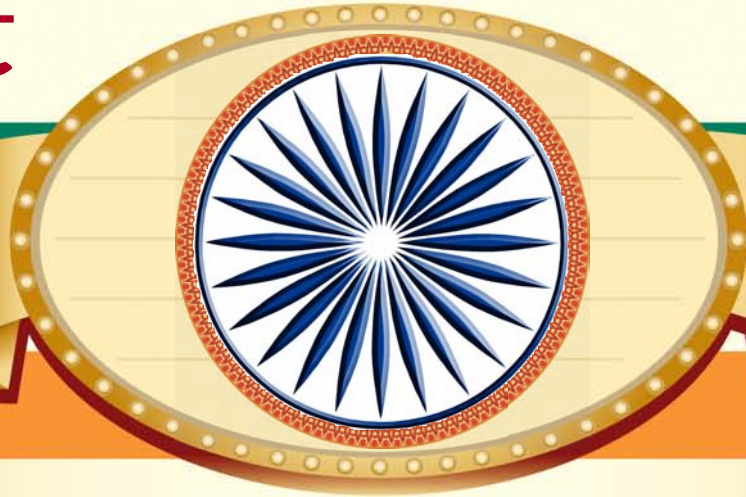


इंटरनेट

मानक



### Disclosure to Promote the Right To Information

Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

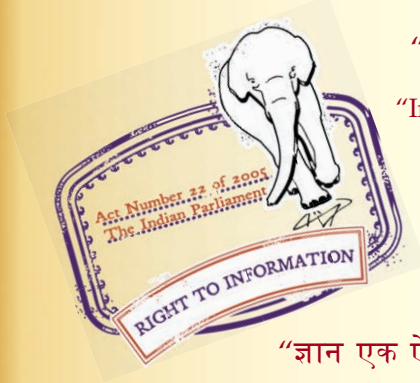
“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 13727 (1993): Guide for requirements of cluster planning for housing [CED 51: Planning, Housing and pre-fabricated construction]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”



BLANK PAGE



IS 13727 : 1993  
Reaffirmed 2009

भारतीय मानक

गृह प्रबन्ध हेतु गुच्छ योजना की अपेक्षाएँ—  
मार्गदर्शिका

*Indian Standard*

REQUIREMENTS OF CLUSTER PLANNING  
FOR HOUSING — GUIDE

UDC 721.011.22: 69.032.2

© BIS 1993

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

July 1993

Price Group 3

**AMENDMENT NO. 1 AUGUST 1994  
TO  
IS 13727 : 1993 REQUIREMENTS OF CLUSTER  
PLANNING FOR HOUSING — GUIDE**

*( Forword )* — Add the following after para 4:

‘Cluster planning is one of the better options available which provide appropriate physical spaces that are conducive to community life and development. Wherever such planning is adopted, this should be regulated by the standards recommended here.’

*( Page 3, clause 4.4 )* — Modify the last sentence as follows:

‘Maximum cluster courtyard width and breadth shall be 13 m.’

*( Page 3, clause 4.6 )* — Modify the second sentence as follows:

‘While bridging the pedestrian pathway minimum clearance should be one storey height.’

## 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.

Cluster planning is recognised to be consistent with traditional Indian life style. This has also been an accepted traditional practice all over the world. In the recent years, however cluster planning has been largely neglected. The traditional changes of the modern age which made people more individualistic and self-centred, the large city anonymity, the loosening of family and community ties, the advent of the automobile and the desire to bring it almost in the house, tended to make cluster planning irrelevant.

In the recent years, there has been an upsurge of projects to resettle slum dwellers and provide housing for the urban poor. Several studies have been carried out of spontaneously developed settlements. We have now rediscovered the virtues of low rise high density development in the context of affordability and incremental growth. There have been number of innovative projects being developed. The cluster concept has been accepted now as economic necessity and desirable socially to promote desired life style.

Cluster planning has proved to be a powerful urban design tool, yet number of conventional byelaw provisions such as set back and coverage hinder efficient planning based on cluster concept. It has, therefore become necessary to devise guidelines that will permit imaginative cluster planning.

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

*Indian Standard*

**REQUIREMENTS OF CLUSTER PLANNING FOR HOUSING — GUIDE**

**1 SCOPE**

1.1 This standard provides guidelines for the planning and building requirements of housing developed as clusters.

1.2 Provision of the guidelines are applicable to all housing projects taken up by public, private or co-operative agencies.

