
PART III
Appendix B
Guidelines for Minimum Standard Housing Development

B.1 General

B.1.1 Government bodies or public agencies may designate an area in the master plan for the development of Mass Housing Projects. Generally all such development shall be known as Minimum Standard Housing, which shall be broadly categorized into the following two categories: a) Minimum Standard Community Housing and b) Minimum Standard Transitional Housing. Requirements for master plan and dwelling units in such projects shall have special provisions depending upon the category of development mentioned above.

The guidelines of this Appendix cover the planning and the general building requirements of all such Minimum Standard Housing developments.

B.1.2 A minimum standard community housing is a housing that confirms to the basic minimum requirement regarding dwelling units, community and other facilities according to the provision of this Code. Requirements for community facilities in these housings shall depend upon the size and scale of the community (Sec B.4.2). Dwelling units in all such developments shall be classified as Occupancy A1, A2, A3 or Mixed Occupancy depending upon the type of development (Sec B.3) and degree of mixing with other occupancies within the same structure.

B.1.3 Minimum Standard Transitional Housings are housing facilities on a transient basis before providing its inhabitants with Minimum Standard Community Housing. Ensuring safety, health and sanitation requirements shall be the primary obligation for such housing. Since, it may not be convenient or practicable for the planning and dwelling units in such projects to be in full compliance with all the requirements of this Code, a few exemptions have been made for all such housings in the following Sections of this Appendix. All Transitional Housing, irrespective of its type of development shall be group housing. Dwelling units in a transitional housing shall be classified as Occupancy A3, A4 or Mixed Occupancy depending upon the type of development and degree of mixing with other occupancies within the same structure.

B.1.4 Only government bodies or public agencies should be responsible for planning the number and location of the settlements in an approved master plan following the density guidelines of Appendix A and the layout of units within the settlement. The guidelines of this Appendix regarding layout planning are applicable to government bodies or public agencies responsible for such planning.

B.1.5 The guidelines and requirements regarding design and construction of buildings for minimum standard housing in approved layouts are applicable to all government bodies, public agencies, private developers or individual owners who undertake such constructions.

B.2 Types Of Development

The development of minimum standard housing may be any one or a combination of the following types:

- (a) Single unit plots of row type housing
- (b) Multi-storied flats of row type housing
- (c) Block development as a group housing
- (d) Cluster housing, and
- (e) Site and service schemes

The guidelines for planning and general building requirements shall be applicable to all types of development of minimum standard housing unless exempted as mentioned in this Appendix.

B.2.1 Single Unit Plots of Row Type Housing

Row Type in a housing development is characterized by independent plotted developments for single family dwelling (A1) and shared community facilities. Along with single family detached and semi-detached dwelling, this type of dwelling is used to achieve low-densities in a settlement.

This type of development should be located away from high capacity public transportation system and should be characterized by high car ownership rate.

All such development shall comply with the provisions for parti-wall and general criteria for natural lighting and ventilation as described in Part 3 Chapter 1, Part 6 and Appendix E.

