

-Blank-

Blank Units in which the Owner himself constructs his home



Waiting for dad to come back home



Feeding the dog, while the house

Seminar Presentation - Relevance of Support and Infill



Support and infill theory by John Habraken.

Some of the main principles of this theory are:

- John Habraken sees the housing as a process. The issue is not just to provide a roof over people's heads but to create conditions that will, eventually, give everybody a decent house.
- Change over time is important. The recognition that things change over time and must improve over time should be introduced in our thinking of housing.
- Recognising that every user has different values and needs. It is impossible to find solution that fits everybody. A house being a personal thing, must adapt to the user. People want to share a community and type of dwelling, but within that they want to identify themselves as different from their neighbours.

A support structure is a construction which allows the provision of dwellings which can be built, altered, and taken down, independently of the others. Habraken. It consists of structure (columns, slabs), services (piping, cabling) and circulation (stairs, passages).

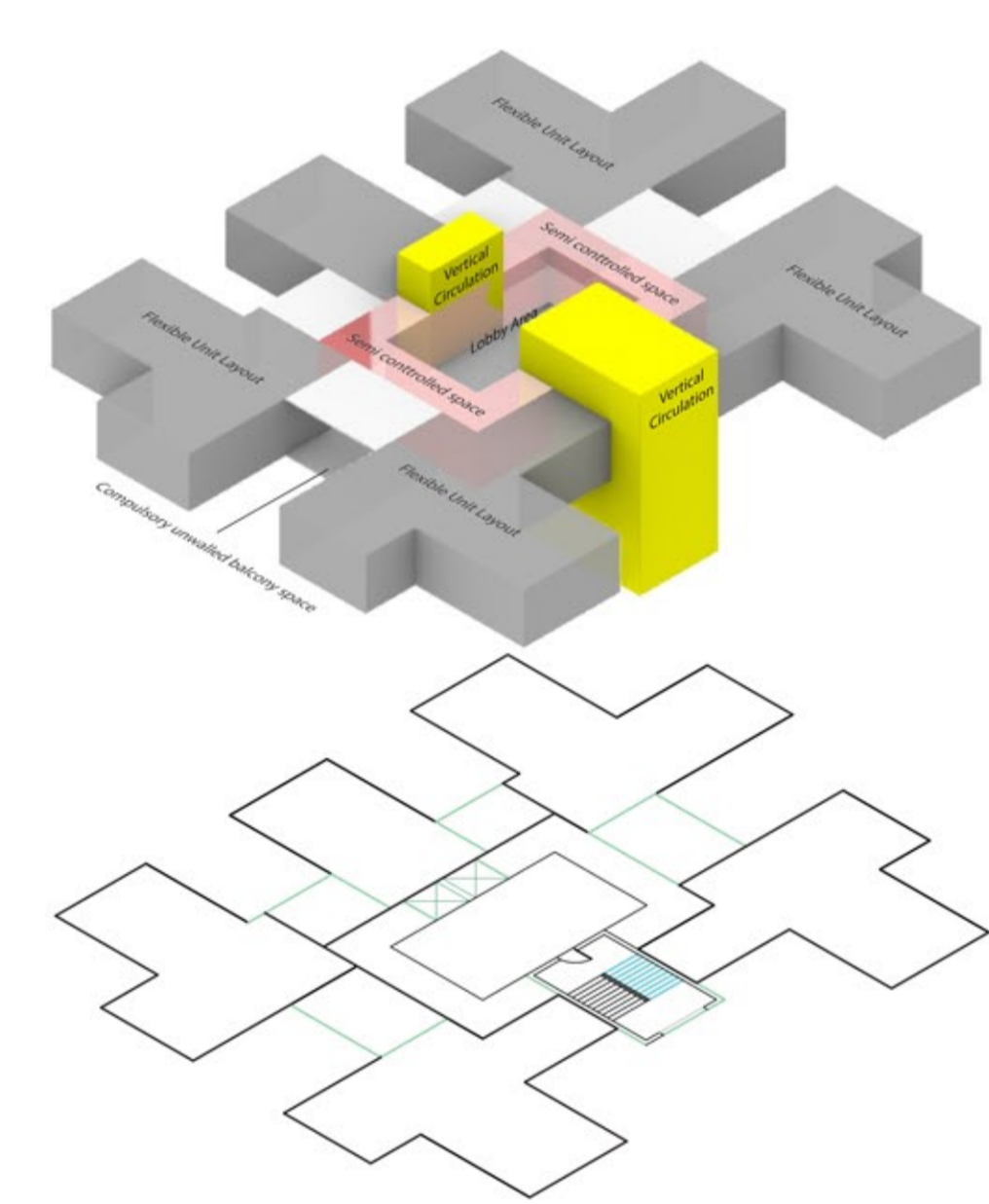
Infill comprises of partitioning walls, kitchen and bathroom equipment and all the conduits for electricity, heating, water, and gas, needed to operate the equipment.