**2 REFERENCES**

2.1 The following Indian Standards are necessary adjuncts to this standard:

<i>IS No.</i>	<i>Title</i>
SP 7 : 1983	National building code of India (first revision)

8888	Guide for requirements of low (Part 1) : 1993 income housing Part 1 Urban area
------	--

**3 TERMINOLOGY**

3.0 For the purpose of this standard the following definitions shall apply:

**3.1 Cluster**

Plots or dwelling units or housing grouped around an open space. Ideally housing cluster should not be very large. In ground and one storeyed structures not more than 20 houses should be grouped in a cluster. Clusters with more dwelling units will create problems in

identity, encroachments and of maintenance (see Fig. 1).

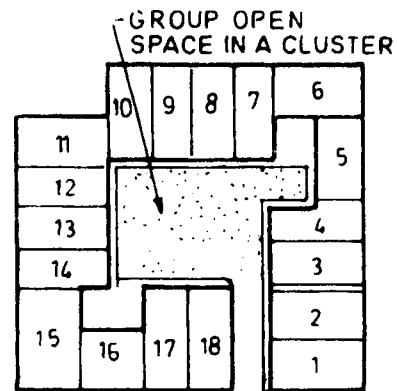


FIG. 1 CLUSTER

**3.2 Group Housing**

Group or multi-storeyed housing for more than one dwelling unit, where land is owned jointly (as in case of co-operative societies or the public agencies, such as local authorities or housing boards, etc) and the construction is undertaken by one agency/authority (see Fig. 2).

**3.3 Cluster Plot**

Plot in a cluster as defined at 3.1 will be called cluster plot.

**3.4 Group Open Space**

Open space within a cluster is neither public open space nor private open space. Each

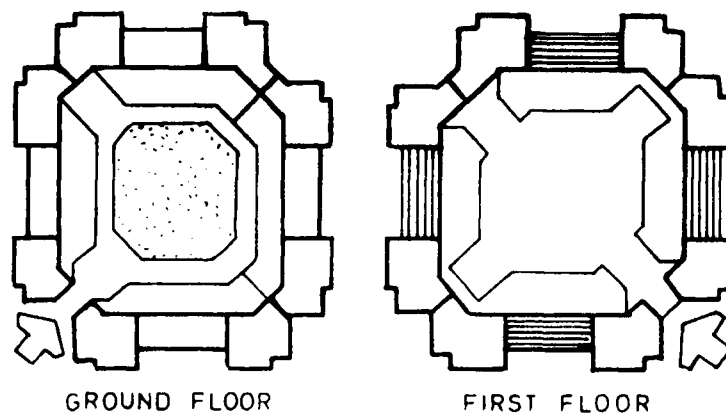


FIG. 2 CLUSTER GROUP HOUSING

dwelling unit around the cluster open space will have a share and right of use in it. The responsibility for maintenance of the same will be collectively shared by all the dwelling units around. This space will be called as group open space.

**3.5 Cluster Court Town House**

A dwelling in a cluster plot having 100 percent or nearly 100 percent ground coverage with vertical expansion, generally limited to one floor only and meant for self use, will be called Cluster Court Town House ( see Fig. 3 ).

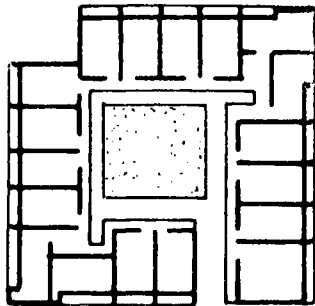


FIG. 3 CLUSTER COURT TOWN HOUSE

**3.6 Density**

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

**3.7 Net Density**

Where such densities are expressed exclusive of community facilities and open spaces provision and major roads ( including incidental open spaces ), there 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 required to be left around and in between two buildings to provide light and ventilation.

**3.8 Independent Cluster**

Clusters as defined at 3.1, will be considered as independent clusters when surrounded from all sides by vehicular access roads and/or pedestrian paths ( see Fig. 4 ).

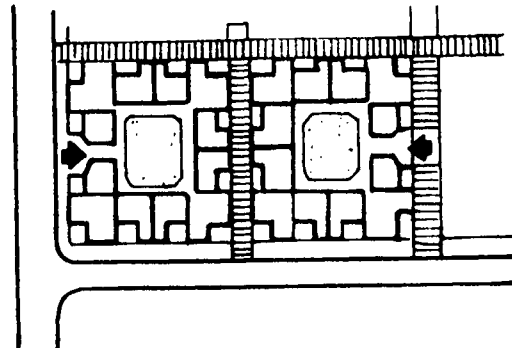


FIG. 4 INDEPENDENT CLUSTER

**3.9 Back to Back Cluster**

Clusters when joined back to back and/or on sides will be considered as 'back to back clusters' ( see Fig. 5 ).

