 8888-1 (1993): Guide for requirements of low income housing, Part 1: Urban areas [CED 51: Planning, Housing and pre-fabricated construction]



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अल्प लागत वाले आवास की अपेक्षायें --- मार्गदर्शिका

भाग 1 शहरी क्षेत्र

(पहला पुनरीक्षण)

Indian Standard

REQUIREMENTS OF LOW INCOME HOUSING – GUIDE

PART 1 URBAN AREAS

(First Revision)

First Reprint NOVEMBER 1997

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BUREAU OF INDIAN STANDARDS MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG NEW DELHI 110002

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Housing Sectional Committee had been approved by the Civil Engineering Division Council.

This standard was first published in 1978 on the recommendations of the Housing Ministry's Conference held in 1975. In this standard the requirements of that section of the population, who had very low family income and who really could not afford to build a house, was considered. Hence, the approach of this Guide had been directed towards housing for the low income and not for low cost housing as such which might be needed by those having high income compared to others. The attempt, therefore, was made in this Guide to find out how far low the requirements of housing could be brought down without jeopardizing certain safeties, namely, fire safety, health safety and structural safety. Though in this Guide certain modification have been attempted in the planning and general building requirements, requirements regarding structural safety, health safety and fire safety have been specified in accordance with the National Building Code.

The revision of this standard has been taken up keeping in view the experience gained over the years by various housing organizations in implementing this standard.

IS 8888 : 1978 covers the need of only urban areas, though similar guidelines are necessary for rural areas and slum upgradation. It has, therefore, been decided to formulate 'Guide for Requirement of Low Income Housing' in following parts to cater to the need of urban areas, rural areas, and slum settlements respectively:

- (Part 1) Guide for requirements of low income housing : Part 1 Urban area
- (Part 2) Guide for requirements of low income housing : Part 2 Rural area
- (Part 3) Guide for requirements of low income housing : Part 3 Slum upgradation

This (Part 1) is the revised version of IS 8888 : 1978. Other two parts are under preparation. In this revision the major modifications are as follow:

- a) Single room dwelling has been discouraged.
- b) Guidelines for water seal latrine has also been incorporated.
- c) Cluster planning approach has been recommended.

It is generally felt that planning and general building requirements would have an important bearing on cost of construction. Therefore, some relaxation vis-a-vis the provisions of National Building Code and also the generally understood planning norms according to master plans available have been recommended to achieve higher densities which are quite possible and achievable.

This Guide discourages plotted development since it would cost more in terms of land, except in the case of incremental housing and also site and services schemes. Instead, recommendations have been made for row housing and group housing on cluster planning approach.

In so far as reduction in general building requirements are concerned, though it is difficult to justify all the relaxations made in their totality, it is felt that in the interest of cost of construction, without sacrificing any safeties mentioned, some relaxations could be attempted. This must be clearly understood in the use of this Guide and to that extent comfort would be reduced.

This Guide would be kept under constant review and revised provisions may have to be brought out from time to time based on experience resulting from implementation of the Guide.

To get the maximum benefit out of these relaxations, mass housing schemes may be considered for such type of housing so that system building and other techniques would become possible, where necessary and cost of construction reduced.

This Guide applies essentially to permanent structures except in the case of site and services scheme.

For maintaining and preserving the environment so created by this housing, it is necessary that the authorities themselves assume the responsibility of management of the open spaces. In the event it is not always possible to do so, appropriate cooperative societies or other mechanisms could be attempted to see that the open spaces provided are utilized for the purpose for which they are meant.

(Continued on third cover)

Indian Standard

REQUIREMENTS OF LOW INCOME HOUSING — GUIDE

PART 1 URBAN AREAS

(First Revision)

1 SCOPE

1.1 This standard provides guidelines for the planning and general building requirements of low income housing for houses having a maximum plinth area of 40 m³.

1.2 The provisions of this Guide on layout planning of low income housing colonies are applicable to public and private agencies/ government bodies.

1.3 The provisions of this Guide on design and construction of buildings for low income housing in approved layouts are applicable to all private and public agencies.

