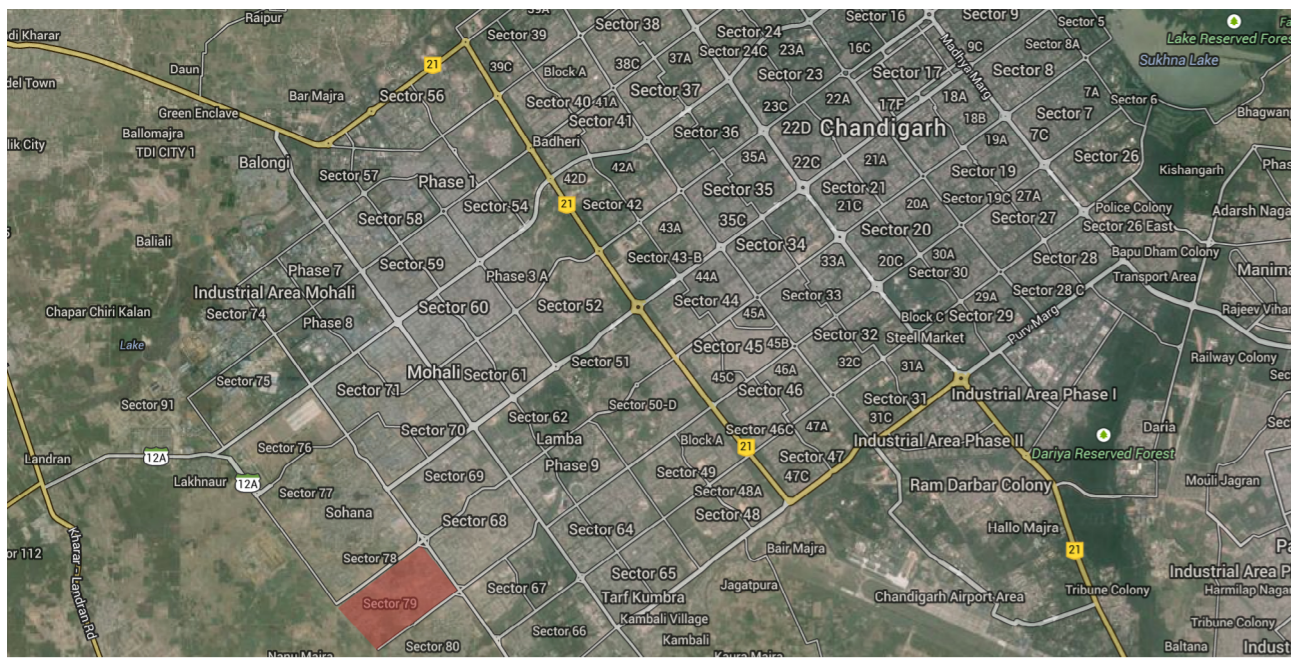




FRAMING COMMUNITY

DESIGN STUDIO 2013/14 SECOND SEMESTER

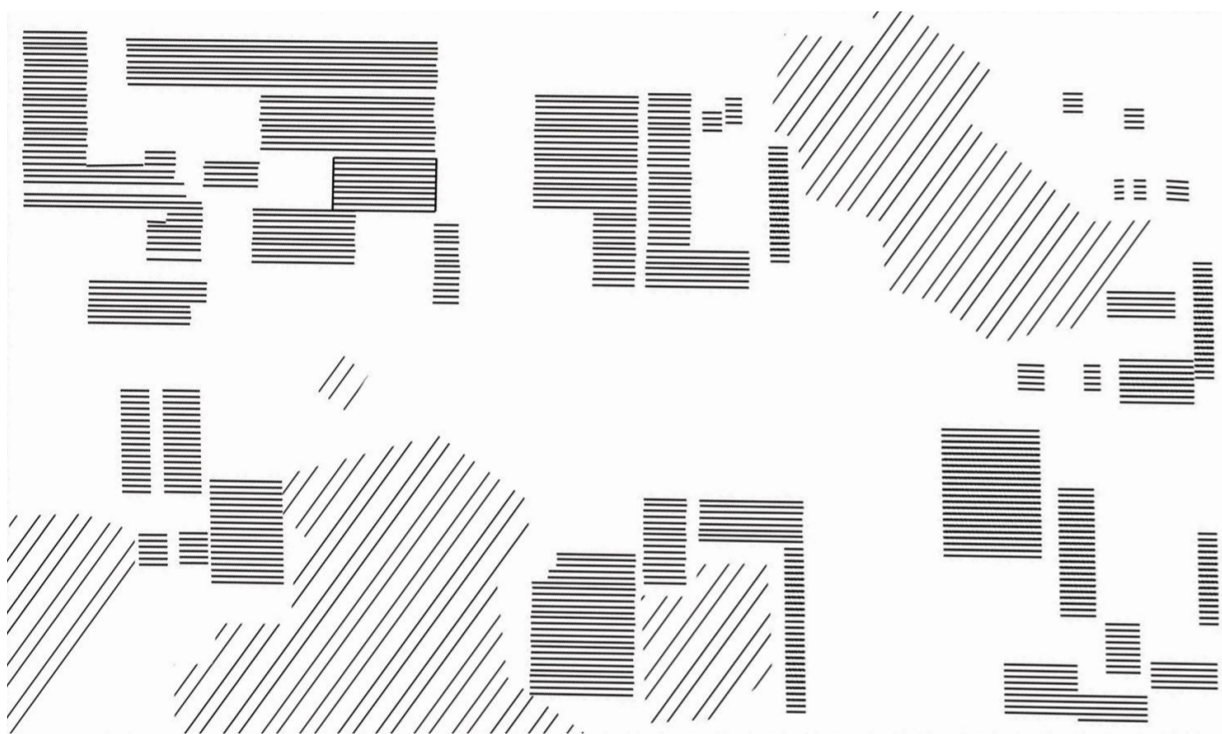
TUTORS: TOM AVERMAETE, DICK VAN GAMEREN, NELSON A. MOTA, HANS KALKHOVEN
ELENA BALZARINI, VALENTINA ANNE PIRAS, PIOTR RUSZKIEWICK



SECTOR 79 - INDIVIDUATION IN CHANDIGARH SECTORIAL MAP



SECTOR 79 - GOOGLE MAPS OVERVIEW



LAND AND EXISTING BUILDING ORIENTATION



FIRST DESIGN INTENTION



Plot Size
sqm 27254

Coverage
19.1%

BA_Built Area
sqm 12397

FAR_Floor Area Ratio
0.49

Dwelling Units
185

Population Estimated
692

Pop. Density
pers./hectar 254
pers./dwellings 3,74

The city of Chandigarh is undergoing significant changes. The perspective of living in "The City Beautiful" drives an increasing number of people to move to the city, leading to a unsustainable demographic pressure within the space of the municipality and its surroundings.

The incoming population finds temporary accommodation in the pre-existing villages and around the border of the city, often creating shelters with precarious means. But the housing pressure does not only come from the outside: the slums of the city accommodate thousands of people living in condition of extreme poverty.

On the other hand, a parallel phenomena characterises the peripheries of Chandigarh: the middle class of the city finds its place in "gated communities", which includes all the facilities and luxuries that the wealthier classes of the society seeks in order to achieve physical separation and social distinction from the other classes.

The analysis of these concurrent phenomena renders clear that there is a compelling need to reflect on the housing issue. The current responses to the demographic pressure mainly entail the development of "mono-functional" areas outside of the borders of the municipality: on one hand, social housing complexes – like the Dhanas colony in the Northern part of the city, designed to host people coming from the areas of the slum; on the other hand, the "gated communities" that are currently in the process of shaping the peripheries of Chandigarh.

Different strategies are possible in order to tackle these issues. For instance, the low-density central sectors, designed by the modernist planners and architects, might host the increasing housing demand of the city. However, the peripheral areas present an extremely critic condition, since any notion of city itself is missing: the aforementioned mono-functional districts are closed in themselves, and public spaces of relation are absent. The traditional heterogeneity that characterised the city is lost.

The aim of the project is to deal with the critical conditions of the peripheral area, by conjugating the needs of densification with the will of proposing a "new fragment" of city, characterised by heterogeneity and mix – of typologies, classes and functions.

The intervention proposed is located in Sector 79, right outside of the municipality borders.

The project deals with the existing real conditions, attempting to create a new urban tissue that relates with the pre-existing building environment. The plot is bordered by empty areas and by a new governmental housing development of the South-East side, which is characterised by the mechanical juxtaposition of the same building typology. Within the plot itself, several free-standing apartment buildings are located on the borders, each of them almost "ignoring" the presence of the others.

The project relates to the existing situation by engaging two different relationships with the pre-existing construction. On one hand, a "hard" border is created towards the South-West side in order to screen the high-rise governmental construction, by using the built mass of the housing typologies; a "soft edge" is thought on the other sides in order to create a connection with the existing buildings within the plot, by creating a green recreational area that could work as a buffer and attraction zone.

The pre-existing paths, readable in the landscape fields, were maintained and used as the main circulation system of the intervention. This decision led to the development of a settlement whose orientation is tilted in respect to that of the city grid, recalling the buildings orientation that preceded the modernist planning of the city.

The intervention entails a main public axis, which is intended for car circulation, and which becomes a pedestrian street with commercial activities on the ground floor as we move towards the Northern, inner part of the plot, in order to achieve a more intimate and human street scale.

Two secondary axes cut the main one perpendicularly; these are also meant to serve car circulation. At the intersections between the main axes and the secondary ones, the two main public cores of the intervention are located; the Southern one is the commercial square, which can be used to host open-air temporary markets and which is bordered by a commercial building and an office tower.

The dwellings are located in small scale, cluster-like neighbourhoods that are bordered by the main road streets and that are defined by the built mass of the housing units.

The configuration of the dwellings creates small semi-public spaces of relation and communal life for the inhabitants of the clusters. Therefore, the project entails a hierarchy of spaces that goes from the "publicness" of the main axes to the more intimate semi-public space within the cluster and to the private garden and outdoor spaces of the housing units.

Three main typologies have been thought, in order to host different social classes and to accommodate more varied "types of living". The first one is a freestanding courtyard house, developed on two floors; this typology, usually located in the middle of the cluster and within grass-planted areas, is thought for a more introverted type of living. The second one is the so called "urban villa", located at the Northern and Southern edge of the plot in green-planted areas, and thought to host the more modest classes; this typology is mostly developed in height and is composed of two apartment per floor; accessible from a communal intermediate space of relation. The third one is a more "urban typology". It is mainly developed in length and it is always located at the edges of the cluster in order to define its border and the accessibility to it; the peculiarity of this typology lies in the fact that the ground floor is partially occupied by covered passages that allow permeability through it and a gradual transition from the public axis to the interior of the cluster, while the typology maintains the property to give a certain enclosure and definition to the inner semi-private space.

Dealing with the existing social issues was one of the main focuses of the work. In particular, the design seeks to differentiate the layout and the features of the typologies in order to accommodate a wider range of families and to foster the social mix. Moreover, the project takes into consideration the needs of growing families by giving the possibility to expand the dwelling's surface by creating additional rooms. This dynamic of appropriation through time is also conveyed through the design of the structural system, which entails a concrete load-bearing structure filled with prefabricated concrete bricks. Over the years, inhabitants are free to expand their homes with the materials available – such as local bricks – within the frame provided by the project.

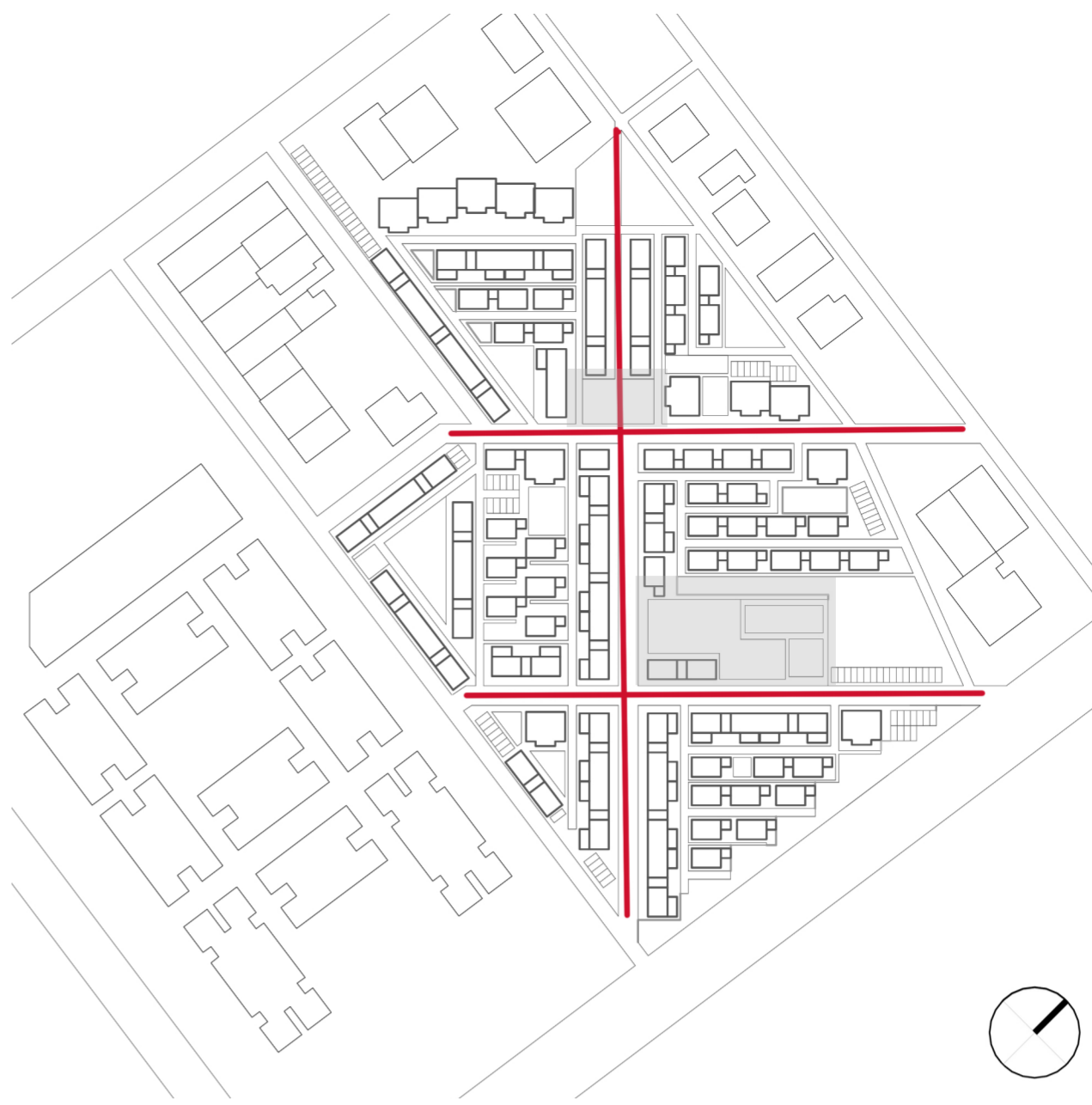
The main reference project that has been studied is the project in Quinta Monroy by Elemental group; by looking at the intervention, it is clearly visible what has been thought as the frame of the system, what has been thought as an interchangeable element and what was further added with the means available to the population. Furthermore, some projects elaborated for the Previ Lima competition in Peru, such as the one by Atelier 5 and Toivo Korhonen, in which the theme of the incremental housing was thoroughly explored.

Recalling what the modernist planner Fry and Drew had achieved in the realisation of Governmental housing, elements of the local culture and attention for the climatic conditions has been incorporated into the design. In particular, different hierarchies of open spaces are defined in order to create diverse spaces of relation in which a community could meet, talk, lay the laundry in the sun... Moreover, every housing unit has its own private outdoor space, in order to maintain alive the Indian tradition to have an outdoor space where to sleep during the warmer nights.

The climatic concept is mainly based on the use of cross ventilation, that is enhanced by the difference of pressure obtained by placing smaller windows on the windward side of the units, and larger on the leeward side. Perforated walls and parapets helps the cooling through the flow of air, while verandas and projecting shelves act as useful shading devices.