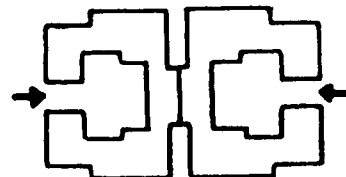


FIG. 5 BACK TO BACK CLUSTER

**3.10 Interlocking Cluster**

Clusters when joined at back and on sides with at least one side of a cluster common and having some dwelling units opening onto or having access from the adjacent clusters will be considered as interlocking clusters. Dwelling units in such clusters should have at least two sides open to external open space. Houses in an interlocking cluster can have access, ventilation and light from the adjacent and cluster and should also cater for future growth ( see Fig. 6 ).

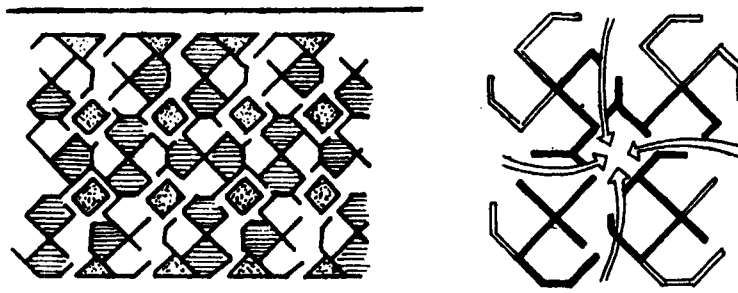


FIG. 6 INTERLOCKING CLUSTER

### 3.11 'Cul-de-Sac' Cluster

Plots/dwelling units when located along a pedestrianised or vehicular 'cul-de-sac' road will be considered as 'cul-de-sac' cluster ( see Fig. 7 ).

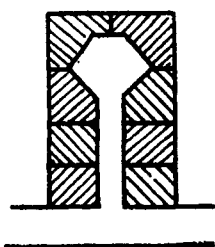


FIG. 7 CUL-DE-SAC CLUSTER

### 3.12 Closed Clusters

Clusters with only one common entry into cluster open space ( see Fig. 8 ).

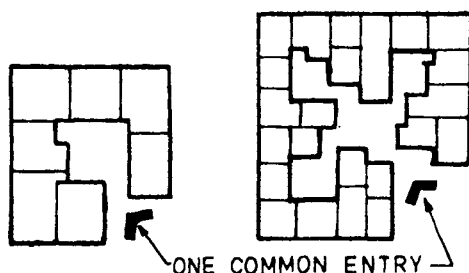


FIG. 8 CLOSED CLUSTER

### 3.13 Open Clusters

Cluster where cluster open spaces are linked to form a continuous open space can be considered as open cluster ( see Fig. 9 ).

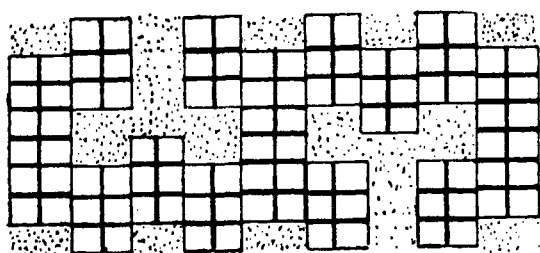


FIG. 9 OPEN CLUSTER

### 3.14 External and Internal Faces of Cluster

Building edges facing the cluster open spaces will be called inner faces of cluster and building edges facing the adjacent cluster open space ( as in case of interlocking cluster ) of the surrounding pedestrian paths or vehicular access roads will be called as external faces of cluster.

## 4 PLANNING

### 4.1 Plot Size

The minimum plot size permissible shall be  $15 \text{ m}^2$  with 100 percent ground coverage and an FSI of two. 100 percent ground coverage and FSI of 2 will be applicable up to plot size of  $25 \text{ m}^2$ . For plot sizes beyond  $25 \text{ m}^2$  provision of IS 8888 (Part 1) : 1993 will be applicable.

### 4.2 Plot/Plinth Area for Slum Resettlement on Same Site

In case of slum resettlement on the same site, minimum area may be reduced to  $12.5 \text{ m}^2$  with potential for adding another  $12.5 \text{ m}^2$  on first floor with an internal staircase.

### 4.3 Group Housing

Group housing can be permitted within cluster housing concept. However, dwelling units with plinth areas up to  $20 \text{ m}^2$  should have scope for adding a habitable room. Group housing in a cluster should not be more than 15 m in height.