2 REFERENCES

The following Indian Standards are necessary adjuncts to this Guide:

IS No. Title

- SP 7: 1983 National Building Code of India
- 12314 : 1987 Code of practice for sanitation with leaching pit latrines in rural communities
- 13727: 1993 Requirements of cluster planning for housing — Guide

3 TERMINOLOGY

3.0 For the purpose of this the following definitions shall apply.

3.1 Cooking Alcove

A cooking space having direct access from the main room without any inter-communicating door.

3.2 Covered Area

Ground area covered immediately above the plinth level covered by the building but does not include the space covered by:

a) garden, rockery, well and well structures, plant nursery, waterpool, platform round a tree, tank, fountain, bench CHABUTRA with open top and unenclosed on sides by walls and the like;

- b) drainage culvert, conduit, catch-pit, gully pit, chamber, gutter and like; and
- c) compound wall, gate, unstoreyed porch and portico, slide, swing, uncovered staircases, area covered by CHAHHJA and the like.

3.3 Density

The residential density is expressed in terms of number of dwelling units per hectare.

NOTE — Where such densities are expressed exclusive of community facilities and open spaces provision and major roads (excluding incidental open spaces), these will be net residential densities. Where these densities are expressed taking into consideration the required open space provision and community facilities and major roads, these would be gross residential densities on neighbourhood level, sector level or town level, as the case may be. The provision of open spaces and community facilities will depend on the size of the residential community.

Incidental open spaces are mainly open spaces requircd to be left around and in between two buildings to provide light and ventilation.

4 PLANNING

4.1 Type of Development

The type of development for low income housing shall be plotted development/flatted development as row housing or group housing on cluster pattern (see IS 13727: 1993).

4.2 Layout Pattern

4.2.1 In the land to be developed, at least 75 percent of the plots may be of the size less than or up to 60 m^2 per dwelling unit in metropolitan towns and 100 m^2 in other towns and hill areas. Remaining 25 percent of the plots may be more than 60 m^2 , however, no plot shall be more than 200 m^2 . In case of group housing or flatted development at least 75 percent units should have a plinth area (excluding external circulation such as stairs, lifts, lobbies etc.) up to or not exceeding 40 m^2 .

4.2.2 The mix of plot of different sizes should have a wide range to accommodate the need of lower income group. The project may include more than one site provided they are in the same neighbourhood.

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4.2.3 The layout should generally conform to the following land use:

Saleable	Land Under Each Use	
	General	Hill Area
i) Residential	50 percent minimum	35 percent
ii) Work places, schools institu- tions, shops, community places, etc	20 percent maximum	15 percent
Non-Saleable		
Poads nedestrial	30 percent	50 percent

Roads, pedestrial	30 percent	50 percent
paths, drains,	maximum	
public and semi-		
public open		
spaces		

NOTES

1 Any neighbourhood development should have provision for basic civic and community facilities, however, where such facilities are available in proximity the same could be considered and, in that case, the area under residential use could be increased correspondingly.

2 If land required under statutory provisions of master plan/development plan is proportionately higher but serves larger city needs, readjustment of the recommended land use pattern can be considered. Such provisions should, however, be carefully reviewed by the planning authorities to keep them to the barest minimum levels.

4.3 Plot Area

4.3.1 Plot Size

The minimum plot size with ground coverage not exceeding 75 percent, shall not be less than 40 m^2 in small and medium town and not less than 30 m^2 in metropolitan cities. Plot sizes below 30 m^2 but not less than 15 m^2 may be permitted in case of cluster planning, however, in such cases the ground coverage and FSI shall be 100 percent and 2 percent respectively.

NOTES

1 In exceptional cases in metropolitan cities with population more than 1 million the size of plots may be brought down to 25 m^3 in cases of low income housing colonies located in congested areas as decided by the Authority.

2 A minimum of 25 percent of the plot size shall be left open without adversely affecting light and ventilation for habitable spaces and toilet. It shall not be made mandatory to leave set back on any side.