GREEN/PUBLIC SPACES



DESIGN CONCEPT



TYPOLOGIES



CIRCULATION

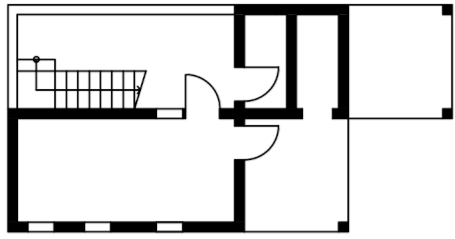


TYOLOGY _1

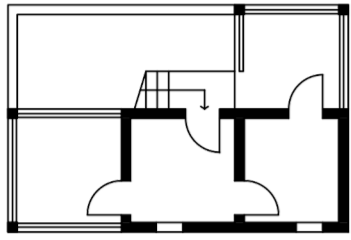


Freestanding
1x - each unit
84 sqm

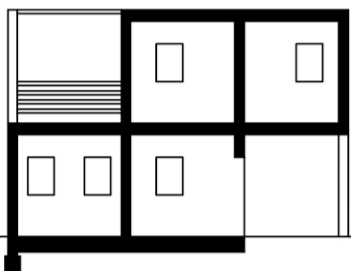
Private Parking Space Improvable



GROUND FLOOR PLAN [1.200]

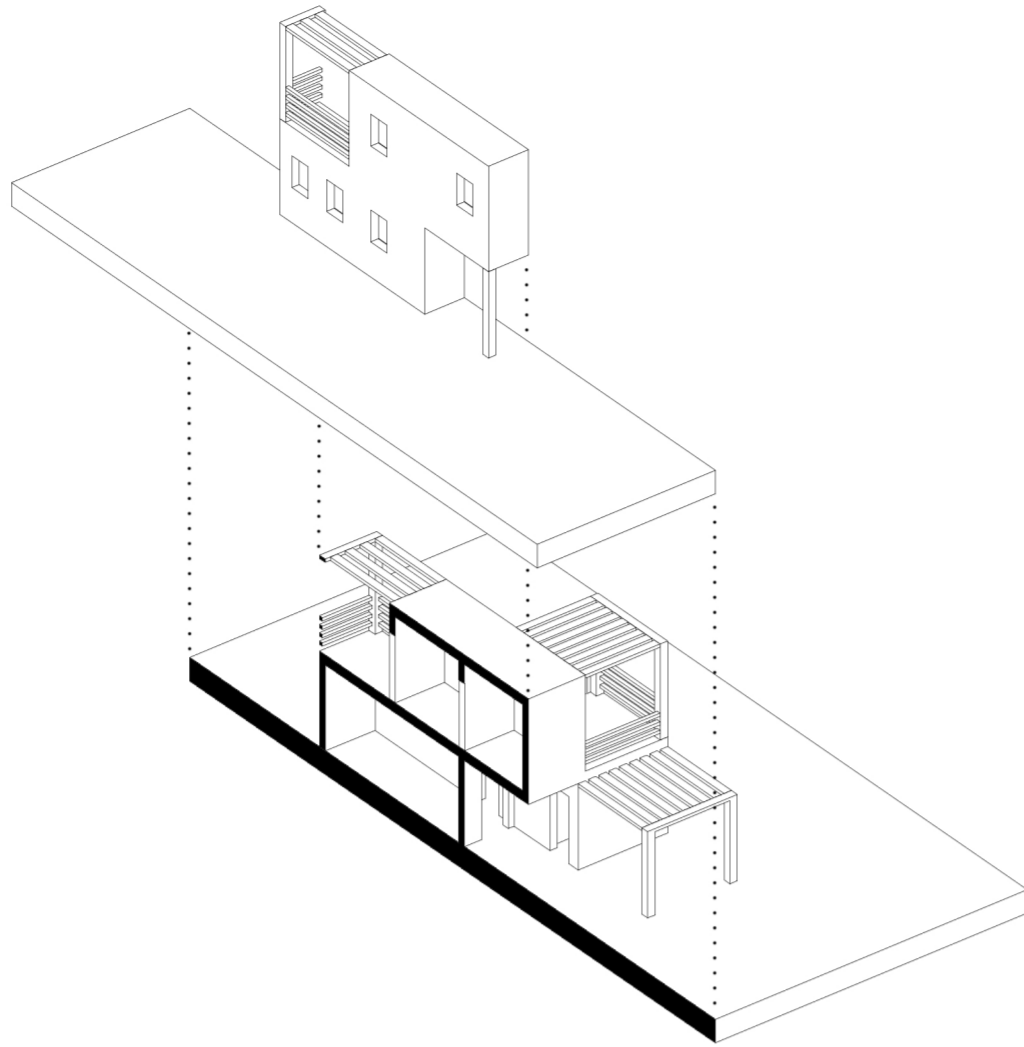


FIRST FLOOR PLAN [1.200]

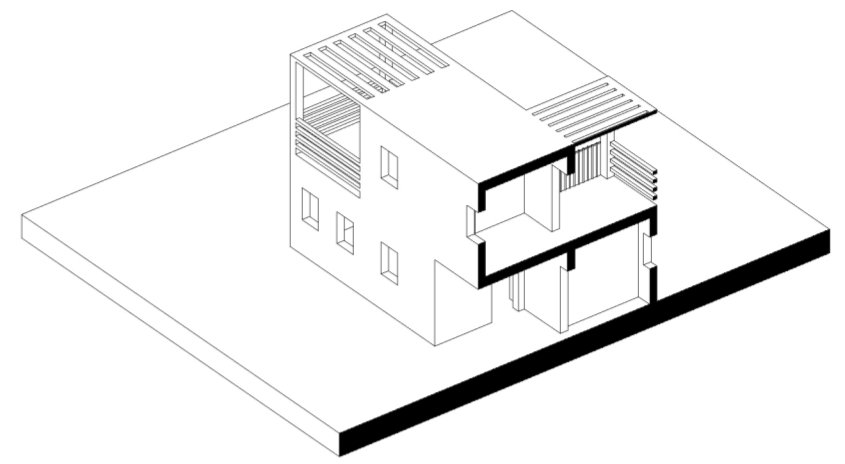
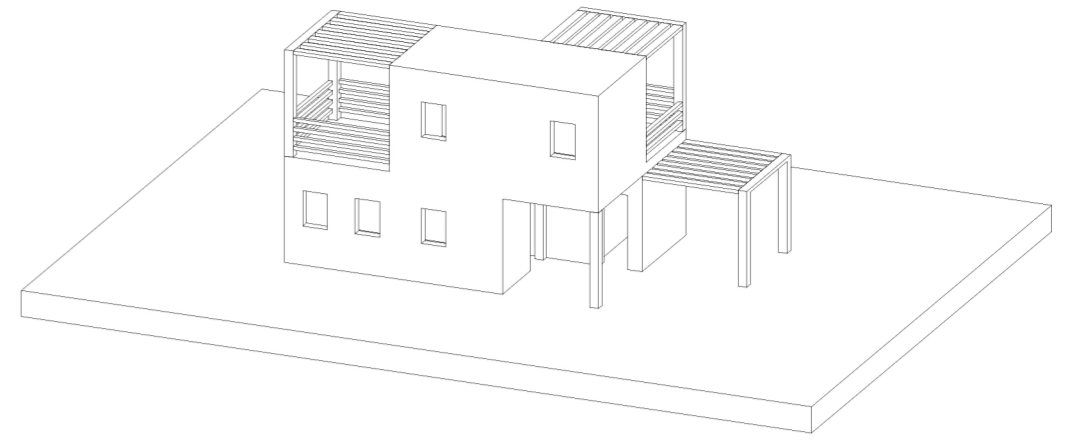


SECTION A.A'

EXPLODED AXONOMETRY [1.200]



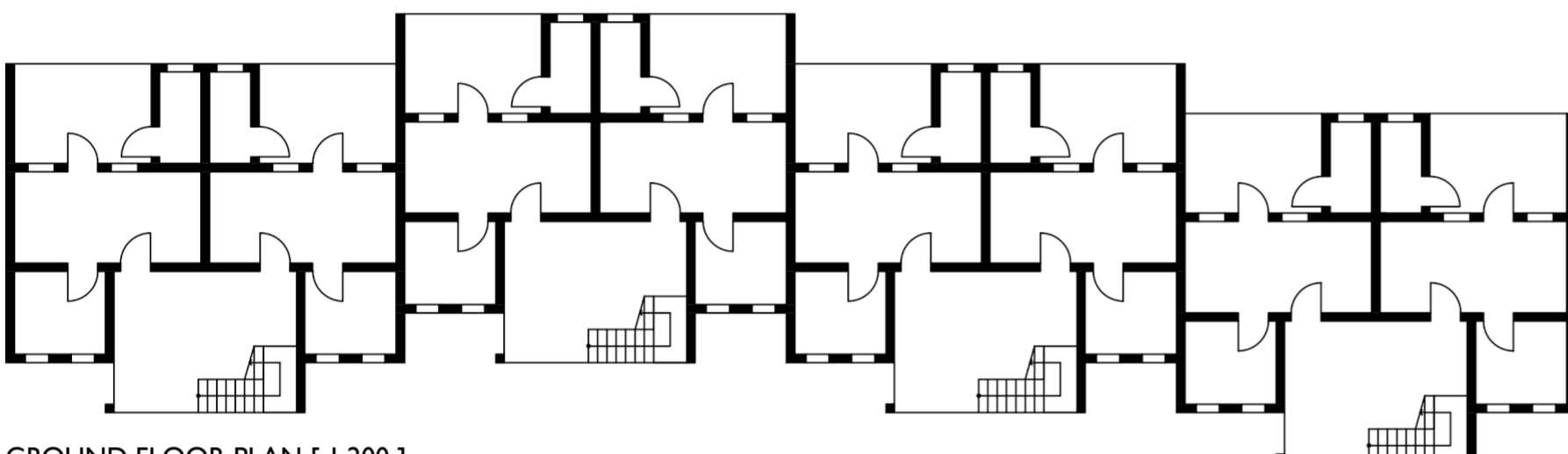
OVERVIEW [1.200]



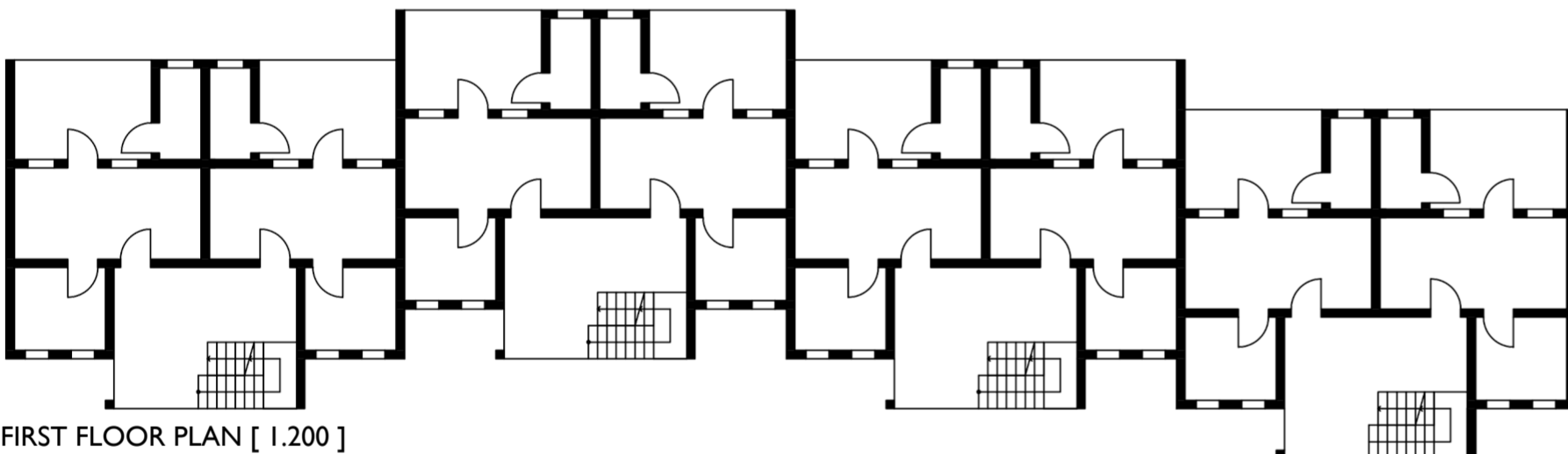
TYOLOGY _2



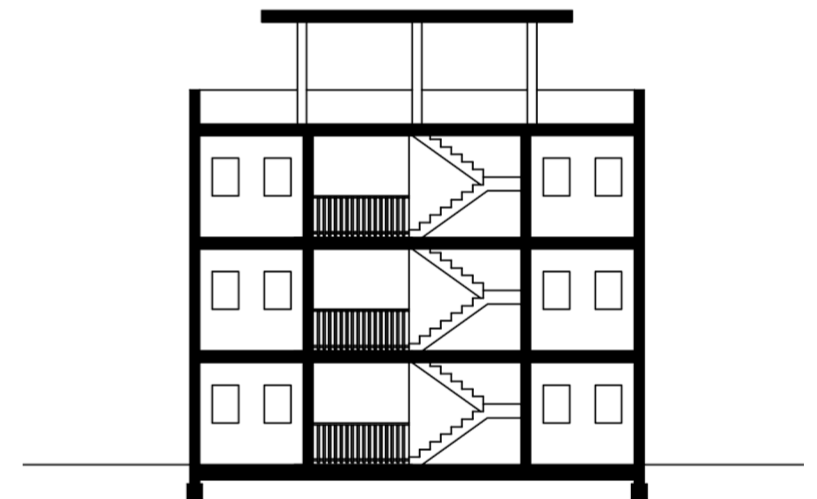
The Stackable Units
1x - each unit (2 units each floor)
max 5. storey high
46 sqm



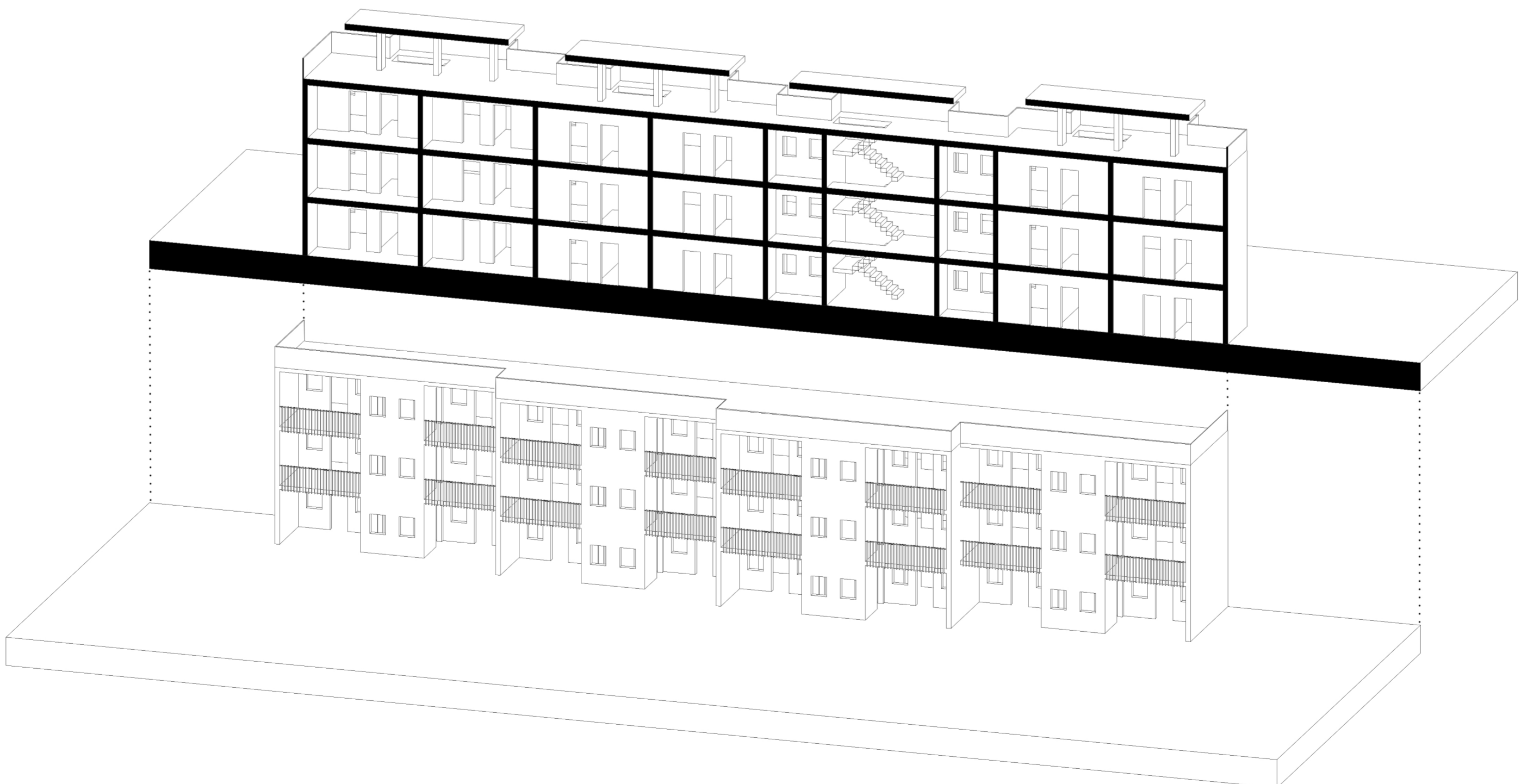
GROUND FLOOR PLAN [1.200]