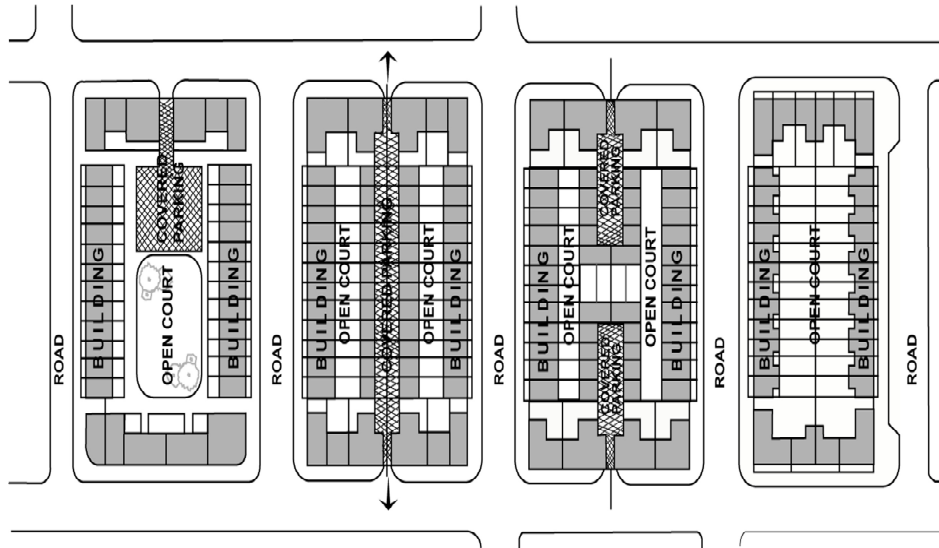


Figure 3.B.1 Row type development

B.2.2 Multi-Storied Flats of Row Type Housing

Unlike single unit plots of row type development, multistoried flats of row type housing are not plotted development. Here the un-demarcated un-divided land is shared by the flat owners within such complex.

Houses or flats or apartments in Multi-storied Row type developments shall share walls with adjacent flat or apartment, provided that they are designed and built at the same period as part of the same project and also that they fulfil the general criteria for natural lighting and ventilation as referred in Part 3, Chapter 1.

Multi-storied row type developments should be permitted for walkup apartments (A3) as well as two family dwelling (A2) with many of the community facilities at lower levels. Such developments are good for medium density settlements and may also be used in mixed use zones.

B.2.3 Block Development as a Group Housing

Block developments are characterized by high-density large scale developments within a block usually surrounded by roads all around and serviced by high capacity transport and utility network.

Large plots of 4048 m² or more, with road access on one side may also be considered as block development if provided with a peripheral access road along its perimeter and also if they are in close proximity to high capacity transport and utility infrastructure network. All such plots may be allowed to attain higher densities than other typologies. Such developments are more desirable in the central urban areas emphasizing more dependency on public transportation and less on private transportation. Parking requirements in such typologies shall be less than other typologies.

Block development for Group Housing should be permitted for large scale developments of Apartments (A3) or Mess, Boarding houses, Dormitories and Hostel (A4).

All such residential developments can be mixed with other permitted occupancies to encourage availability of all services within the close proximity and to support growth of local economy. All such developments can be subdivided into following two categories:

(a) Tower Block Development for Group Housing

This includes Flats or Apartments (A3) in a single or multiple high-rise towers within a block/large site with relatively low ground coverage and higher density along with open spaces and community facilities within and around the tower blocks.

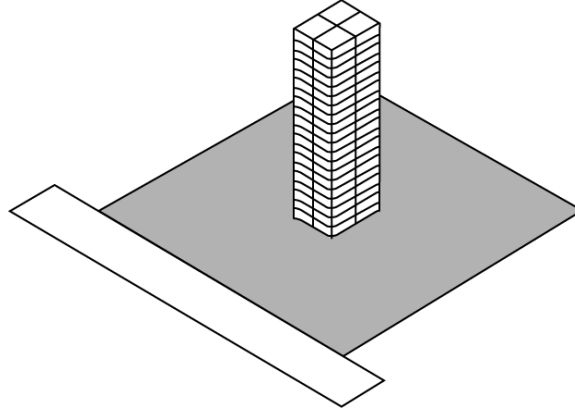


Figure 3.B.2 Tower block development

(b) Perimeter Block Development for Group Housing

Unlike Tower blocks, Perimeter block developments involves one single building or multiple buildings placed along the perimeter of the site to create an internal open space shielded from its surrounding, commonly used as community space. Each housing unit in such developments shall have at least two sides open—one at the internal open space and the other at the external road side.

Depending upon the plot size and population such development may also be permitted to become high-rise development, provided that the internal open space in such development confirms to the criteria for minimum requirements of a courtyard (Part 3, Chapter 1).