4.3.2 Minimum Frontage

The minimum frontage of the plot shall be 3.6 m in width

4.4 Density

4.4.1 The density norms for plotted development and mixed development shall be as follows:

Type of Development	Range of Densities (Gross)
a) Plotted development	65-120 plots per hectare
b) Mixed development	
i) Small towns	75-100 dwelling units per hectare
ii) Cities	100-125 dwelling units per hectare
iii) Metropolitan cities	125-150 dwelling units per hectare

4.4.1.1 In case of developments with per dwelling unit covered area of 15 m^2 maximum densities of 500 dwelling units per hectare shall be pemissible.

4.5 Height of Building

The height of building shall not exceed 15 m.

NOTES

1 For buildings up to this height of 15 m, there is no need to provide lifts.

2 Housing for the low income group shall be preferably be ground and one.

3 Building for housing beyond 15 m in height should be restored to in exceptional circumstances and it should be governed by provisions laid down in SP 7: 1983.

4.6 Cluster Planning

For size of open cluster, and open space, set backs, vehicular access, and pedestrian paths in cluster planning the provisions given in IS : 19 shall apply.

5 GENERAL BUILDING REQUIREMENTS

5.1 General

The provisions contained in Part III General building requirements of SP 7: 1983 shall apply excepting for the specific provisions made in this Guide.

5.2 Plinth

The minimum height of the plinth shall be regulated on the basis of environmental and topographical condition and higher plinth height may be required in areas prone to flooding.

5.3 Size of Room

5.3.1 Habitable Room

Every dwelling unit to be provided should have at least two habitable rooms. Even if one room house is provided initially it should be capable of adding a new second room in future. However, in case single room tenaments are required to be provided where future additions are not possible, the carpet area of the multipurpose single room, should be at least $15 \cdot 5 \text{ m}^2$. In a house of two rooms, first room shall not be less than 9.0 m² with minimum width of 2.5 m and second room shall be not less than 6.5 m³ with a minimum width of 2.1 m provided the total area of both the rooms is not less than $15 \cdot 5 \text{ m}^2$. In incremental housing the bigger room shall always be the first room.

5.3.1.1 To facilitate incremental housing in case of flatted development or otherwise, habitable space at mezzanine level may be permitted. The minimum size of such a mezzanine floor should not be lesser than 6.5 and such a floor should occupy not more than 50 percent of the room area of which it is a part. Such a mezzanine floor should have appropriate openings to facilitate light and ventilation as per 5.5 of this Guide. Minimum clear height below and above the mezzanine floor should be 2.4 and 2.1 respectively.

As far as possible mezzanine floor should have direct ventilation from the external face of the buliding. Where this is not possible ventilation through main room can be allowed provided total area of openings in the main room is provided taking into consideration area of mezzanine floor.

Such mezzanine floor may be accessible through the main room by a ladder, whose minimum angle with vertical plane should be $22\frac{1}{2}^{\circ}$. Height of the riser should be less than 250 mm.

5.3.2 W.C. Bath Room

- i) Size of independent WC shall be 0.90 m² with minimum width of 90 cm,
- ii) Size of independent bath room shall be 1.20 m^2 with minimum width of 1 m, and
- iii) Size of combined bathroom and WC shall be 1.80 m² with minimum width of 1 m.

5.3.3 Kitchen

The size of a cooking alcove serving as cooking space shall not be less than $2\cdot 4$ m² with a minimum width of $1\cdot 2$ m. The size of individual kitchen provided in two-roomed house shall not be less than $3\cdot 3$ m² with a minimum width of $1\cdot 5$ m.

5.3.4 Balcony

The width of individual balcony, where provided shall not be more than 1.2 m and it shall not project beyond the plot line and on roads or pathway.

5.4 Minimum Height

The minimum height of rooms spaces shall be as follows:

a) Habitable room	2•6 m
b) Kitchen	2 -6 m
c) Bath/W.C.	2·1 m
d) Corridor	2•1 m

5.4.1 In the case of sloping roofs, the average height of roof for habitable rooms shall be 2.6 m and the minimum height at eaves shall be 2.0 m.

5.5 Lighting and Ventilation

The openings through windows, ventilators and other openings for lighting and ventilation shall be as follows:

- a) One-tenth of the room floor area for dryhot climate.
- b) One-sixth of the room floor area for wethot climate.