FIRST FLOOR PLAN [1.200]



SECTION A.A' [1.200]



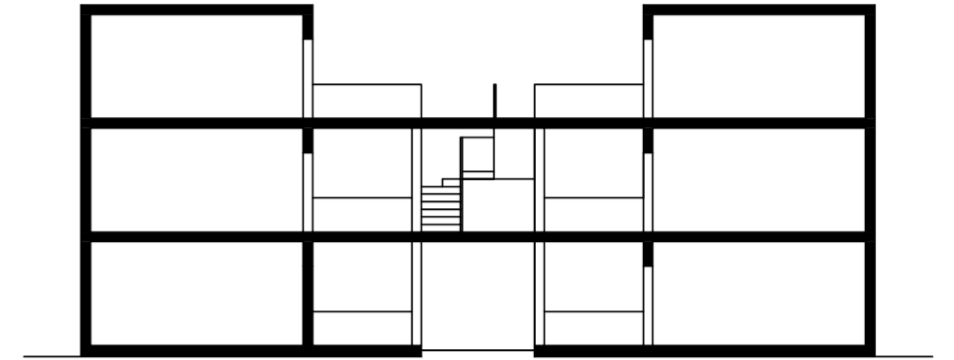
TPOLOGY_3

Row Houses

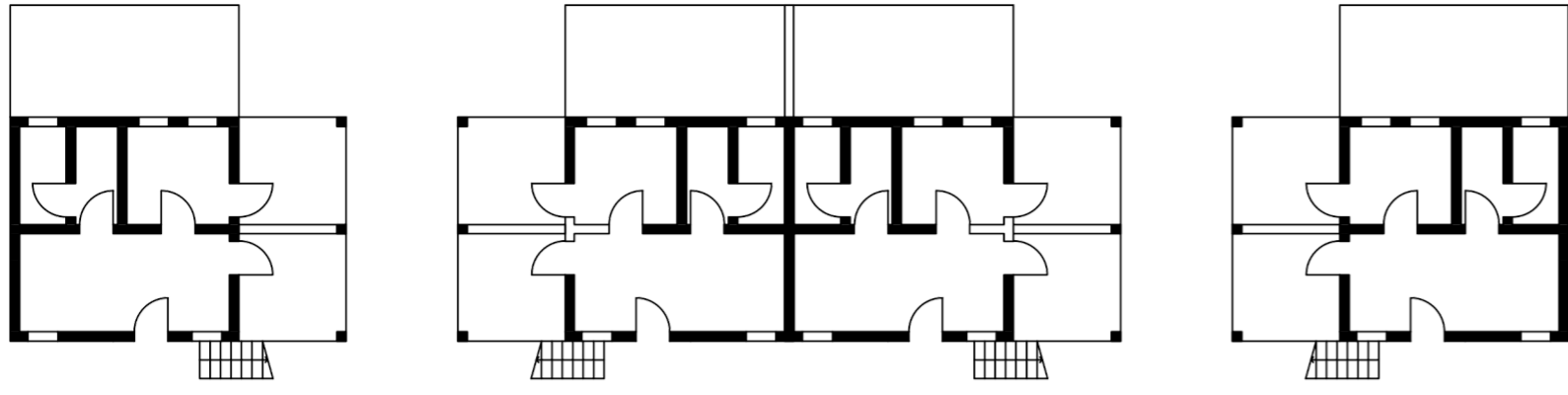

APPARTMENTS
 1x - each unit (2 units each floor)
 30 sqm

Outdoor Private Space Improvable Veranda

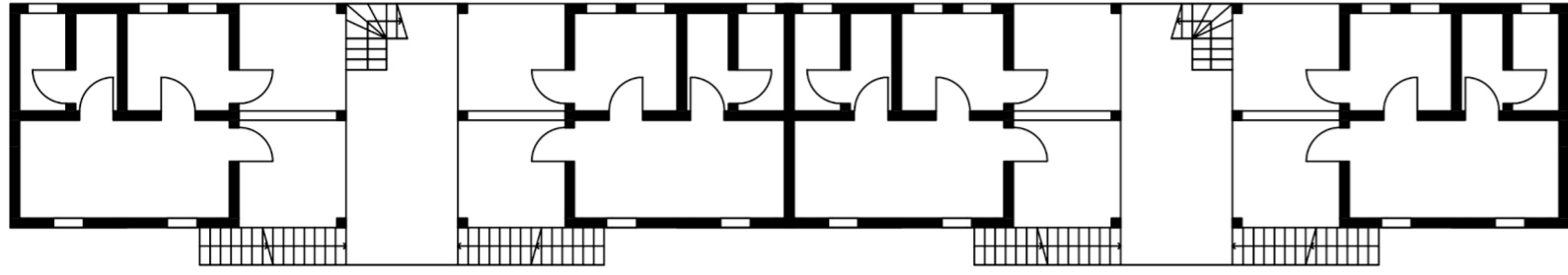
STUDIOS
 2X - each unit (4 units each floor)
 17 sqm



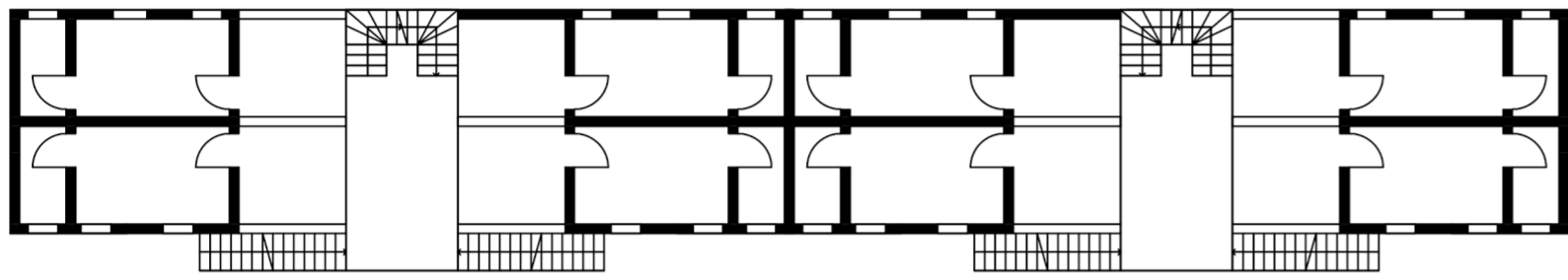
SECTION A.A' [1.200]



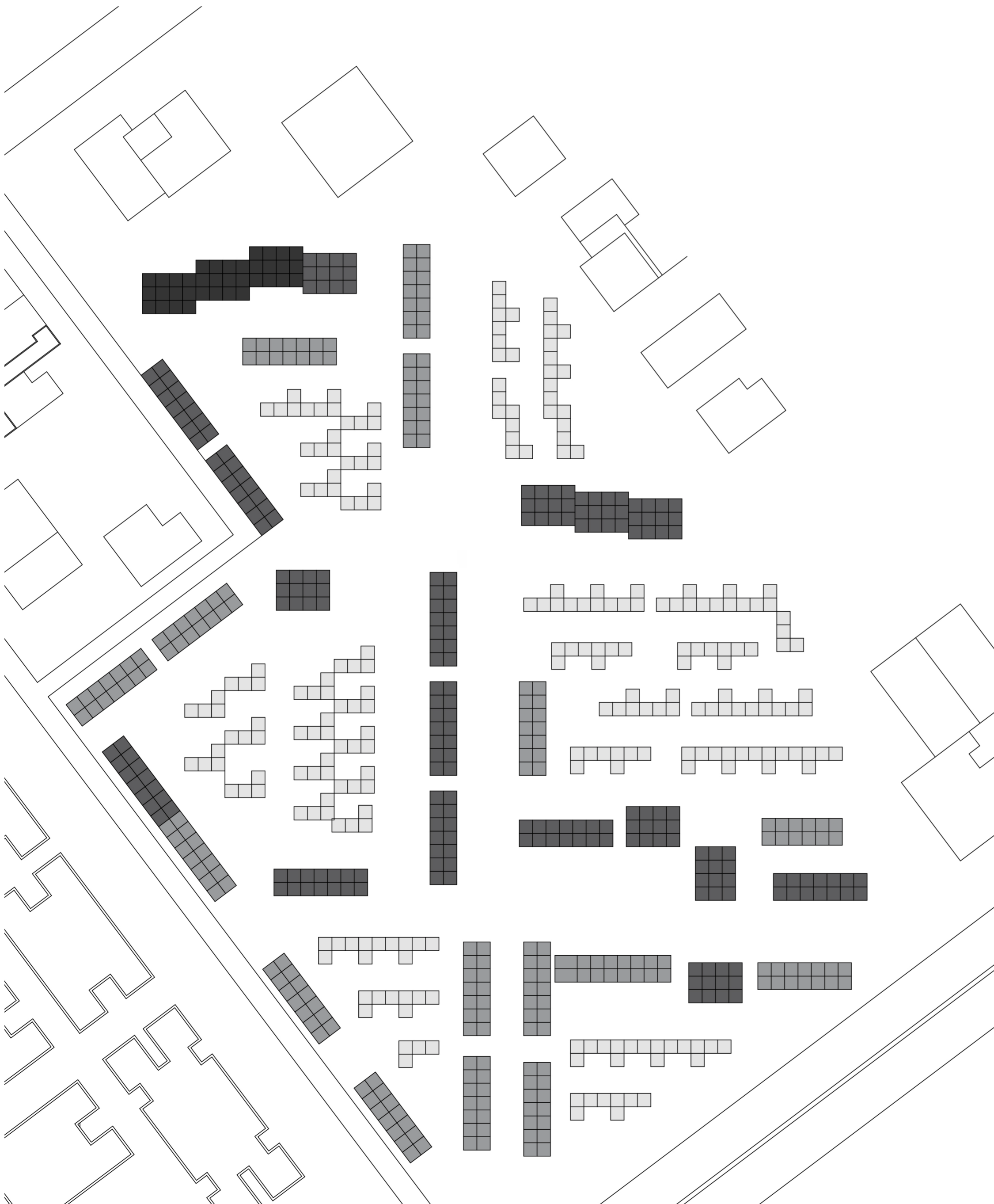
GROUND FLOOR PLAN [1.200]



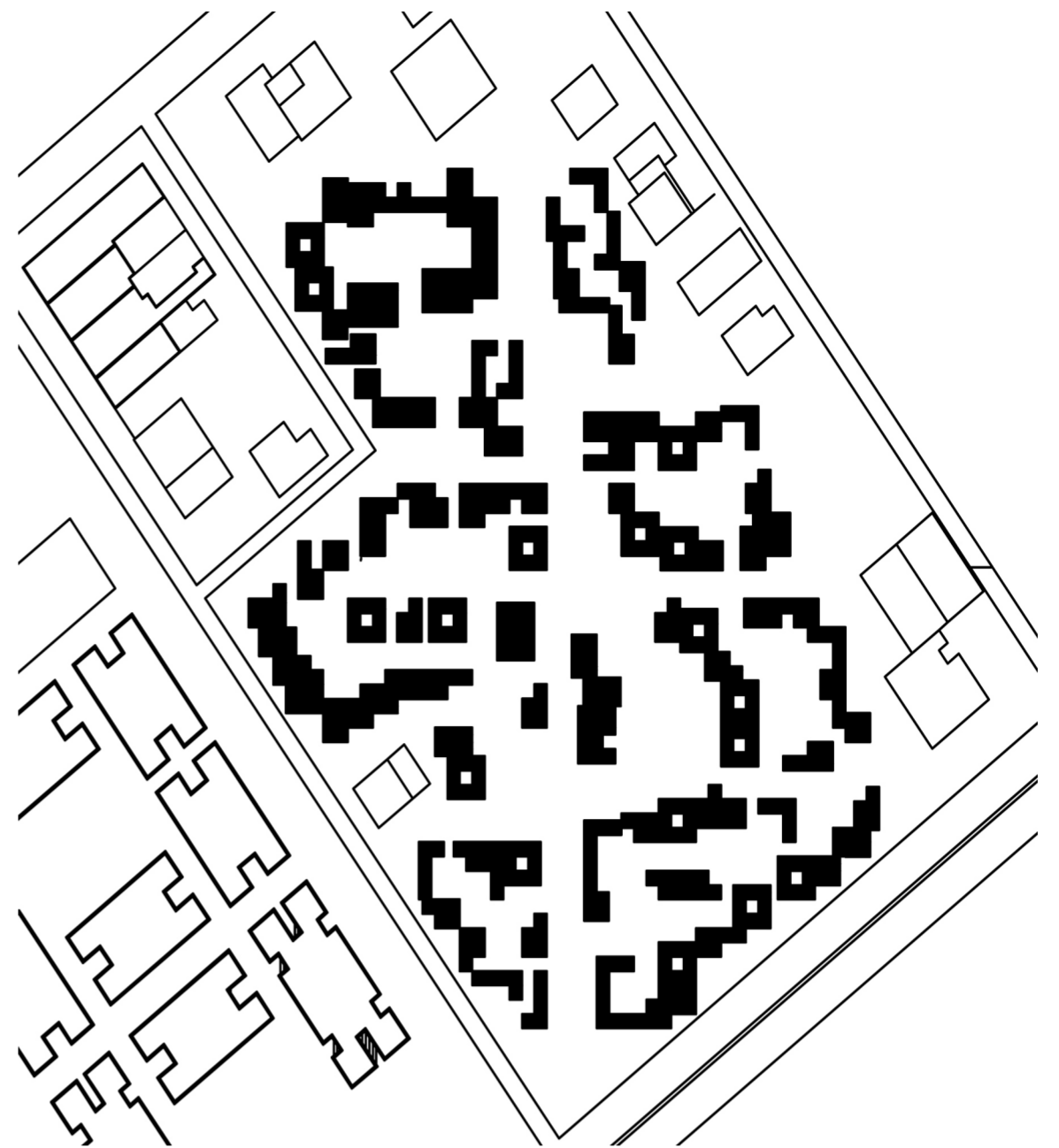
FIRST FLOOR PLAN [1.200]