B.2.4 Cluster Housing

Cluster type development, as a housing form, is suitable for accommodating low to high density of population within walkup range. Cluster type development for Group Housing should be permitted for all ranges such as for low density development for single family dwelling (A1) and two family dwelling (A2) or for moderate to high density developments of Apartments (A3) or Mess, Boarding houses, Dormitories and Hostel (A4). Details of this typology have been discussed in Appendix D.

B.2.5 Site and Service Schemes

Site and service schemes shall delineate individual plots and provide for the infrastructural needs for the development of a permanent housing. Interim constructions by the allottees should also be permitted. Skeletal structures with a roof on columns and/or developed plinths may be provided if funds are available.

Sanitation and water supply must be provided in all site and service schemes. A sanitary service core or common water supply and sanitation facilities for planned groups of plots should normally suffice. The developing agency shall install the services before handing over the plots.

Site and service schemes for group housing should be permitted for low density development of single family dwelling (A1) and two family dwelling (A2) and ownership right of such housing shall be non-transferrable.

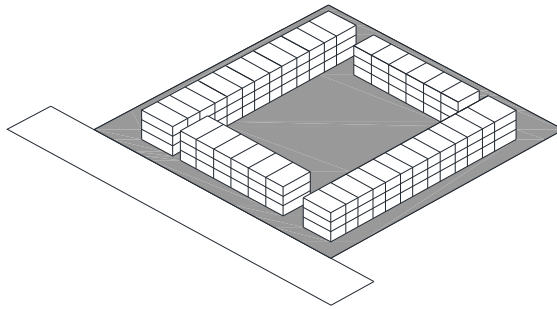


Figure 3.B.3 Perimeter block development

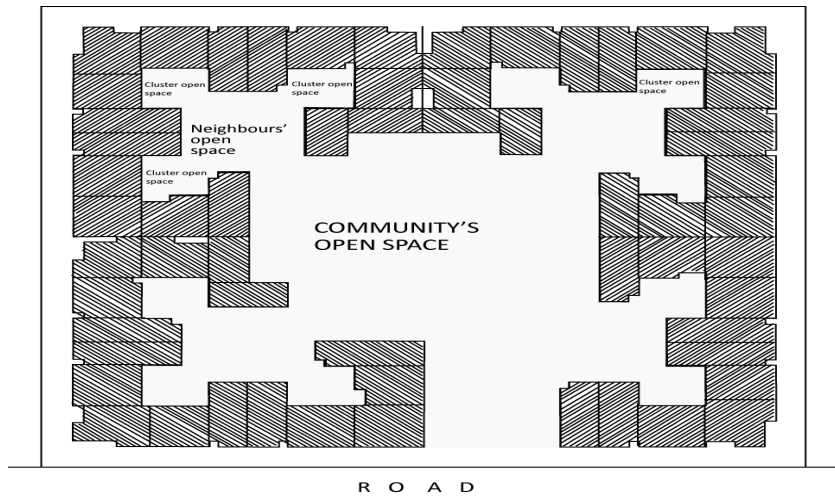


Figure 3.B.4 Cluster type development

B.3 Planning

B.3.1 A minimum standard housing shall ensure quality living for all its inhabitants. Providing proper environmental quality, social and utility infrastructure, educational facilities, health care and recreational facilities, connectivity to commerce and job locations in a comprehensive planning are pre-conditions to attain that. With increasing urban population and the shortage of developable land, high residential densities shall occur. This multiplies the necessity for the provision of community facilities to ensure the minimum standard of the housing.

B.3.2 Density

Housing density for an area or locality or settlement is a planning issue and shall be decided by the planning authority in accordance with the Detail Area Plan (DAP). Where such guidelines are unavailable, the gross density of a minimum standard housing shall not be more than 175 units per hectare, considering an average population of 5 persons per dwelling unit. The general distribution of built area and open space shall follow the provisions of Sec B.3.3.

B.3.3 Basic Requirements for Community Facilities and Facilities for Locality

Any minimum standard housing, irrespective of its type of development, should be planned and organized in groups or clusters, where each of the clusters should not exceed 400 dwelling units with an average population of 5 residents per dwelling. Where the number of dwellings is more than that, more than one clusters, each below 400 units, should be formed.