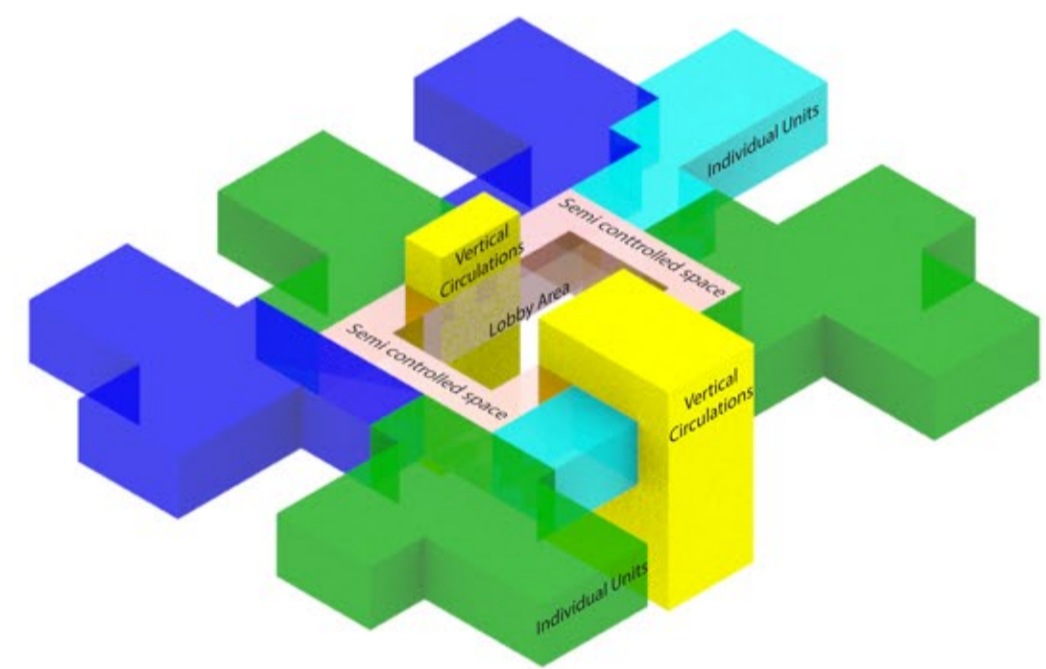
Above are the drawings of different unit layouts for a same area block. It can be noticed that:

- The size of a bedroom due to a double bed and wardrobe remains more or less the same.
- Relationship between the living room, dining area and the kitchen can offer multiple options that gives a whole different usage of spaces/activities and spatial quality of the home.
- The secondary spaces such as the hallway, study space, balconies can be added or resized according to the needs of different people.

Also in keeping up with the uncertainty of the future there might be some unconventional relationship between spaces that the user might want to have that meets his needs. The need might arise for non-labelled spaces that serve some purposes that architect wouldn't have designed for.