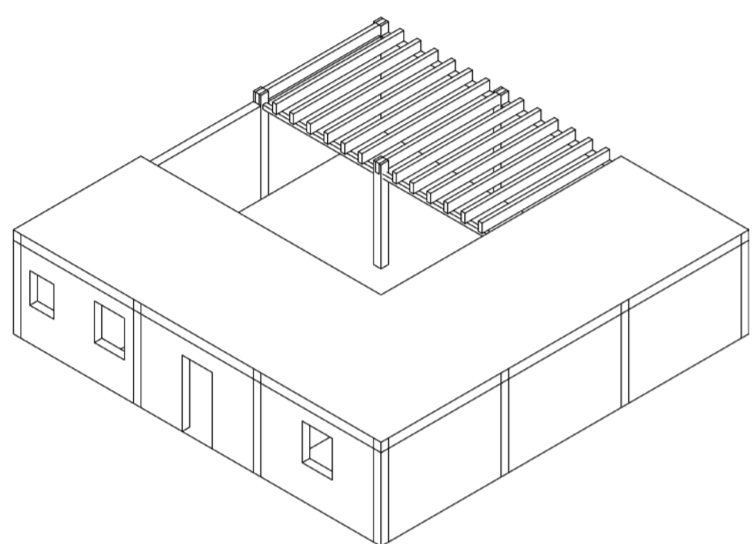
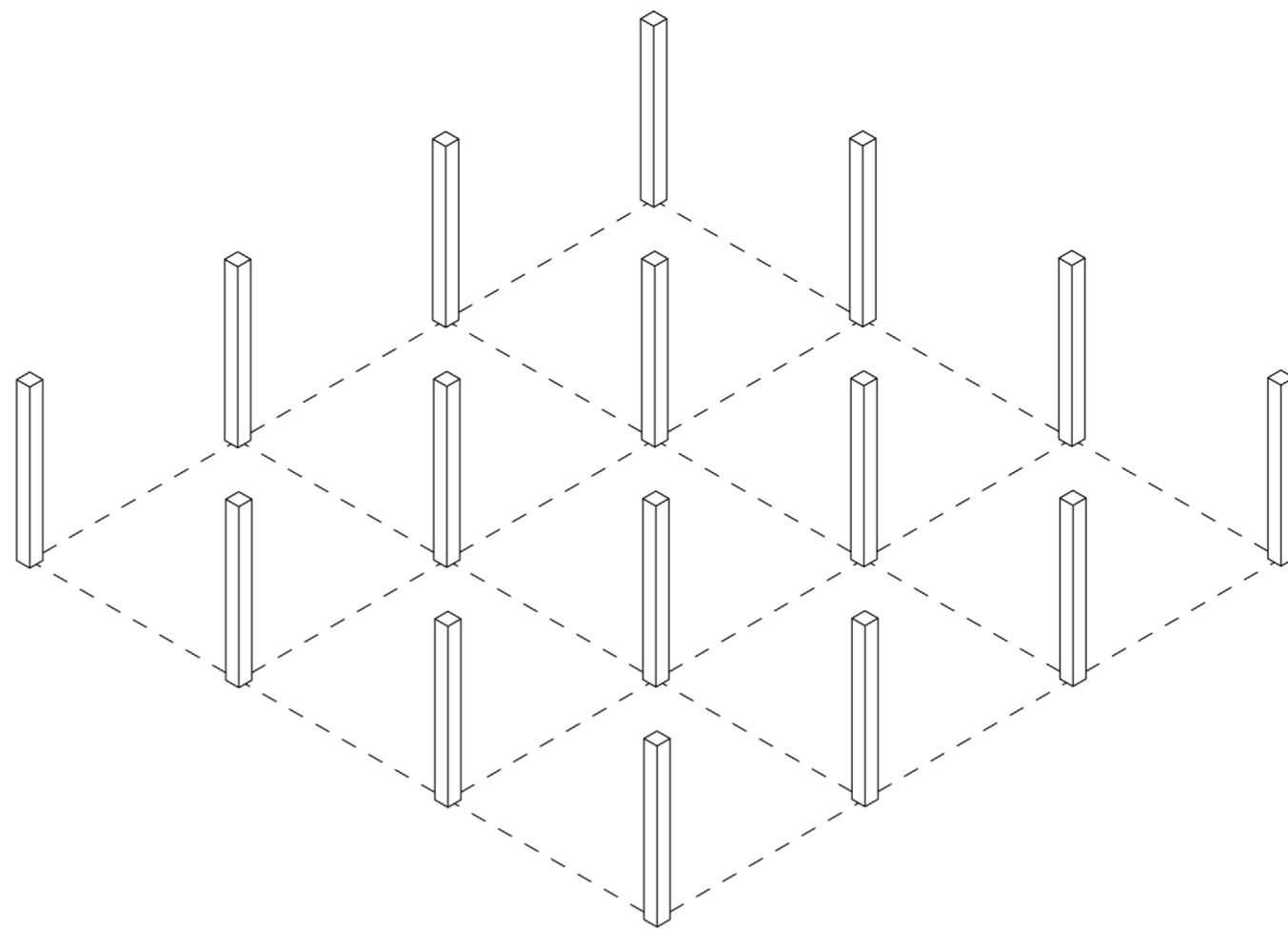
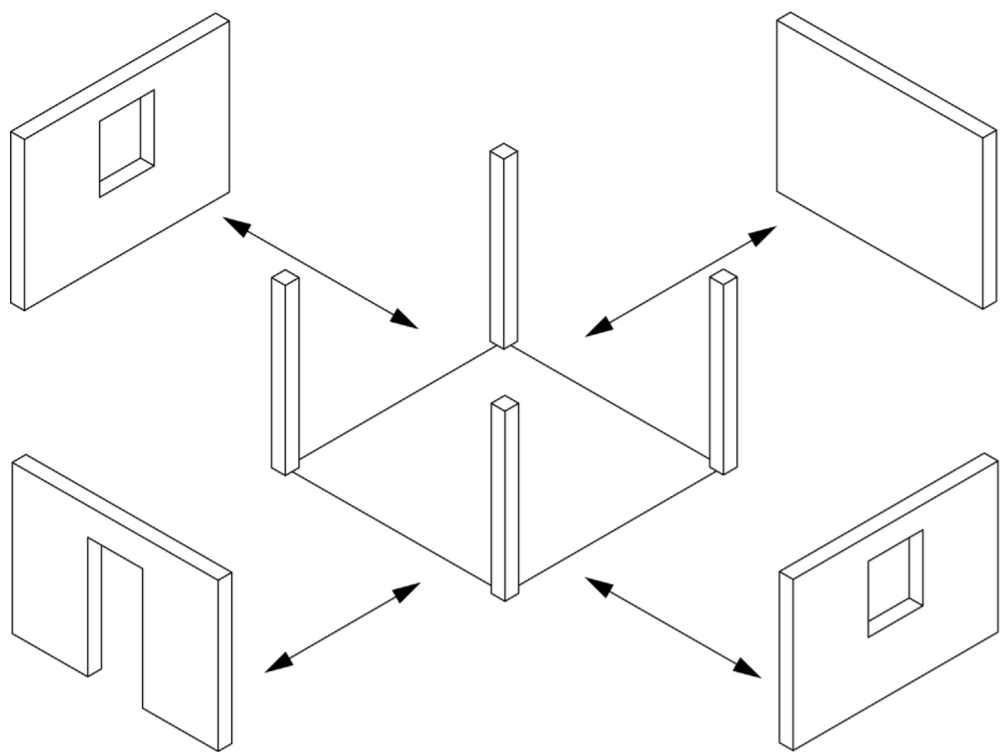
SECOND FLOOR PLAN [1.200]



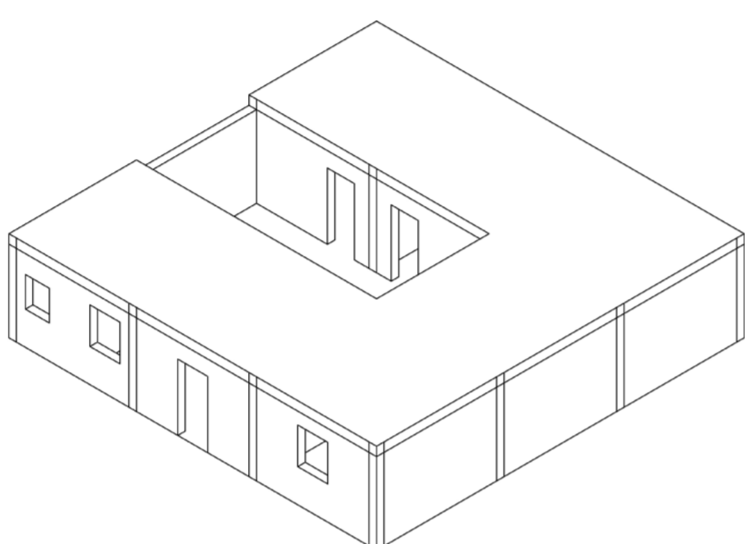
-  1 STOREY HIGH
-  1/2 STOREY HIGH
-  3 STOREY HIGH
-  4 STOREY HIGH



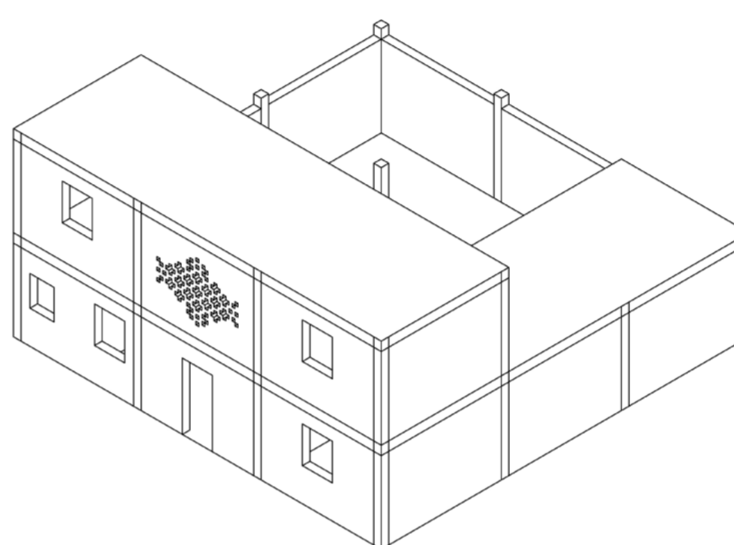
THE MODULAR SYSTEM



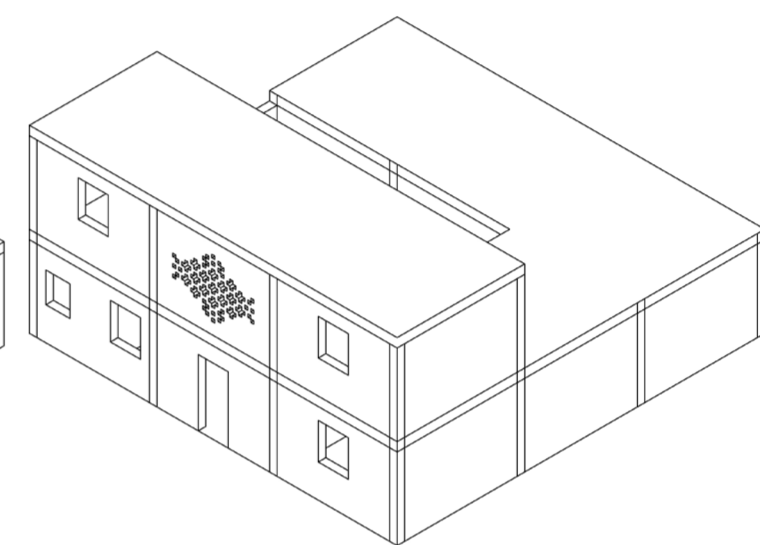
PRIMARY UNIT ONE STOREY HIGH



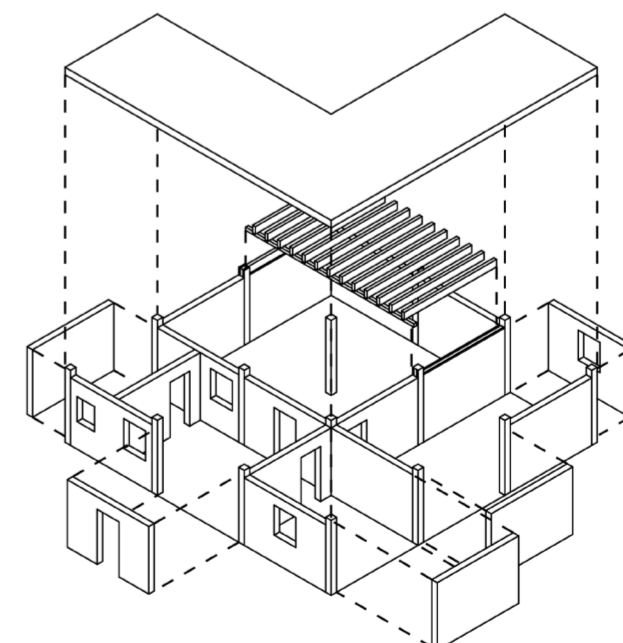
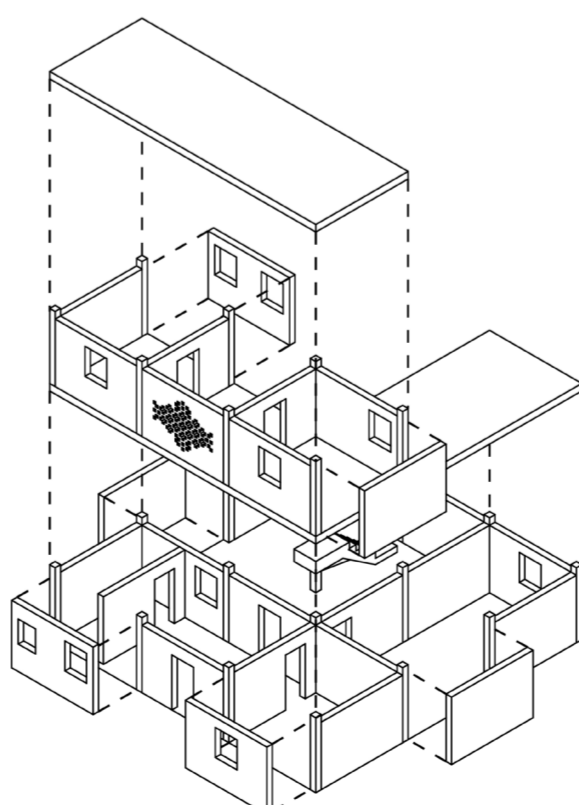
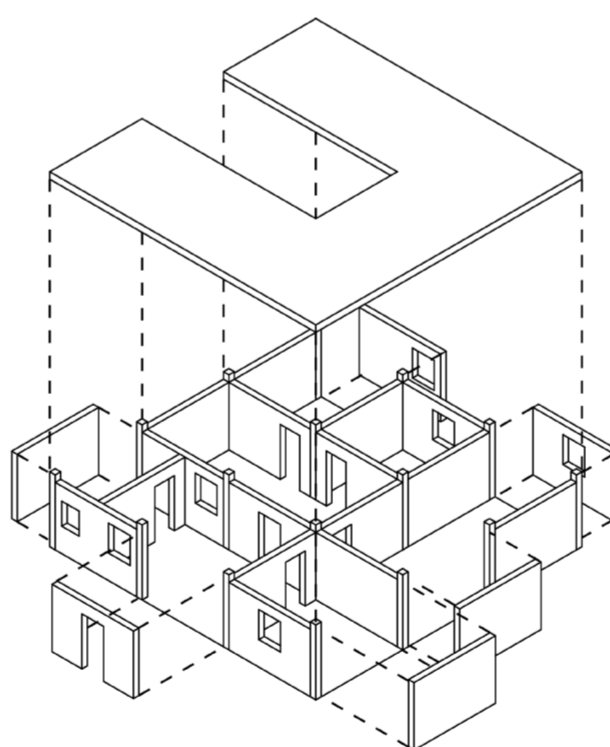
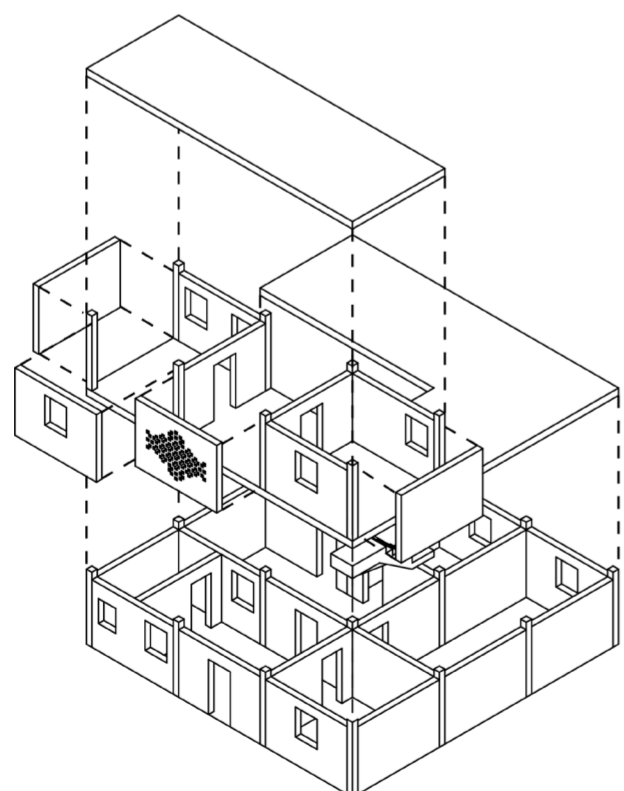
PRIMARY UNIT ONE STOREY HIGH EXPANDED