In any housing project, community and facilities for locality are essential. The facilities required for any such project shall depend on the size of the community or communities within a locality. Table 3.B.1 and Table 3.B.2 show the requirements of such facilities for any housing development in reference to their variation of net density and their relation to the threshold population.

B.3.3.1 Open space within a site area

Open space within a site area shall be as defined in Sec 1.8 Chapter 1, Part 3. However for a minimum standard housing, such open space shall also be equal or more than the open to sky space which is an outcome of addition of

- (a) Mandatory setback area and
- (b) Area requirement for Community Open Space (COS) as per Sec B.3.3.2.

For plots below 4048 m² community open space may overlap with mandatory setback area.

B.3.3.2 Community open space shall not be less than 1 m² per occupant.

B.3.3.3 Community facilities consist of two components :

- (a) Community Open Space (COS) : Community open space is an undivided contiguous open space within a plot or block or cluster which along with mandatory setback area constitutes the open space of the site. Depending upon the size of population and land area this space may be used as any or combination of the following uses—

- (i) Lawn
- (ii) Garden
- (iii) Play lot

All such uses shall be exclusive to the residents of that plot or block or cluster.

No paved area, other than the minimum required area for vehicular and pedestrian access to the site, is allowed within this community open space. All such road and walkways shall ensure pedestrian priority and safety, and shall not be used as a through circulation.

The following guidelines shall be maintained if the area of the community open space within the site fulfils the criteria mentioned in the first column of Table 3.B.1.

- (b) Community Built Space (CBS) : Community built space is part of the community facilities dedicated to serve the population within a given site or block or cluster. Depending upon the threshold population, the CBS shall include facilities as per guideline of Table 3.B.2 for a threshold population up to 200 families.

Table 3.B.1: Guideline for Minimum Width for Community Open Space

Open Space Area (m ²)	Minimum Width (m)	May Accommodate
130 or more	9	Badminton, table tennis etc.
700 or more	21	Basketball, badminton etc.

B.3.3.4 Facilities for Locality (FL) : Facilities for localities are shared facilities consisting of both Local Open Spaces (LOS) and Local Built Spaces (LBS) located outside the plot boundary but within the locality. The total space requirement of the Facilities for locality shall vary considerably depending upon the requirements of net density, gross density and threshold population of Table 3.B.2.

Table 3.B.2 refers to list of such facilities for a plot/locality/ward/region in relation to population size and space requirement for a settlement.

Table 3.B.2: Threshold Population and Minimum Reference Standard of Facilities for Community and Locality

Facilities	Threshold Population to Start the Facilities	Minimum Reference Standard	Level Served
General*			
Community Open Space (COS)	3 families	1 m ² per person	Plot
Management office	10 families	10 m ² room	Plot
Meeting room/hall (multi-purpose with storage and washroom facilities)	20 families	2 m ² / family	Plot
Indoor games room	30 families	1 m ² per family	Plot
Prayer hall	40 families	0.75 m ² per family	Plot
Educational			
Day care center**	100-300 families/500-1500 persons	Minimum 6 children	Plot/ local
Nursery/kindergarten school (age group 3 to under 6 years)**	400-600 families/2000-3000 persons	Minimum 6 classrooms	Local
Primary school (age group 7 to under 11 years)**	1000-1600 families/5000-8000 persons	Minimum 3950 m ² site area with minimum site width of 55m	Local
Secondary school (age group 12 to under 17 years)	1800-2400 families/9000-12000 persons	Minimum 6950 m ² site area with minimum site width of 65m	Ward
Colleges/community colleges/vocational colleges	10,000 families/50000 persons	2000 m ² -7000m ² site area	Regional