Defining control over spaces and setting up guidelines for



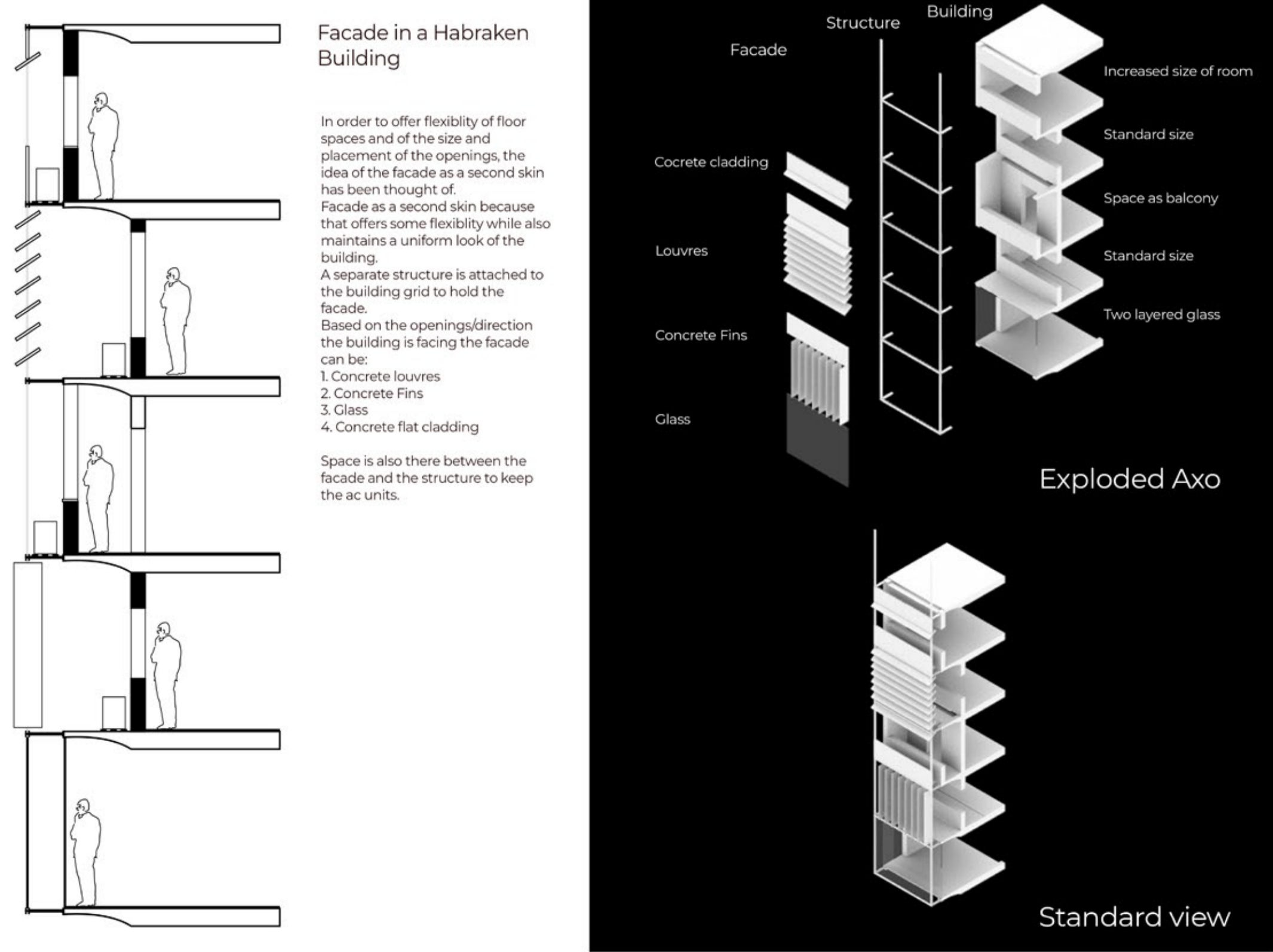
The spaces on a particular floor can be divided into 3 parts:
1. Completely flexible private space for unit layouts
2. Partially controlled private spaces to maintain certain standards
3. Fully controlled community spaces

The flexible unit spaces can be divided further into more units or many units can be merged to form one unit.