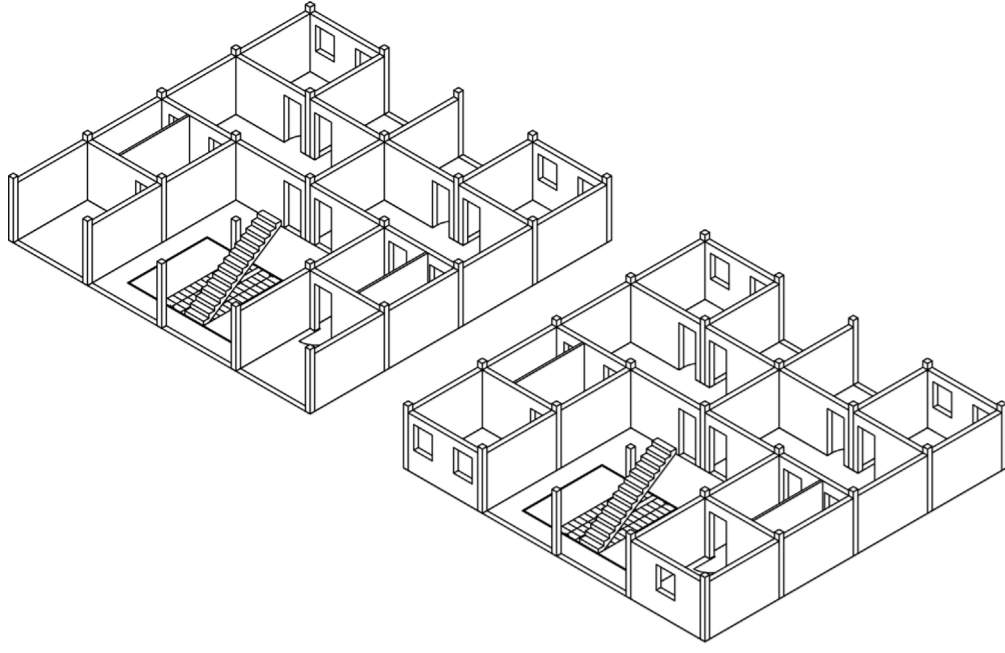
SECONDARY UNIT TWO STOREY HIGH



SECONDARY UNIT TWO STOREY HIGH EXPANDED

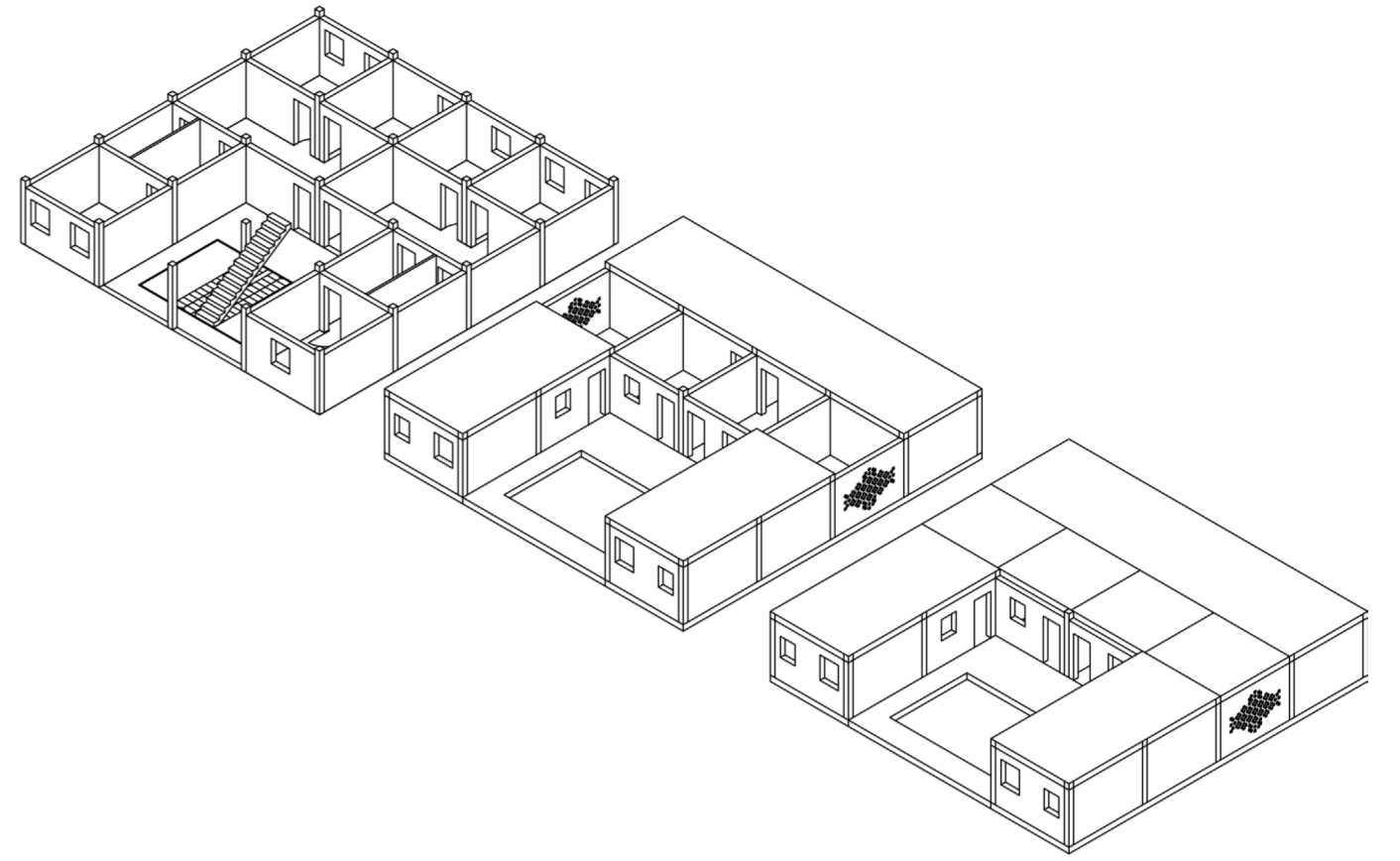


GENERIC FIRST LEVELS PLAN

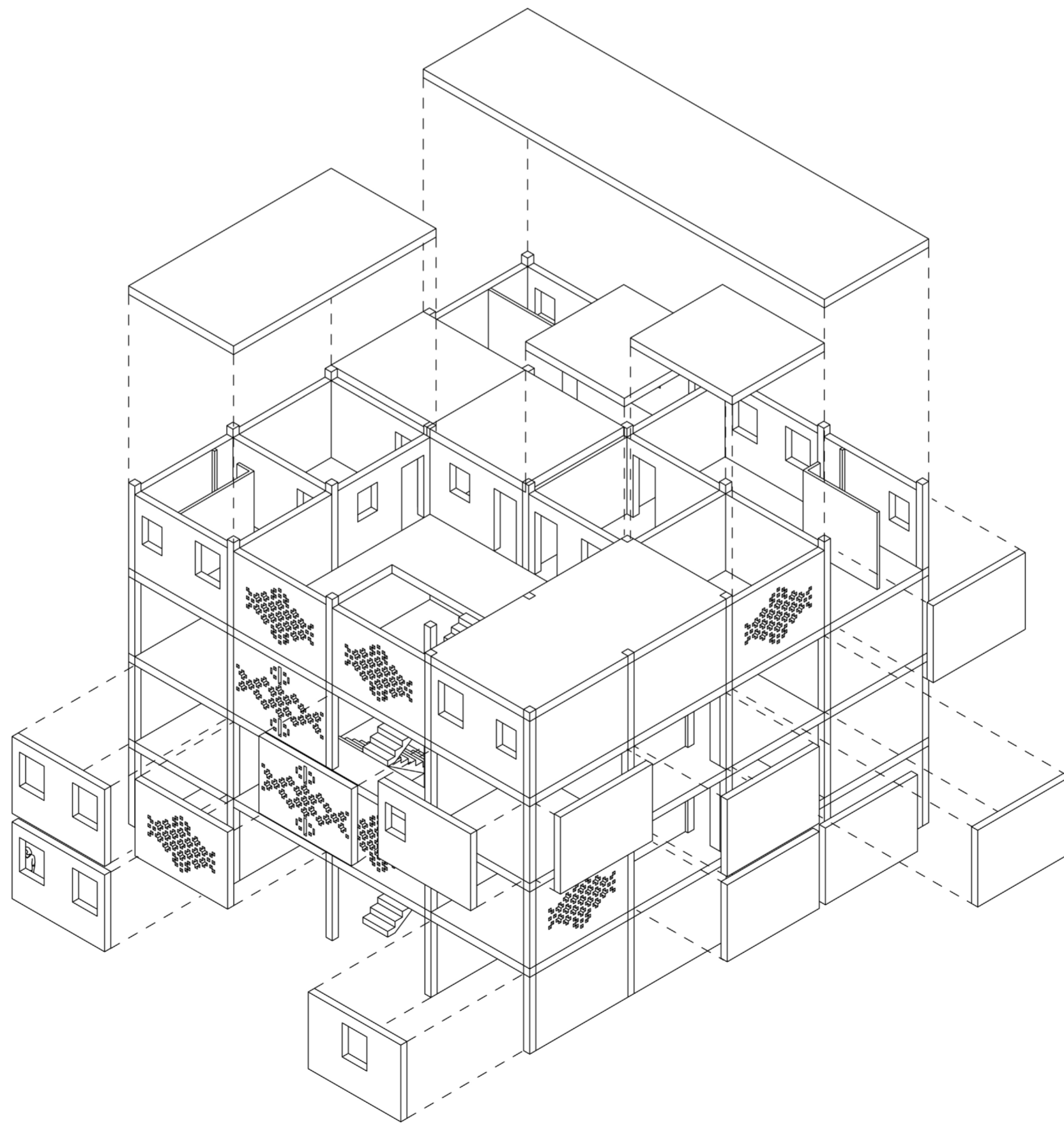


GENERIC FIRST LEVELS PLAN
WITH INCREMENTATION

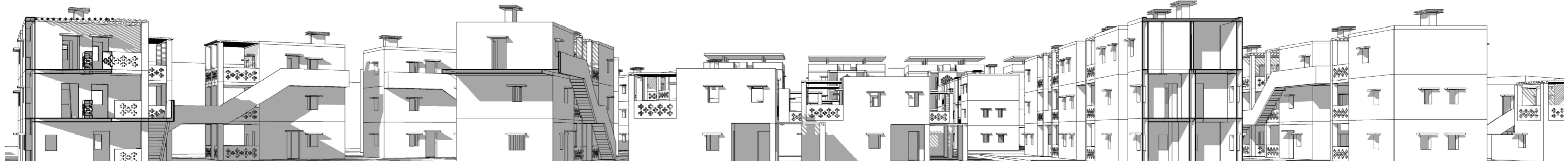
LAST FLOOR PLAN



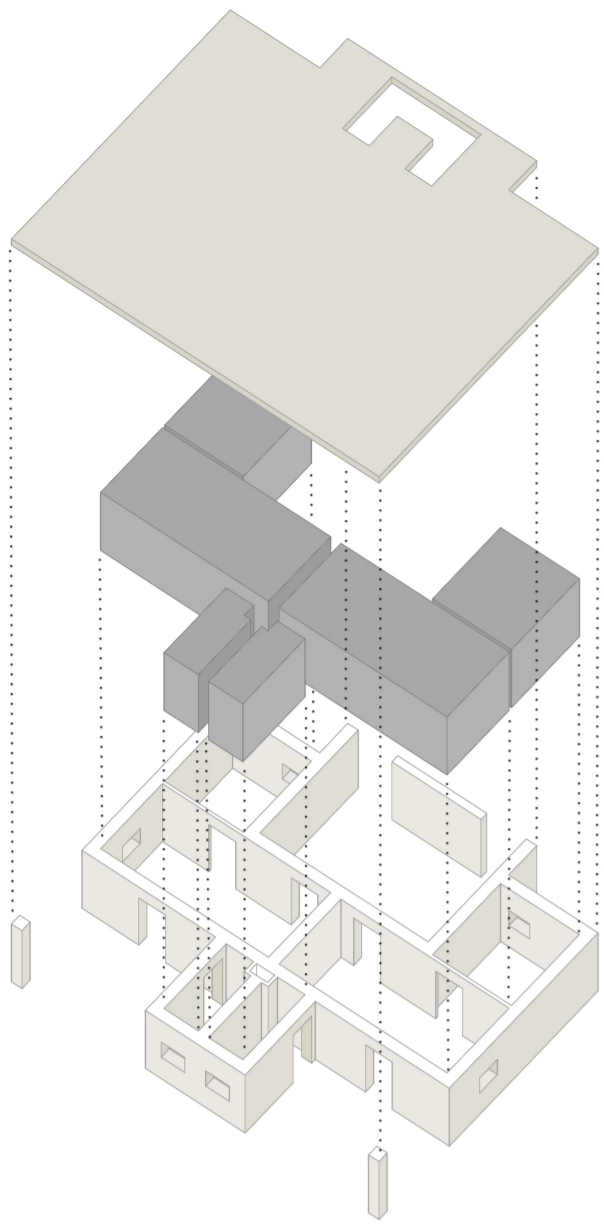
LAST FLOOR PLAN
WITH INCREMENTATION



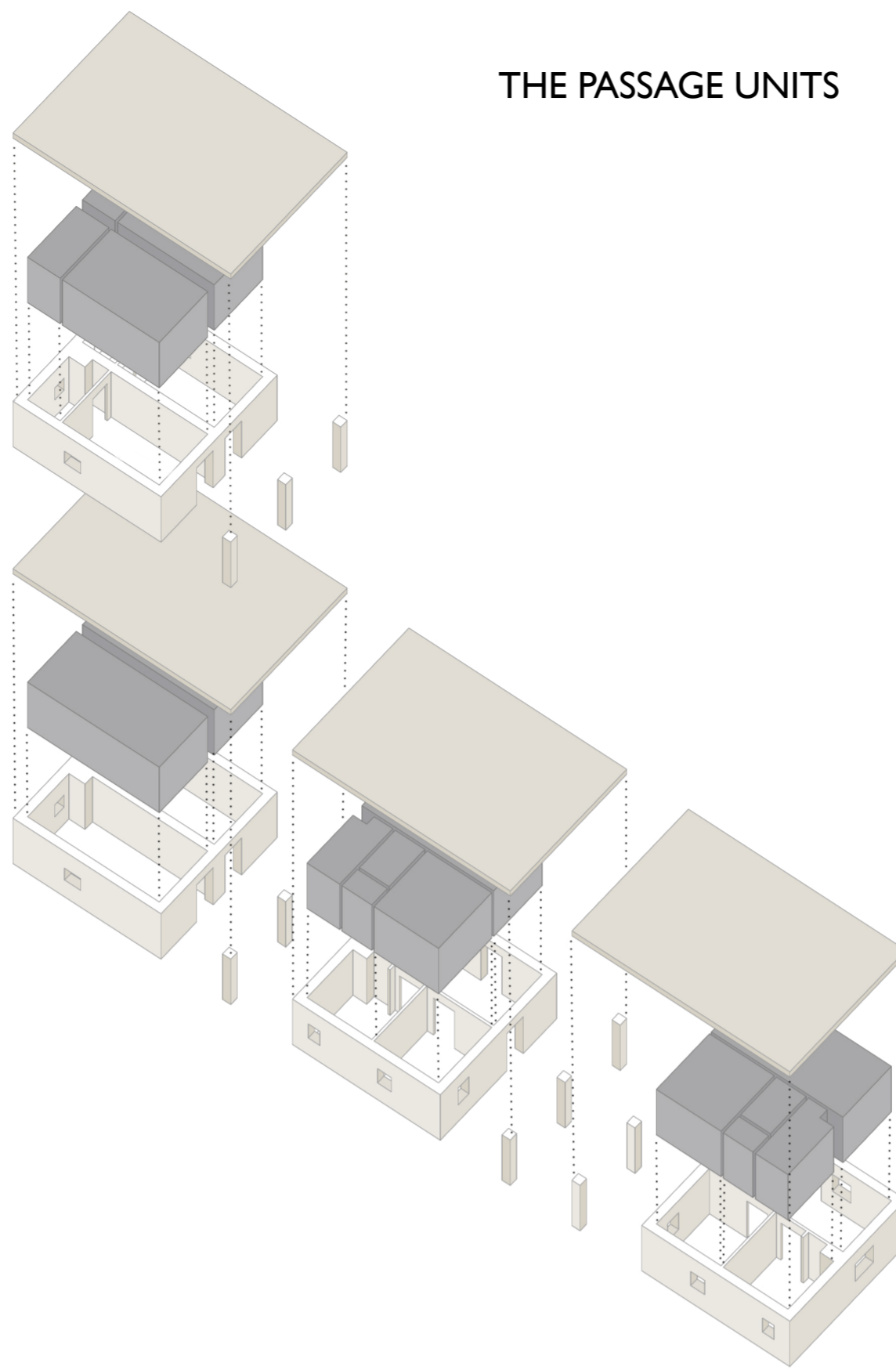




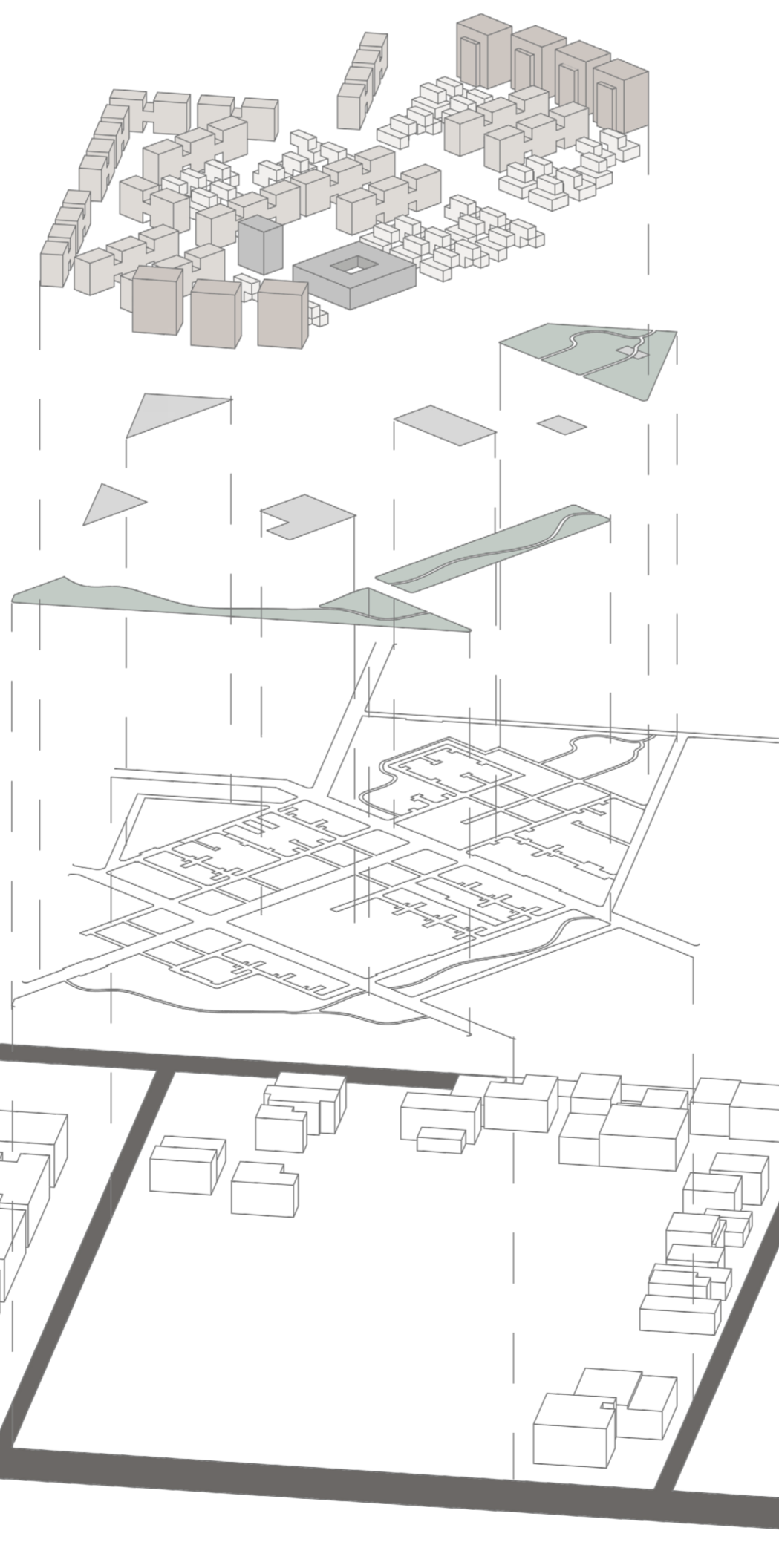
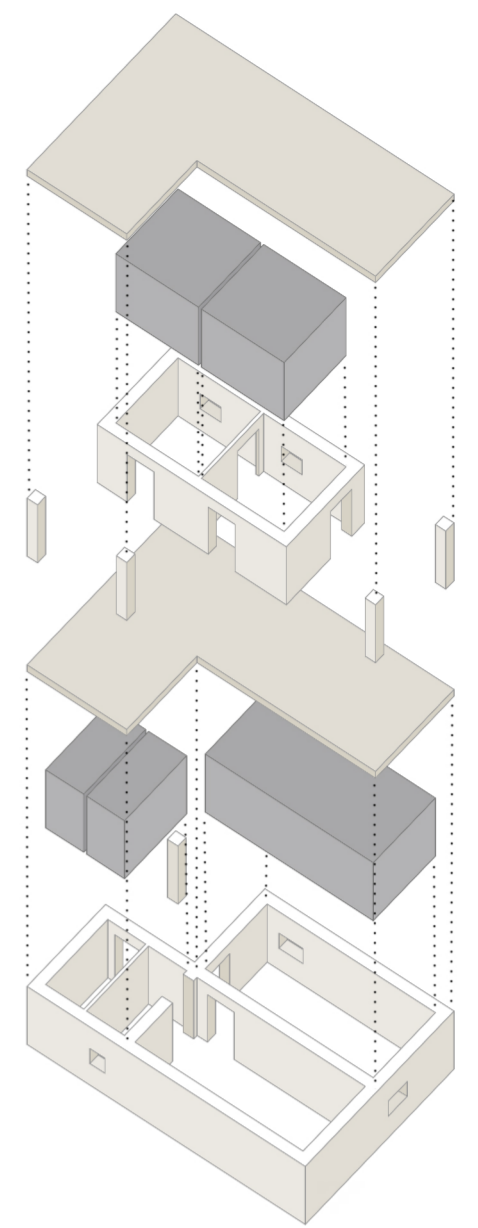
URBAN VILLA



THE PASSAGE UNITS



FREESTANDING HOMES



BUILT MASS

GREEN/PUBLIC ZONES