Facilities	Threshold Population to Start the Facilities	Minimum Reference Standard	Level Served
Commercial			
Small store/s	50 families	4 stores per 200 families (20 m ² per store, max)	Plot/ local
Medicine store/dispensary/ convenience grocery store/ bakery/beauty parlor	200 families	175 m ² per 400 families minimum	Plot/ local
Super-market	2000 families/10,000 persons		Ward/ regional
Shopping center	4000 families/20,000 persons		Ward/ regional
Socio-Cultural			
Community welfare center	300 families	400 m ² per 300 families	Local
Places for worship (Mosques, temples, churches etc.)	400 families	175 m ² per 400 families	Local
Community Hall	1000 families	Plot size 1300 m ² minimum.	Local/ ward
Library	1000 families	175 m ² minimum	Ward
Healthcare			
Health center	400 families/2000 persons	175 m ² per 400 families	Ward
Small clinic	2000 families/10,000 persons	Minimum 2200 m ² plot per 10,000 persons	Ward
Services and Utilities			
Internal roads and walkways	Any	15 to 20 per cent of the site area	
Amenities (Garbage disposal, water pump, local electrical substation/generator etc.)	Any	5 per cent of the site area	Local

Facilities	Threshold Population to Start the Facilities	Minimum Reference Standard	Level Served
Office of local authority, community police etc.	400 families/ 2000 persons	175 m ² per 400 families	Ward
Public transport stoppage/ station***	As per planning guideline	At least 1 bus bay with passenger shed	
Sports and Recreational			
Park, water front	2000 families/10,000 persons	1 hectare minimum per 10,000 persons	Ward/regional
Play ground	1000 families/ 5,000 persons	400 m ² minimum (local level) per 5000 persons	Local/ward
Children and youth center	2400 families/12,000 persons	630 m ² minimum per 12000 persons	Local/ward
Gymnasium, Indoor games	1000 families/5000 persons	175 m ² minimum per 5000 persons	Local/ward
Swimming pool	6000 families/30,000 persons	420 m ² of water surface/ 30,000 persons	Ward
Sports Complex with indoor and outdoor facilities	10,000families/ 50,000 persons	0.6 hectare (ward level) per 50000 persons	Ward
* All general facilities shall be accommodated within the plot or block or cluster area. For any housing having a population of 10 families or above, the total built area (excluding community open space) dedicated to such facility/ facilities (depending upon the population size) shall not be less than 1m² per person. ** All such facilities must be a part of integrated planning prioritizing close proximity to the housing units they serve. The distance of such facilities from the serving units should not be more than 0.4 kilometers, All such connecting pathways, street etc. shall be away from major roads and shall have pedestrian priority. *** Public transport stoppages should be located nearer to health facilities, post-secondary educational institutions and other public buildings and should be supported by public parking facilities nearby.			

B.3.4 Size of Plot

B.3.4.1 Minimum standard community housing

All minimum standard community housing shall follow the general guidelines of plot sizes mentioned in Appendix A.

B.3.4.2 Minimum standard transitional housing

All types of minimum standard transitional housing, except site and service type, shall be group housing (A3 or A4 occupancy) and shall abide by the plot size requirement of Appendix A. For Site and Service transitional housing, the authority may allow higher density for larger plot size with close proximity to public transport network provided that such decisions are in compliance with the planning guidelines for the area or locality.

Site and Service Scheme for Single Room Development : For site and service transitional housing development where a minimum standard house with single room, kitchen, bathing facilities and water closet are expected to develop, the minimum plot size may be reduced to 30 m² with a minimum frontage of 4.1 m. In areas other than metropolitan cities; with population less than 0.5 million, the minimum size of plot for such houses should be 40 m² with a plot frontage of minimum 4.8 m. In dense inner city areas of metropolitan cities with population more than 1.5 million, the Government may decide to have a minimum plot size of 25 m² with a minimum frontage of 4.1 m for such housing.

Site and Service Scheme for Two Room Development : For site and service transitional housing development where a minimum standard house with two rooms, kitchen, bathing facility and water closet are expected to develop, a minimum plot size of 40 m² shall be required. In areas other than metropolitan cities, having a population less than 0.5 million, the minimum size of the plot for such houses should be 60 m².