Time problem preparations

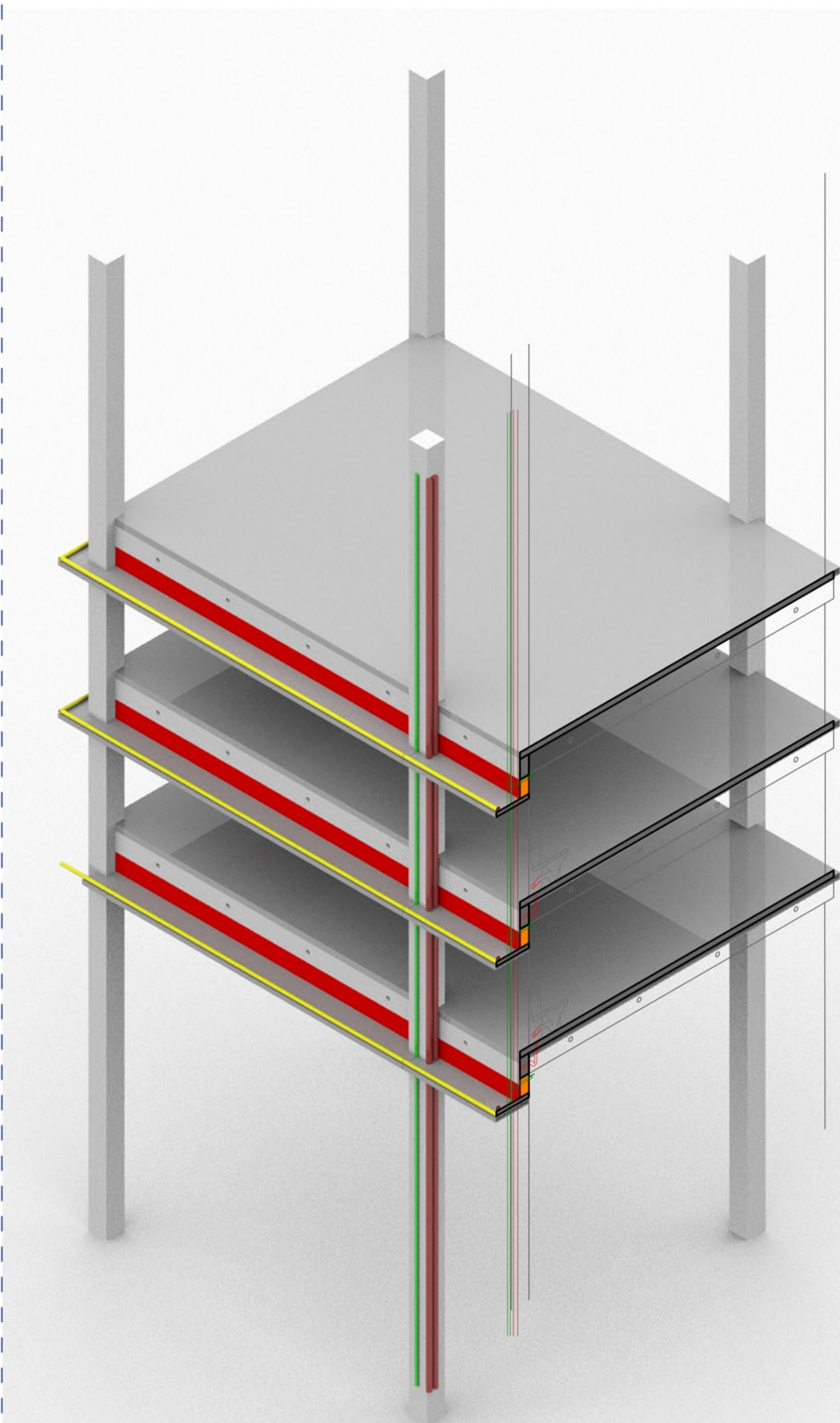
| Time Problem preparations | Time Problem preparations |
|--|---------------------------|
| Rules for electrical room The minimum height of high voltage switchgear room shall be 3.6 m below the soffit of the beam. In order to prevent storm water entering the transformer and switch rooms through the soak pits, the floor level, the substation shall be at least 15 cm above the highest flood water level that may be anticipated in the locality. Also, facility shall be provided for automatic removal of water. All door openings from substation, electrical rooms, etc should open towards outside. The substations enclosure, that is, walls, floor, ceiling, openings, doors shall have 2-hour fire rating. Additional ventilation or air conditioning may be needed. Electrical room A 100 sqm house with 2 ACs will have approx. 2 kVA as their electricity requirement. Layout for an electrical room of capacity 500 kVA is shown below. | |