ROADS PATHWAYS

PRE EXISTING BUILDINGS/INFRASTRUCTURE

FREESTANDING HOUSE



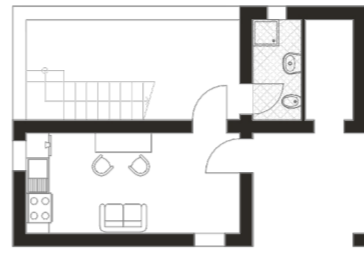
N° of Users: 4

Sqm. 37

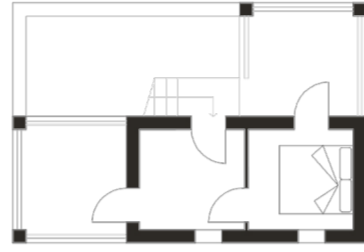
Expansion: AVAILABLE
(Smq. 15)

Parking: PRIVATE

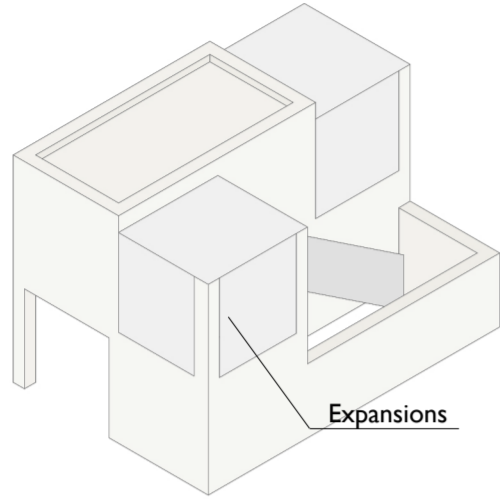
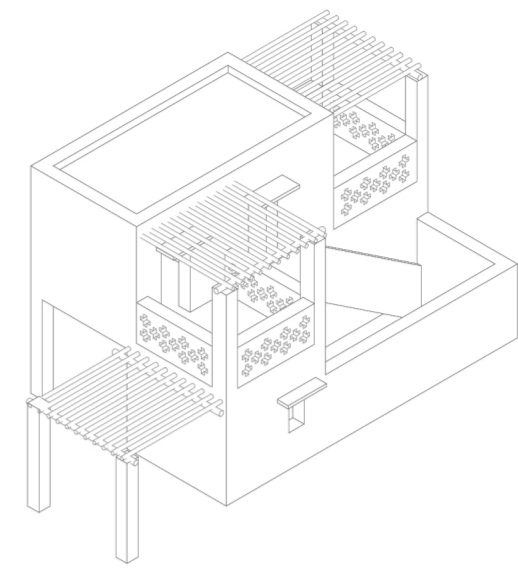
Outdoor Private Space: ENCLOSED



GROUND FLOOR PLAN



FIRST FLOOR PLAN



URBAN VILLA



N° of Units: 6

N° of Users: 3 x Unit

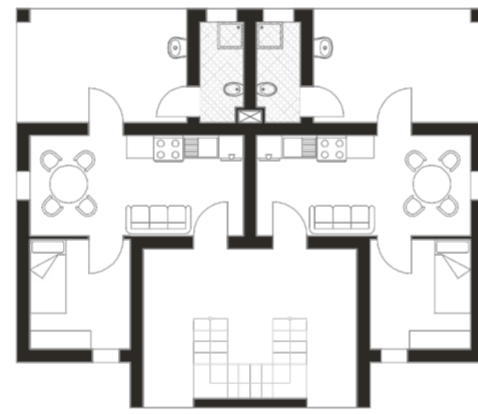
Sqm. 25

Expansion: UNAVAILABLE

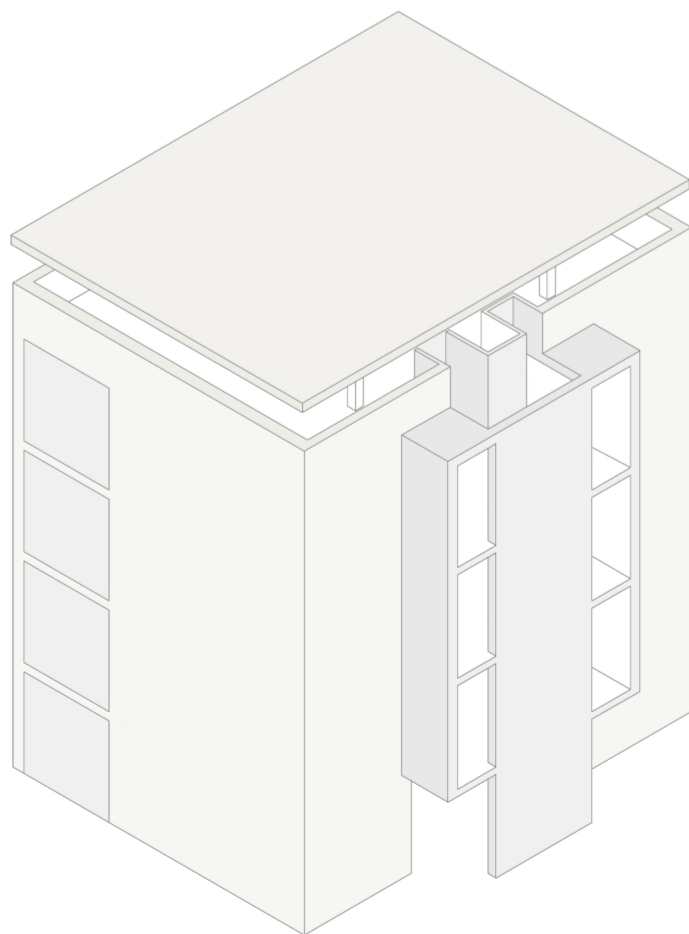
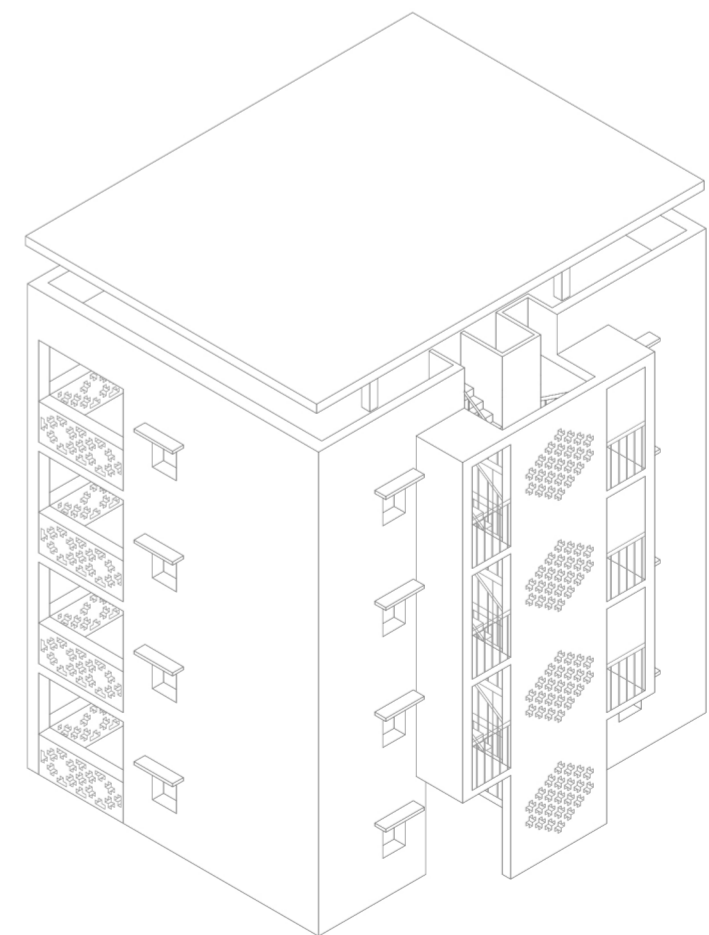
Parking: SHARED