B.3.5 Internal Roads and Walkways

Pedestrian walkways when provided as means of access shall be at least 3 m wide. Such walkways shall not be longer than 60 m, nor serve more than 10 plots on each side of the path. Other internal roads shall be at least 6 m wide to allow emergency vehicles to enter. The paved portion of such roads, if used for pedestrian movement only, should be at least 2 m wide.

B.4 General Building Requirements

B.4.1 Plinth Coverage

The plinth area coverage of any plot of minimum standard housing shall not exceed 65 percent of the plot area. Plots with higher net density shall have lower plinth area and ground coverage.

Exception: For minimum standard transitional housing

The plinth area coverage of any plot of transitional housing shall not exceed 75 percent of the plot area. There shall be a setback of minimum 1.5 m on the rear side of a plot. There is no requirement for such set back on the sides and front of a plot if facing an internal road.

B.4.2 Height Limitation

The height limitation in such housing will vary according to typology of each development. However, maximum height for minimum standard housing for site and service scheme shall be 10 m. Minimum standard transitional housing of cluster type development and multistoried Row type development shall have a height limitation of maximum 20 m or 6 storied.

B.4.3 Plinth Level

The minimum height of the plinth shall be 300 mm from the surrounding ground level.

B.4.4 Habitable Room

B.4.4.1 All dimension stated in this Section do not include area or dimension required for partition or enclosure wall. Criteria for habitable room shall follow the basic guidelines of Part 3 Chapter 1.

B.4.4.2 Overcrowding

To avoid overcrowding in all habitable rooms in minimum standard housing including transitional housing, a minimum air volume of 9.5 m³ (9.5 cubic meters) per occupant shall be allotted. To calculate such volume no account shall be taken of any space with a height higher than 4.25 m or less than 2.15 m from the floor level of the room.

Exception: For transitional housing

- (a) In a flatted development, one roomed dwelling units shall have a multi-purpose room which may include an alcove or space for cooking (as specified in Sec B.4.5). The minimum area of the room shall be 12 m² with a minimum width of 2.5 m.
- (b) For dwelling units with two habitable rooms, the minimum size of at least one room shall be 9.5 m² with a minimum width of 2.5 m. Other habitable room in the dwelling unit shall have a minimum area of 5 m² with a minimum width of 2 m.
- (c) One-roomed dwelling with plan for future extension into a two-roomed house in a staged construction scheme shall satisfy the requirement of (a) and (b) above regarding room sizes. The first room to be built in this type of development shall have a minimum area of 9.5 m² with a minimum width of 2.5 m. The total area of the two rooms after future extension shall be a minimum of 15 m².
- (d) All habitable rooms shall have a minimum clear height of 2.75 m. For sloped roofs, the average height shall not be less than 2.75 m with a minimum of 2 m at the lowest side.

B.4.5 Kitchen

B.4.5.1 Criteria for kitchen shall follow the basic guidelines of Part 3 Chapter 1.

B.4.5.2 Exception: For minimum standard transitional housing

- (a) The size of the cooking alcove or cooking space provided in a multi-purpose room of a one-roomed house shall not be less than 2.25 m² with a minimum width of 1.2 m.
- (b) Separate kitchen provided in a two-roomed house shall have a minimum area of 3.25 m² with a minimum width of 1.6 m.
- (c) Minimum clear height of the kitchen or cooking space shall be 2.15 m.

B.4.6 Bathroom and Water Closet

B.4.6.1 Independent water closets shall have a minimum width of 0.9 m and a minimum length of 1.15 m. The water closet shall be fitted with a door.

B.4.6.2 Independent bathroom without water closet shall have a minimum width of 1 m and a minimum length of 1.4 m.

B.4.6.3 The minimum size of a combined bathroom and water closet shall be 1.8 m² with a minimum width of 1 m. The bathroom shall be fitted with a door.

B.4.6.4 The minimum clear height of bathrooms and water closets shall be 2.15 m.