### 4.4 Size of Cluster Open Space

Minimum dimensions of open spaces shall be not less than 6 m or  $3/4$ th of the height of buildings along the cluster open space, whichever is higher. The area of such cluster court shall not be less than  $36 \text{ m}^2$ . Group housing around a cluster open space should not be normally more than 15 m in height. Maximum cluster width and breadth can be 13 m.

### 4.5 Setbacks

No setbacks are needed from the edges of cluster as pedestrian/vehicular access roads surrounding the cluster.

### 4.6 Right to Build in Sky

Pedestrian paths and vehicular access roads to clusters separating two adjacent clusters can be bridged to provide additional dwelling units. While bridging the pedestrian path minimum clearance should be 2 storey height, length of such bridging should be not more than two dwelling units. While bridging the vehicular access roads minimum clearance should be 6 m.

### 4.7 Vehicular Access

A right of way of at least 6 m width should be provided up to the entrance to the cluster to facilitate emergency vehicle movement up to cluster.

### 4.8 Pedestrian Paths

Minimum width of pedestrian paths shall be 3 m.

**4.9 Width of Access Between Two Clusters**

Built area of dwelling unit within cluster shall have no setbacks from the path or road, space. Hence, the height of the building along the pathway or roads shall be not less than 60 percent of the height of the adjacent building subject to minimum of 3 m in case of pathway and 6 m in case of vehicular access.

**4.10 Density**

Cluster planning methodologies result in higher densities with low rise structures. With per dwelling unit covered area of 15 m<sup>2</sup> densities of 500 dwelling units per hect. ( net ) shall be permissible. Densities higher than this should not be allowed.

**4.11 Group Toilet**

Cluster housing for economically weaker section families can have group toilets at the rate of one

WC, one bath and a washing place for three families. These shall not be community toilets, as keys to these toilets shall be only with these three families, making them solely responsible for the maintenance and upkeep of these toilets.

**5 OTHER REQUIREMENTS**

**5.1 Requirements of Building Design**

With the exception of clauses mentioned above, requirements of building will be governed by the provision of National Building Code 1980 and IS 8888 ( Part 1 ) : 1993.

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

## ANNEX A

### ( Foreword )

#### Housing Sectional Committee, CED 51

<i>Chairman</i>	<i>Representing</i>
DR P. S. A. SUNDARAM	Ministry of Urban Development, New Delhi
<i>Members</i>	
SHRI AROMER REVI	Development Alternatives, New Delhi
PROF H. P. BAHRI	School of Planning and Architect, New Delhi
PROF SUBIR SAHA ( <i>Alternate</i> )	
SHRI H. U. BIJLANI	In personal capacity ( 1 Sadhna Enclave, Panchsheel Park, New Delhi-17 )
CHIEF ARCHITECT	Central Public Works Department, New Delhi
SENIOR ARCHITECT ( H & TP ) I ( <i>Alternate</i> )	
CHIEF ENGINEER, AUTHORITY	Maharashtra Housing and Area Development Authority, Bombay
ARCHITECT, AUTHORITY ( <i>Alternate</i> )	
CHIEF ENGINEER ( D )	Central Public Works Department, New Delhi
SUPERINTENDING ENGINEER ( <i>Alternate</i> )	
ENGINEERING MEMBER, DDA	Delhi Development Authority, New Delhi
SHRI B. B. GARG	Central Building Research Institute, Roorkee
SHRI Y. K. GARG	National Housing Bank, New Delhi
SHRI CHETAN VAIDYA ( <i>Alternate</i> )	
SHRI O. P. GARYALI	National Council for Cement and Building Materials, New Delhi
DR N. K. JAIN ( <i>Alternate</i> )	
SHRI T. N. GUPTA	Building Materials and Technology Promotion Council, New Delhi
SHRI HARBINDER SINGH	Public Works Department, Government of Rajasthan, Jaipur
SHRI R. N. AGRAWAL ( <i>Alternate</i> )	
SHRI N. N. JAVDEKAR	CIDCO of Maharashtra Ltd, New Bombay
SHRI P. M. DESHPANDE ( <i>Alternate</i> )	
SHRI M. N. JOGLEKAR	Housing and Urban Development Corporation, New Delhi
SHRI S. K. TANEJA ( <i>Alternate</i> )	
SHRI T. P. KALIAPPAN	Tamil Nadu Slum Clearance Board, Madras
SHRI J. BHUVANESWARAN ( <i>Alternate</i> )	
MISS NINA KAPOOR	The Mud Village Society, New Delhi
SHRI A. K. M. KARIM	Housing Department, Government of Meghalaya, Shillong
SHRI K. R. S. KRISHNAN	Department of Science and Technology ( DST ), New Delhi
SHRI N. KUMAR	Engineer-in-Chief's Branch
SHRI K. M. NAMDIAR ( <i>Alternate</i> )	
SHRI RAJA SINGH	Indian Railway Construction Co Ltd, New Delhi
SHRI S. SELVANTHAN ( <i>Alternate</i> )	
DR A. G. MADHAVA RAO	Structural Engineering Research Centre, Madras
SHRI I. K. MANI ( <i>Alternate</i> )	
SHRI U. N. RATH	B. G. Shirke & Co, Pune
COL. D. V. PADSALGIKAR ( <i>Alternate</i> )	
SHRI K. S. SRINIWASAN	National Buildings Organization, New Delhi
SHRI M. M. MISTRY ( <i>Alternate</i> )	
SHRI Y. R. TANEJA,	Director General, BIS ( <i>Ex-officio Member</i> )
Director-in-Charge ( Civ Engg )	
<i>Secretary</i>	
SHRI J. K. PRASAD	
Joint Director ( Civ Engg ), BIS	