NOTE — The windows and other openings shall about on to open spaces either through areas left open within the plot or the front, side and rear spaces provided in the layouts which shall be treated as deened to be sufficient for light and ventilation purposes.

5.6 Stairs

The following criteria shall be adopted for internal individual staircase:

- a) Minimum width
 - i) 2 storeyed straight 0.60 m
 - ii) 2 storeyed winding 0.75 m
 - iii) 3 or more storeyed 0.75 m straight
 - iv) 3 or more storeyed 0.90 m winding
- b) Riser 20 cm, Max
- c) Tread

1) 2 storeyed	22·5 cm, <i>Min</i>
	(see Note)

ii) 3 storeyed or more 25 cm, Min

NOTE — This could be reduced to 20 cm as the clear tread between perpends, with possibility of open riser as well as nosing and inclined riser to have an effective tread of 22.5 cm.

d) Head Room — The minimum clear head room shall be 2.1 m.

5.7 Circulation Area

Circulation area on any floor including staircase shall not exceed more than 8 m^2 .

5.8 Water Seal Latrine

5.8.1 No building plan shall be approved and no building shall be deemed to have been

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completed and fit for human occupation unless provision is made for water seal latrine. No dry latrine shall be allowed. Water seal latrines can also be provied on the basis of community toilets or shared toilets as per the recommendation given in IS 13727 : 1993.

5.8.2 Where leaching pits are used, it should be constructed within the premises of the households as it would be economical as well as facilitate their cleaning. However, where, due to space constraint, construction of pits within the premises may not be possible, pits may be constructed in places like lanes, streets and roads.

5.8.3 In case the pit is located under the road, street or foot path the inverted level of the pipe connecting the level of the pipe connecting the latrine pan with the pit shall be at least 1.1 m below ground level or below the bottom of the water main existing within a distance of 3 m from the pits whichever is more. For construction of such pits IS 12314: 1987 may be referred.

5.8.4 The water seal latrine should be properly maintained and kept in sanitary condition by the owner or the occupier. The contents of the septic tanks, soak pits, leach pits, etc should be periodically emptied.

The leach pits should be cleaned only after 2 years of their being put out of service after they were full.

6 ROADS AND PATHWAYS

6.1 The area under roads and pathways in such housing projects should normally not exceed 20 percent of the total land area of the project.

6.1.1 Access to the dwelling units, particularly where motorised vehicles are not normally expected should be by means of paved footpaths with a right of way of 6 m and a pathway of 2 m only. The right of way should be adequate to allow for the plying of emergency vehicles and also for road side drains and plantation.

6.1.2 Where motorable access ways are not provided and pedestrian pathways are provided, the minimum right of way of such pedestrian

pathway shall be 3 m. Where houses areaccessible from one side only pathway can be-2 m width. The maximum length of such pathways should not be more than 60 m.

7 OTHER REQUIREMENTS

7.1 Requirements of fire safety, structural design, building services and plumbing services shall be as specified in SP 7 : 1983.

7.2 One water tap per dwelling units may be provided, where adequate drinking water supply is available. If supply is inadequate, public hydrants shall be provided. In the absence of piped water supply, hand pumps may be used for provision of water supply.

7.3 Recognising the need for informal use of space for shopping and informal occupation like road side repairs, pan shops etc, it is suggested that about 1/4 of the total shopping area in a layout should be reserved for such informal uses to cater to the needs of low incomefamilies.

7.4 The infrastructural services shall be provided before the plots are handed over toindividual owners.

8 SITE AND SERVICES SCHEMES

8.1 The developed plot sizes shall be as specified in 3.3. Services would have to be laid by the agency concerned as per the provisions of SP 7: 1983. In so far as roads and pathways are concerned they could also be in line with 6.

8.2 Site and services schemes shall provide for the following:

- a) The complete infrastructural needs for a parmanent housing, on the periphery of individual plot or a group/cluster plots.
- b) A service sanitary core in the plot,
- c) A skeletal structure of columns and roof or a developed plinth, and
- d) Permission to allow temporary construction on the plot.