Redesigning the Facade



Constructing the Supports

Details and characteristics of the structure to be sold by the developer.



Structure
8'8 meter 2 way concrete slab structure to have maximum flexibility within the space. Also enables cutting of slab for duplex apartments.

Punctured Beams
Beams punctured at regular intervals to provide for passage of electrical/plumbing and AC Ducts

Electrical points
Instead of electrical lines going through the walls the lines run across the slab.

600 mm ledge all around the perimeter of the unit at 2.1 m height from the slab
1. Acts as lintel to windows of any width to come on the facade.
2. Acts as a weather protection to the windows.
3. Provides a ledge to put outdoor equipments such as AC units/Satellite Disks.
4. Works as a surface for the workers to stand on while plastering the outside wall even after the completion of the building.

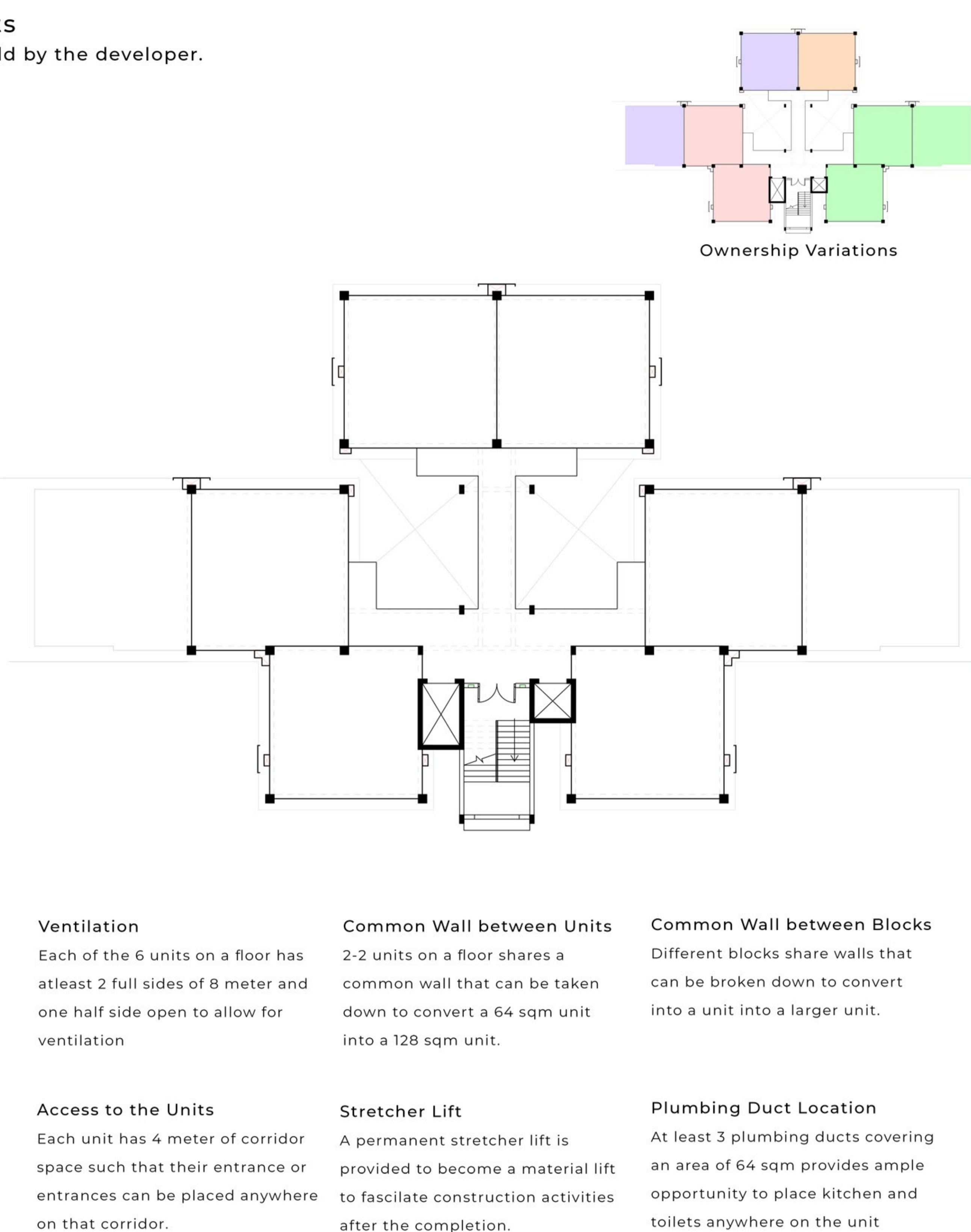
Rails across the ledge
To aid in construction activities as a device to tie nets on to prevent debris from falling on the ground.