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

<i>Convener</i>	
SHRI M. N. JOGLEKAR	Housing and Urban Development Corporation, New Delhi
<i>Members</i>	
SHRI D. P. SINGH ( <i>Alternate to</i>	
SHRI M. N. Joglekar )	
SHRI B. B. GARG	Central Building Research Institute, Roorkee
SHRI Y. K. GARG	National Housing Bank, New Delhi
SHRI K. T. GURUMUKHI	Town and Country Planning Organization, New Delhi
SHRI T. N. GUPTA	Building Materials Technology Promotion Council, New Delhi
SHRI M. M. MISTRY	National Buildings Organization, New Delhi
SUPERINTENDING ENGINEER ( DESIGNS )	Vastu-shilpa Foundation, Ahmadabad
EXECUTIVE ENGINEER ( HQ ) ( <i>Alternate</i> )	
SHRI YATIN PANDYA	Central Public Works Department, New Delhi

**Standard Mark**

The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act, 1986* and the Rules and Regulations made thereunder. The Standard Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well defined system of inspection, testing and quality control which is devised and supervised by BIS and operated by the producer. Standard marked products are also continuously checked by BIS for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

## Bureau of Indian Standards

BIS is a statutory institution established under the *Bureau of Indian Standards Act, 1986* to promote harmonious development of the activities of standardization, marking and quality certification of goods and attending to connected matters in the country.

### Copyright

BIS has the copyright of all its publications. No part of these publications may be reproduced in any form without the prior permission in writing of BIS. This does not preclude the free use, in the course of implementing the standard, of necessary details, such as symbols and sizes, type or grade designations. Enquiries relating to copyright be addressed to the Director ( Publications ), BIS.

### Review of Indian Standards

Amendments are issued to standards as the need arises on the basis of comments. Standards are also reviewed periodically; a standard along with amendments is reaffirmed when such review indicates that no changes are needed; if the review indicates that changes are needed, it is taken up for revision. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition by referring to the latest issue of 'BIS Handbook' and 'Standards Monthly Additions'. Comments on this Indian Standard may be sent to BIS giving the following reference:

Doc : No. CED 51 ( 4953 )

### Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

## BUREAU OF INDIAN STANDARDS

### Headquarters:

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110002  
Telephones : 331 01 31, 331 13 75

Telegrams : Manaksanstha  
( Common to all offices )

### Regional Offices :

Telephone

Central : Manak Bhavan, 9 Bahadur Shah Zafar Marg  
NEW DELHI 110002

{ 331 01 31  
{ 331 13 75

Eastern : 1/14 C. I. T. Scheme VII M, V. I. P. Road, Maniktola  
CALCUTTA 700054

{ 37 84 99, 37 85 61  
{ 37 86 26, 37 86 62

Northern : SCO 445-446, Sector 35-C, CHANDIGARH 160036

{ 53 38 43, 53 16 40  
{ 53 23 84

Southern : C. I. T. Campus, IV Cross Road, MADRAS 600113

{ 235 02 16, 235 04 42  
{ 235 15 19, 235 23 15

Western : Manakalaya, E9 MIDC, Marol, Andheri ( East )  
BOMBAY 400093

{ 632 92 95, 632 78 58  
{ 632 78 91, 632 78 92

Branches : AHMADABAD. BANGALORE. BHOPAL. BHUBANESHWAR.  
COIMBATORE. FARIDABAD. GHAZIABAD. GUWAHATI. HYDERABAD.  
JAIPUR. KANPUR. LUCKNOW. PATNA. THIRUVANANTHAPURAM.