B.4.7 Balcony and Corridor

B.4.7.1 The minimum width of individual balcony shall be 0.9 m. Corridors for use of more than one dwelling units shall have a minimum width of 1.2 m.

B.4.8 Stairs

B.4.8.1 Minimum Width: Criteria for minimum width of stairs shall follow basic guidelines of Chapter 1 Part 3.

B.4.8.2 Maximum Rise: Criteria for maximum riser shall follow the basic guidelines of Chapter 1 Part 3.

B.4.8.3 Minimum Tread Depth: Criteria for minimum tread depth shall follow the basic guidelines of Chapter 1 Part 3.

B.4.8.4 Minimum Head Room: Criteria for minimum clearance of head room shall follow the basic guidelines of Chapter 1 Part 3.

B.4.8.5 Landing: Criteria for minimum landing depth shall follow the basic guidelines of Chapter 1 Part 3.

B.4.9 Water Supply

One water tap or hand tube-well pump per dwelling unit should be provided, if feasible. Each unit of public water hydrants or community hand pumps, if provided in lieu of individual water supply, shall serve not more than 10 dwelling units and shall not be farther than 15 m from any dwelling unit served.

B.4.10 Lighting and Ventilation

Every room, bathroom and kitchen shall have windows in an external wall opening on a courtyard, a balcony not wider than 2.5 m, or the exterior. The aggregate area of openings in the exterior wall of a habitable room or kitchen shall not be less than 12 percent of the floor area and that for a non-habitable room such as bath room, water closet or stair shall be at least 8 percent of the floor area.

PART III

Appendix C

Special Requirements of Cluster Planning for Housing

C.1 General

These guidelines cover the planning and general building requirements of different housing developments in cluster typologies as referred in Appendix B. These requirements are applicable to all housing projects of this type taken up by public, private or co-operative agencies.

All cluster housing typologies shall fulfill the criteria regarding minimum area and width requirement of each habitable and non-habitable room as specified by this Code. The construction classification for Cluster Housing shall be of protected type.

C.2 Cluster Typology

C.2.1 Cluster Type Development

Cluster type development (Figure 3.C.1), as a housing form, is suitable for accommodating low to moderate density of population. However with smaller plot size, it can also attain high density situation as may happen for Transitional Housing.

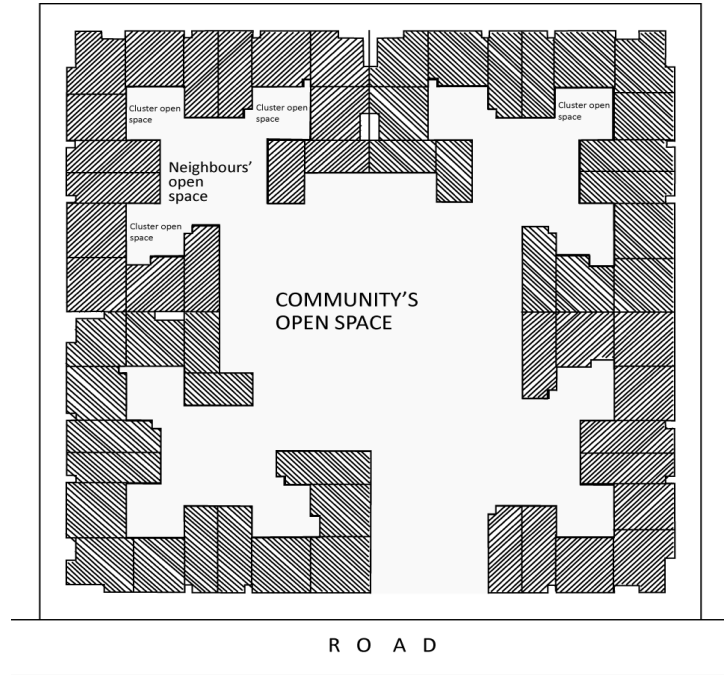


Figure 3.C.1 Cluster type Housing