Plumbing
P trap W.C. are used and should be aligned with the outer wall. Nani-traps go through the slab and through one of the holes in the beams.

Suggested Infill techniques

Walls
Gypsum boards can be used so that the partition walls are placed on the tiles directly to avoid having to cut tiles while moving the partition wall.

False Ceiling
Modular false ceiling grid should be used to aid in maintenance of the services as well as become convenient while resizing of the rooms.



Ventilation
Each of the 6 units on a floor has atleast 2 full sides of 8 meter and one half side open to allow for ventilation

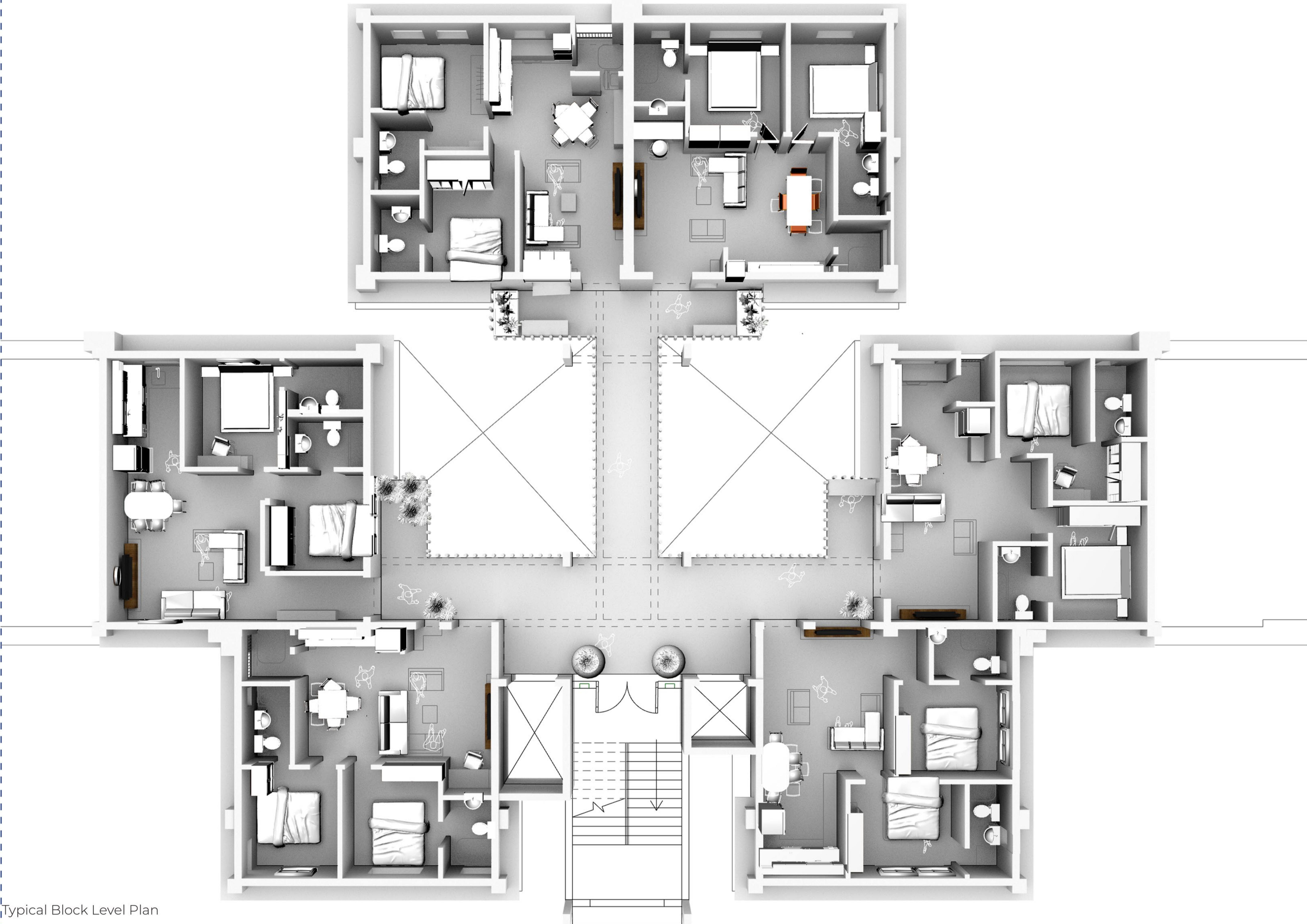
Access to the Units
Each unit has 4 meter of corridor space such that their entrance or entrances can be placed anywhere on that corridor.

Common Wall between Units
2-2 units on a floor shares a common wall that can be taken down to convert a 64 sqm unit into a 128 sqm unit.

Stretcher Lift
A permanent stretcher lift is provided to become a material lift to facilitate construction activities after the completion.

Common Wall between Blocks
Different blocks share walls that can be broken down to convert into a unit into a larger unit.

Plumbing Duct Location
At least 3 plumbing ducts covering an area of 64 sqm provides ample opportunity to place kitchen and toilets anywhere on the unit