Outdoor Private Space: UNAVAILABLE

Common Meeting Area: TOP FLOOR BALCONY
DISTRIBUTION SPACE



GENERAL FLOOR PLAN



THE PASSAGE UNITS



N° of Units: 9

Type of Units: Duplex/Simplex

N° of Users: 4

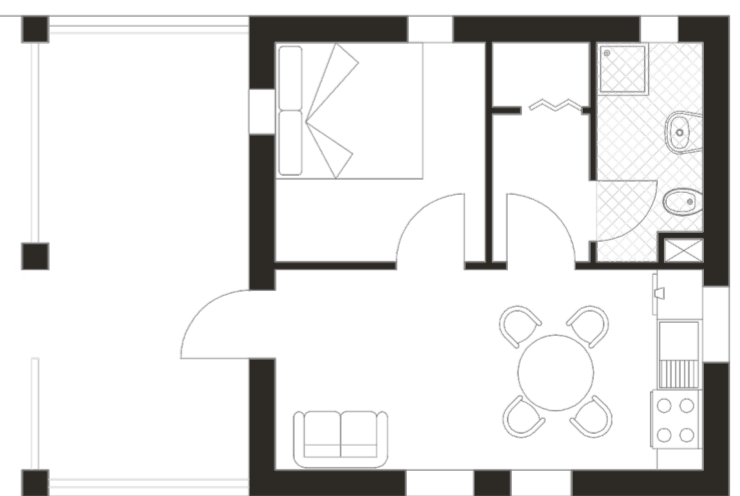
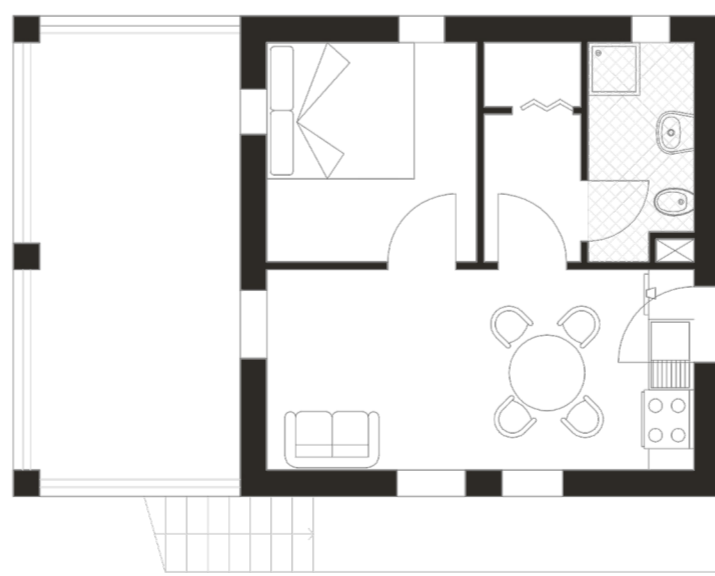
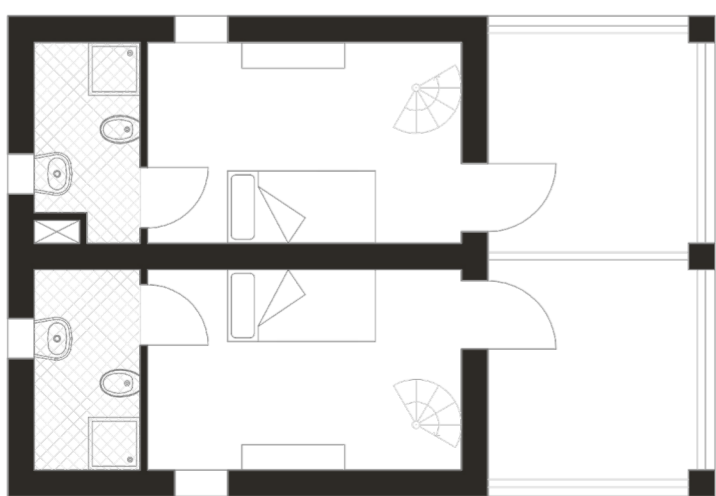
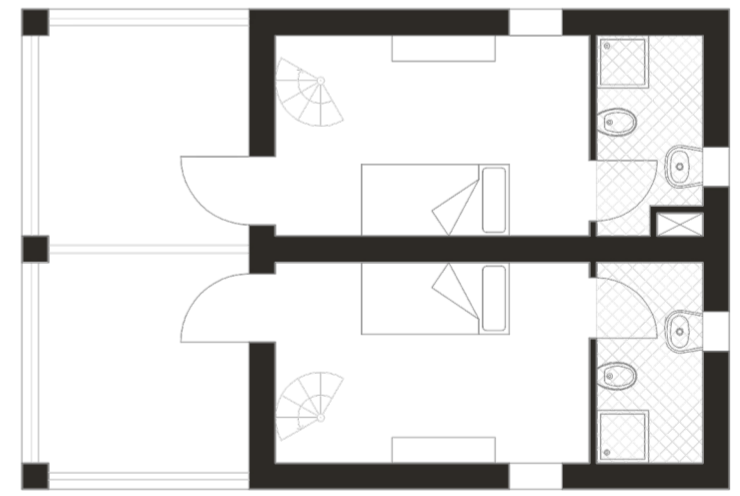
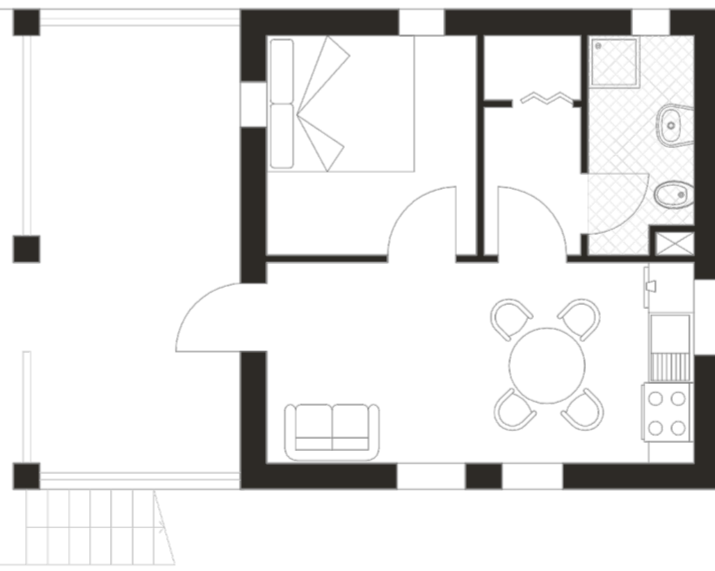
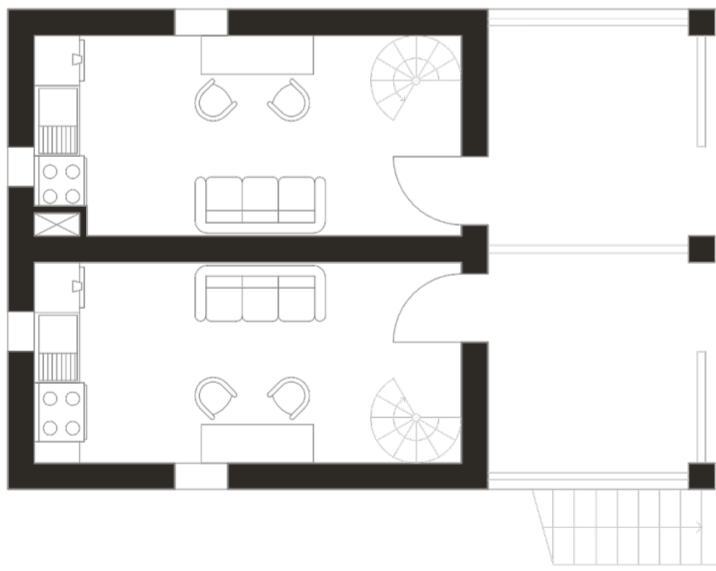
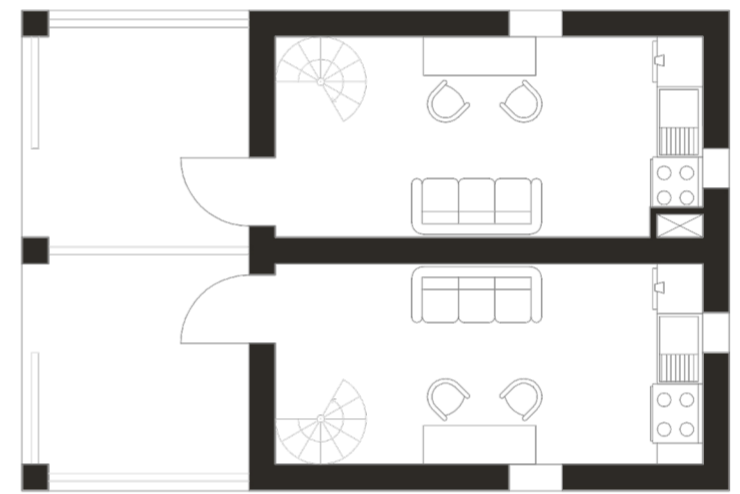
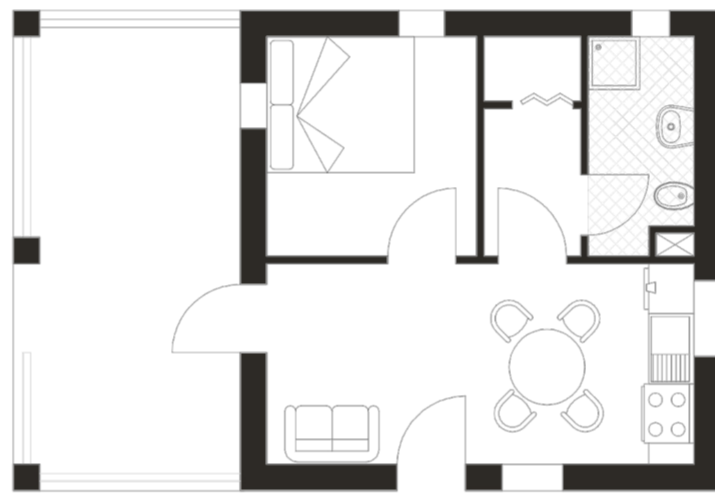
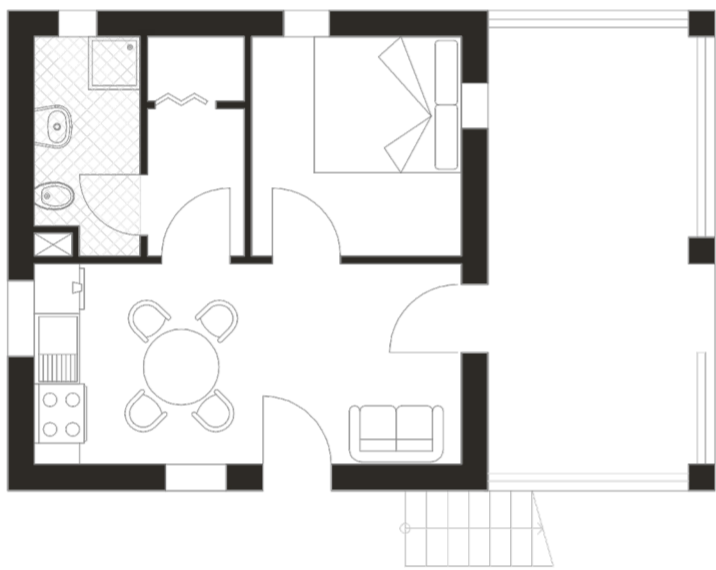
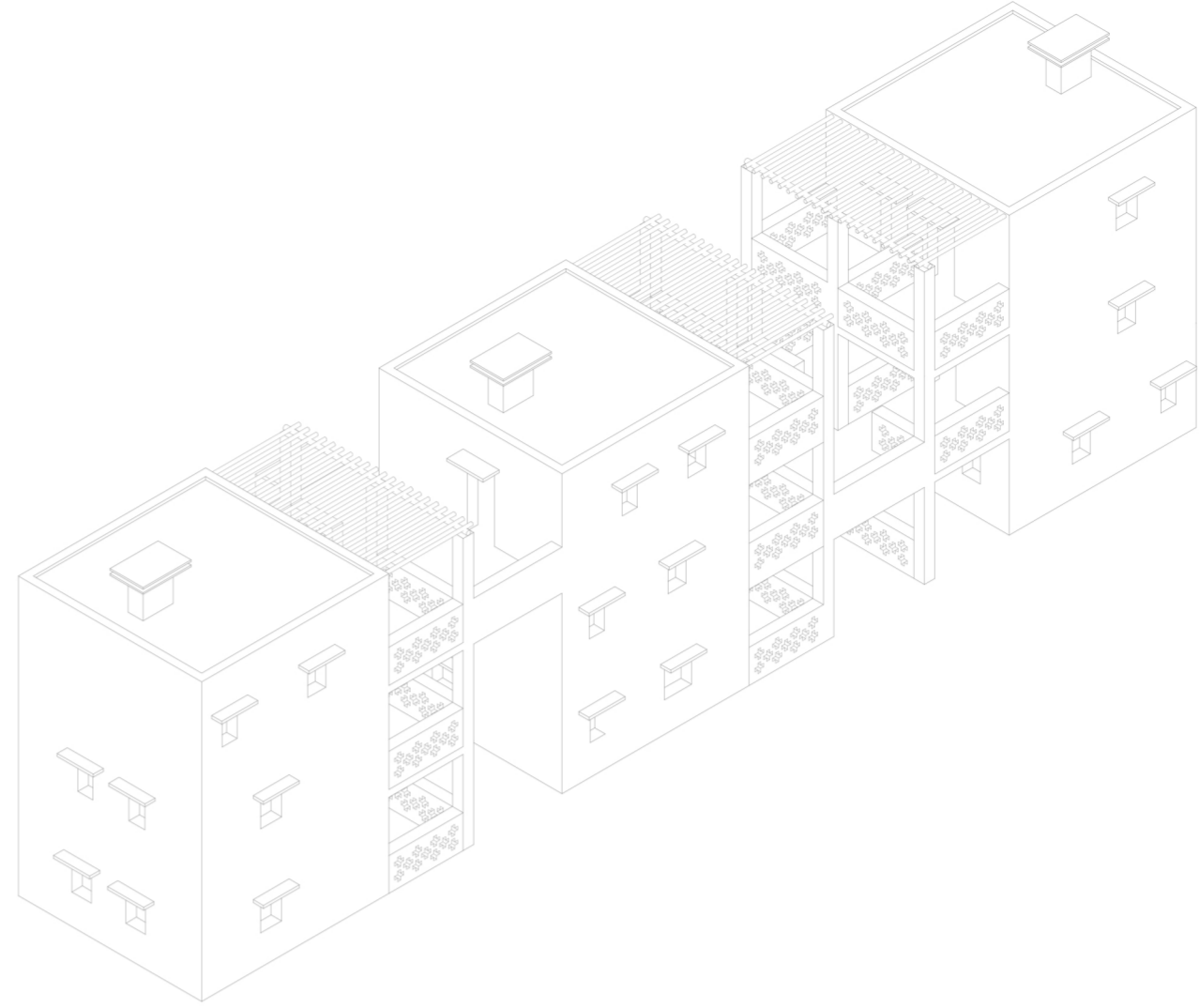
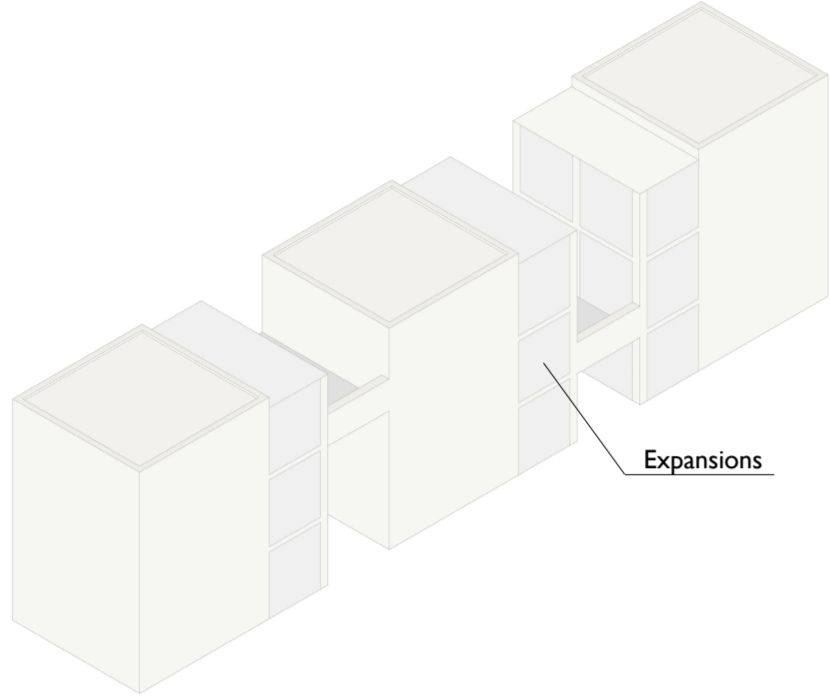
Sqm. 30/32