While provisions in 8.2(a) and 8.2(d) are essential in site and services projects provisions, recommended in 8.2 (b) and 8.2 (c) are additional provisions depending upon affordability.

ANNEX A

(Foreword)

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Panel for Guide for Requirements of Low Income Housing, CED 51 : P3

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Central Public Works Department, New Delhi

(Continued from second cover)

In so far as specifications for low income housing are concerned, it is felt that the National Building Code gives a variety of specifications amogn which the cheaper ones could be chosen where desired. Therefore, no attempt is being made to recommend any particular specification for this type of housing; it is entirely up to the concerned agency to decide what specifications they would provide in relation to the total cost of the unit keeping in view the performance requirements.

In preparing this Guide, it is pointed out that this should be applicable to:

- a) layout planning of low income housing colonies by all private and public agencies
- b) designing and construction of building under low income housing either by public agencies, government bodies or by private builders.

This Guide provides for incremental housing. This would mean that in the case of housing for low income groups where the construction of a unit cannot be completed at one time depending on the resource of the family they should be permitted to add another room at a later stage. For this purpose it has been felt necessary to give scope for incremental housing which would permit both horizontal and vertical increment.

It is felt that site and services schemes should generally follow the pattern of low income housing and therefore it is suggested that the plot size should be limited to 40 m² in normal areas and 25 m² to 30 m² for metropolitan cities and the services should be provided by the public agencies. Here again, the road and pathways have been brought down to the level recommended for low income development.

Having provided site and services, the authorities may decide to provide wherever possible a skeletal structure of four columns and a roof or a developed plinth so that the owner of the site could build up the rest depending upon his resources. Here again, the question of maintenance of open spaces and services would be of great importance and the public agency should take responsibility for the same.

The experience and feedback of sites and services schemes, recently executed in country, have revealed that some of the schemes are designed only for providing developed plots. They neither provide the optimum level of quality of living in terms of physical and social environment nor do they help beneficiaries of economically weaker section of the community by providing them benefits of differential pricing based on the principle of cross subsidization. Studies on other schemes, particularly those financed by World Bank, have revealed that the provision of commercial and industrial land use in the schemes provides an integrated environment and helps in reducing the price of EWS plot to be within the affordable limits of weaker section. Besides this, integration of housing area with commercial and industrial land uses renders it to be self supporting and also offers the residents, facilities existing in the heart of the city. The minimum plot size should however be formulated, keeping in view, the built up spaces at the ground floor and the environment requisities.

The committee responsible for the formulation of this Guide is given in Annex A.

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AMENDMENT NO. 1 MAY 1994 TO IS 8888 (Part 1) : 1993 REQUIREMENTS OF LOW INCOME HOUSING --- GUIDE

PART 1 URBAN AREA

(First Revision)

(Second cover page, top line) - Substitute 'CED 51' for 'CED 5'.

(*Page* 1, *clause* 1.1) — Add 'including future expansion' at the end, after ... 40 m^2 .

(Page 1, clause 4.2.1) — Add 'including future expansion' at the end, after $\dots 40 \text{ m}^2$

(Page 2, clause 4.5, Note 3, line 2) --- Substitute'resorted' for 'restored'.

(Page 2, clause 4.6, line 3) - Substitute 'IS 13727: 1993' for 'IS: 19'.

(Page 2, clause 5.3.1, line 5) — Substitute '12.5 m², for '15.5 m², and add the following:

'One room dwelling units with 12.5 m^2 carpet area of habitable space is permitted only is in case of on site rehabilitation of slum dwellers.'

(Page 3, clause 5.5) — Add the following at the end of the NOTE:

'Wherever ventilation/lighting is provided by means of JALI or grills of any material, total area of openings shall be calculated excluding solid portion of the jali or grill.'

(Page 3, clause 5.7, last line) — Substitute '8 m²/dwelling unit' for '8 m²,

(Page 4, clause 6.1.2, first sentence) — Substitute the following for the existing:

'Where pedestrian pathways are not meant for motorable access to the minimum, right of way of such pedestrian pathway shall be 3 m'.

(CED 51)

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