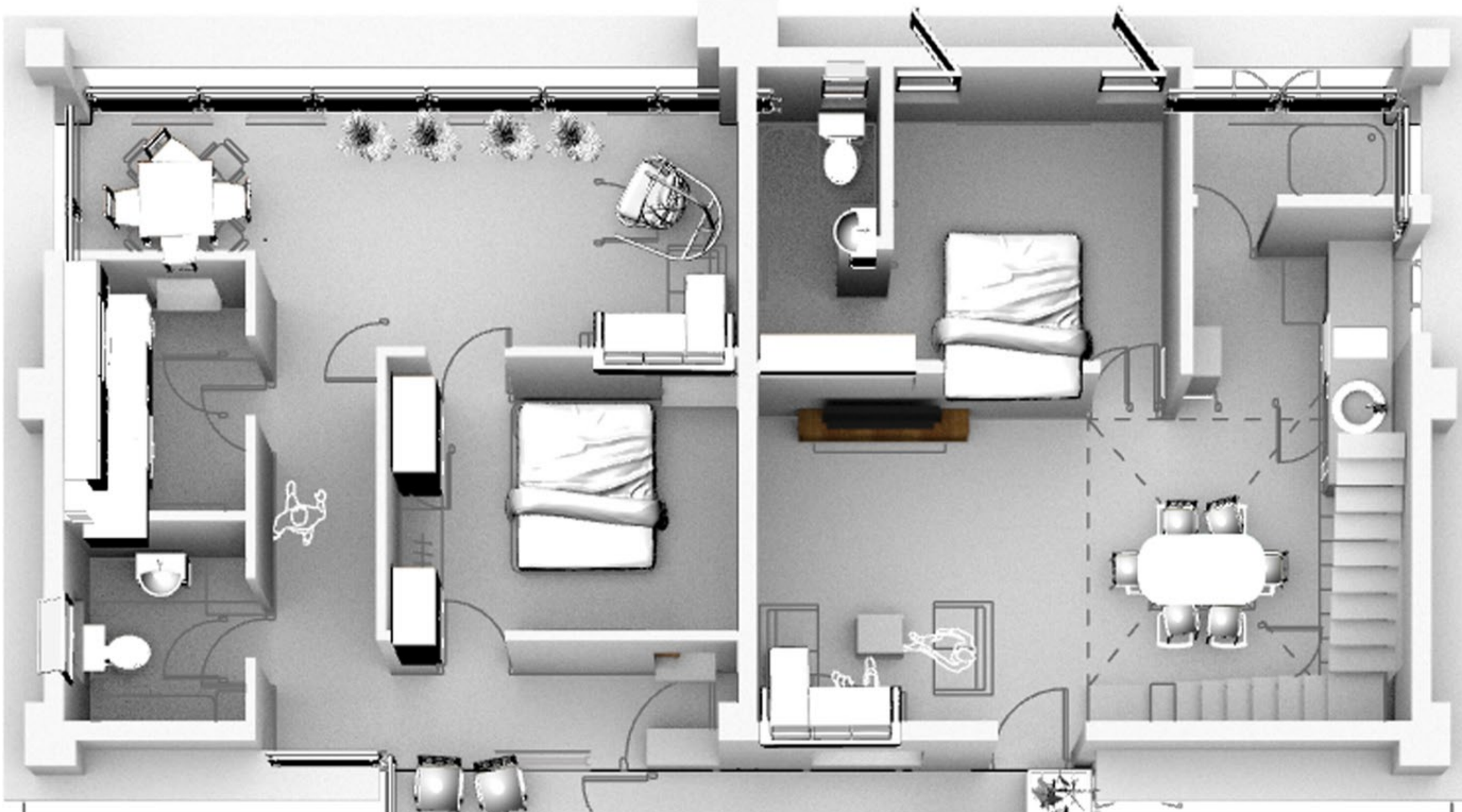


Typical Block Level Plan

The above examples shows the 64sqm unit being used most efficiently. These layouts can be used to tell the units to show that 2 BHK are possible in such tight spaces. These layouts will also act as a guide-lines for the homeowners for the placement of their toilets and kitchen if they wish to keep these two elements permanent in their houses, when they start to inhabit these spaces.

Single couple

A single couple may only build a room and 1 toilet and 1 kitchen and have the rest of the semiopen space as an outdoor gathering space or storage space. Dining table, swings, seating area can be put in these semi open space.



Duplex Apartment

In order to cater to a family structure of grandparents living with the family, two units on subsequent floors can be bought and be converted into a duplex apartment.
4m*4m cavities in the slab are possible due to the presence of a two sided slab system.



Joint family

In these 2 combined units, each micro family of a joint family occupies 1 unit and has different kitchens and living rooms and entrances.
Both of them share a common open balcony and dining space that can be locked from either sides to provide privacy as well.

Typical Block Level Plan Scale 1:50

The above examples show alternative livings in the apartments. These studies are to demonstrate that not every house has to be a 2BHK living with attached toilets. The variations shown above would result from different occupations of the homeowner, different interests, different family structure or maybe use of the home space for work purposes.