Expansion: **AVAILABLE**

Parking: **SHARED**

Outdoor Private Space: **AVAILABLE**

Common Meeting Area: **DISTRIBUTION SPACE**

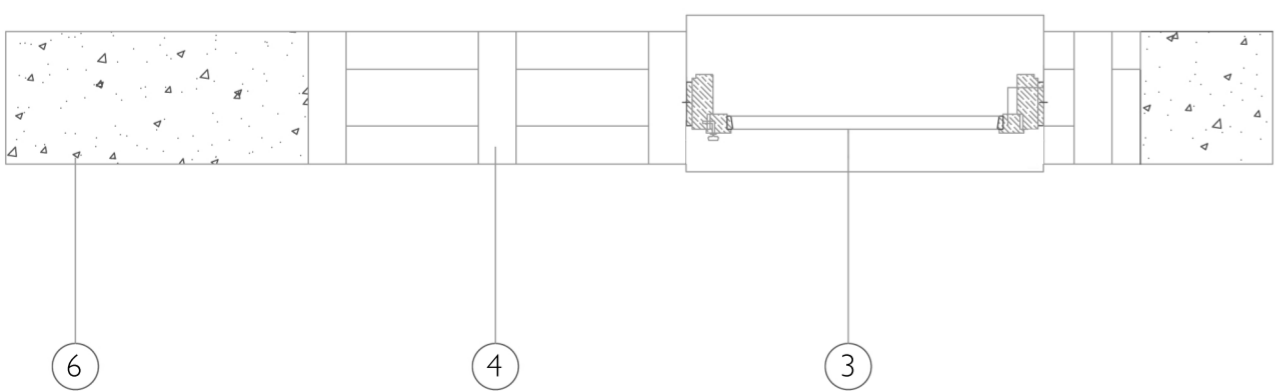
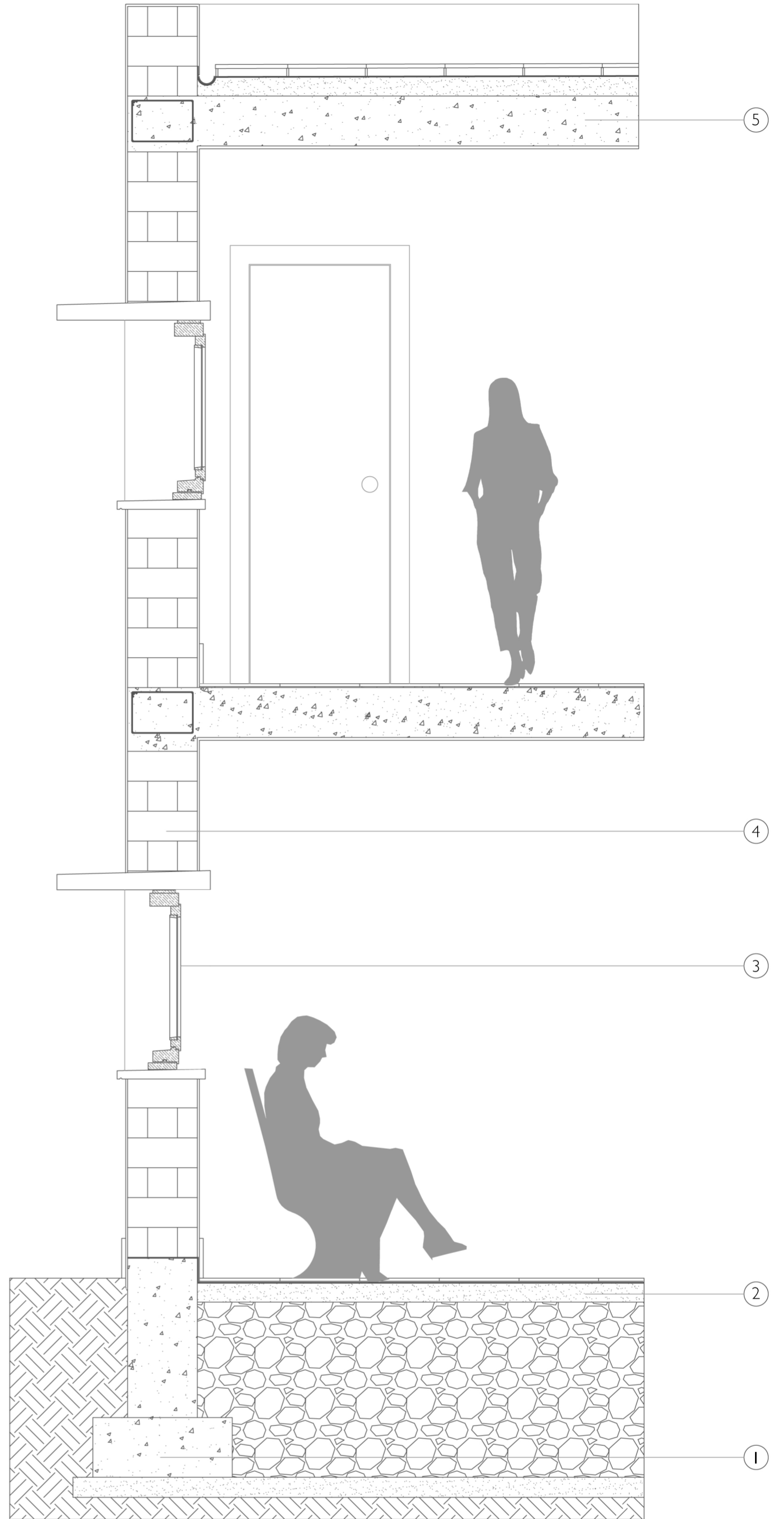


INNER VIEW OF A CLUSTER



EXTERNAL VIEW OF A CLUSTER





① FOUNDATION SYSTEM

Light concrete 10 cm base
Aggregates for ventilation and drainage
Foundation
Load-bearing structure
Water-proof membrane

② FLOOR SYSTEM

Light concrete 10 cm base
Water-proof membrane
Mortar
Ceramic tiles 40 x 40 cm

③ OPENING

Prefabricated concrete sill
Wooden frame, double glazed window
Projecting prefabricated concrete sill for shading

④ WALL

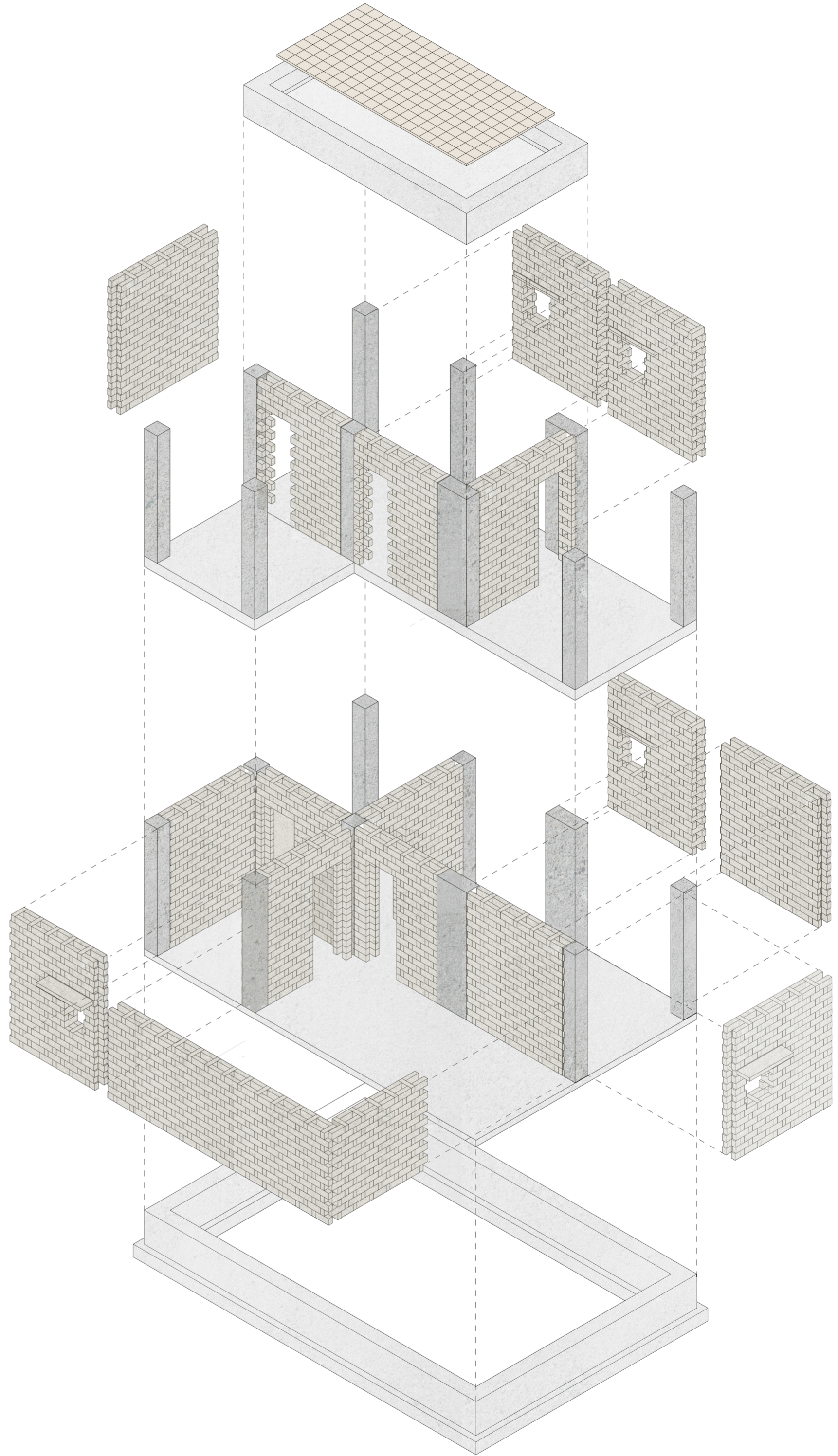
Interior finishing: 1 cm organic paint
Prefabricated concrete bricks with cavity in the middle
Exterior finishing: 1 cm organic paint

⑤ ROOF SYSTEM

Interior finishing: 1.5 cm plaster
25cm concrete slab
Concrete screed 1.5%
Water-proof membrane
Aluminium gutter
Support for "floating" pavements
Floating pavements 40 x 40 cm tiles

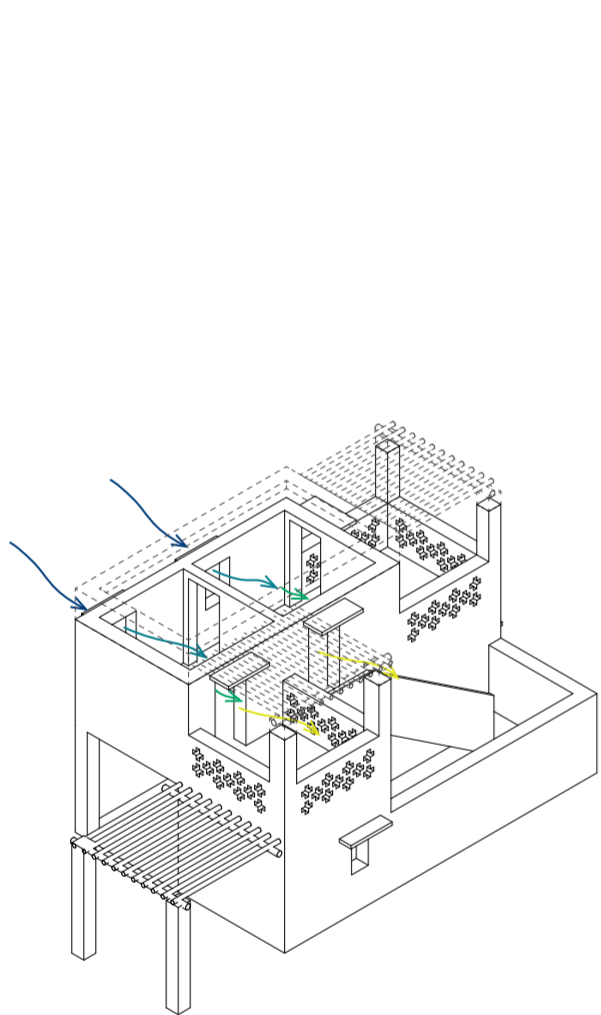
⑥ LOAD-BEARING STRUCTURE

35cm load in situ concrete structure

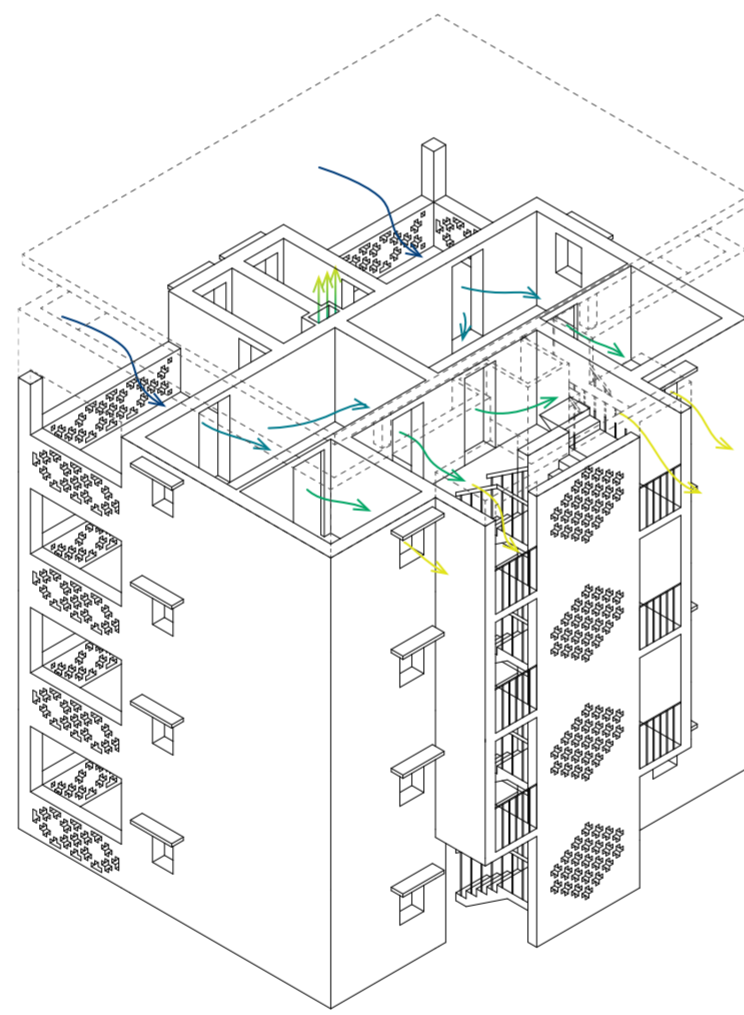




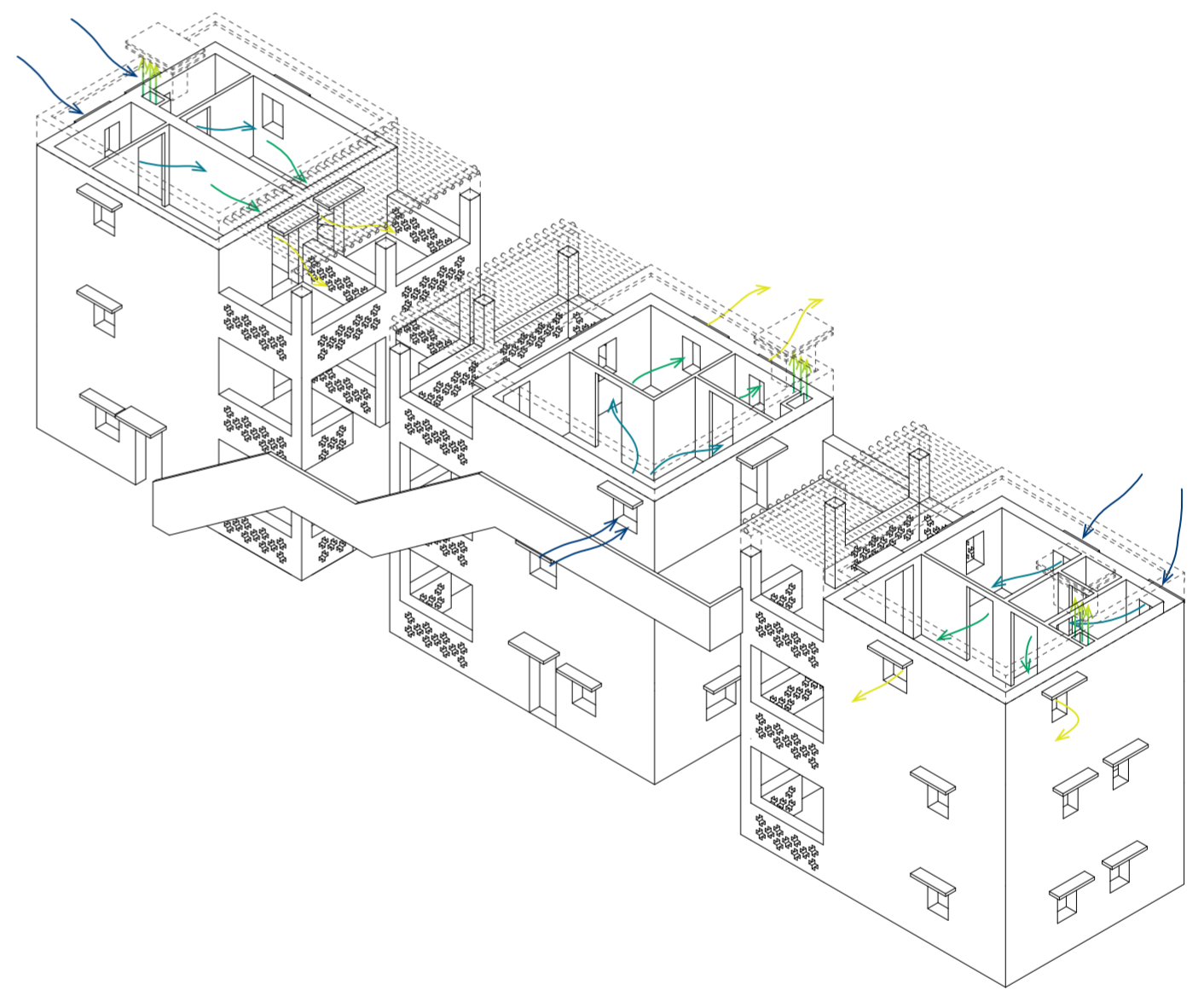
CROSS VENTILATION SYSTEM



TYPOLOGY 1 - FREESTANDING HOUSE



TYPOLOGY 2 - URBAN VILLA



TYPOLOGY 3 - THE PASSAGE UNITS

