

STITCHING THE PERIPHERY

alternative housing for Chandigarh's middle class

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> BACKGROUND INFORMATION

EXPERIENCES

During our trip we experienced that life is in the outside space, because of social and climatological reasons. People meet and gather outside in front of public functions. Spaces just outside the homes are used as semi private shelters to meet with relatives or neighbours. The transition from public to private is a soft border with different layers. The buildings we visited had prominent outside spaces fluently connected with the inside by means of material and orientation. For example the CEPT university in Ahmedabad, where the whole facade was created by flexible doors. Inside can change into outside space when needed. Also height differences define spaces. Steps create paths but also places to gather and sit. Platforms change the ground floor into a space with integrated benches, tables and walls.

In a lot of Indian buildings the solid load bearing structures of concrete or brick interchange with light natural material. The robust building materials have delicate details. Columns with round corner shapes or a roof with distinct wide ridge are common features. The government buildings at the capitol complex in Chandigarh are a good example. Le Corbusier's High Court is mainly from concrete, with colourful pillars and a huge roof covering the plot. Outside space is a big part of the design. These basic building forms form the backbone of colourful life. Where our construction stops, starts the inhabitation that will form the final image of the project. Indian's colourful fabrics can change a facade into a lively painting. Social cohesion and thereby family ties play a big role in Indian culture, people marry into a family and will stay with their relatives if possible. Important factors in the dwelling are adaptability and opportunities to make your living space personal.

Chandigarh's original city centre is sector 17. It has a shopping plaza with a plinth of shops around it. A covered gallery forms the path from shop to shop. This space feels like an intermediate between the inside shop and the outside square. A second layer is added for cars to cross the square, this bridge creates an open border at ground level to enclose the square. Both the gallery and a bridge are examples of separating spaces in an alternative way, there are no walls used to create these differentiations.

CONTEXT AND PROBLEM STATEMENT

The city of Chandigarh is designed by French architect Le Corbusier. You can feel and see his touch in the concept of the urban structure and thereby the way of life. The zoning of the city and the different sectors in the master plan are his legacy. These sectors were meant to be self sufficient communities connected by intersections in the form of greenery and roads. They were meant to be porous and all inclusive clusters, but they can be experienced as closed off islands in a sea of roads. The roads of Chandigarh are classified in a specific order from the highway to the smallest pedestrian pathway. The city is not designed for pedestrians, but for modern life with the car as main transportation. Furthermore the city is planned according to a grid of 800 by 1200 meters and is geometrically organized from northeast to southwest. The dimensions of the sectors create a spacious scheme without tangible human scale. This way of planning a city is not common for a country like India, order and structure make this city special.

The population of Chandigarh keeps on growing and the city is expanding her borders. New clusters surround the sectorial grid. This original grid is kept untouched to protect the image of Chandigarh's architecture. Nowadays city planners use the same design structure to

order the new developments, but the infill is quite different. Buildings are no

longer government property, but private settlements to meet currently changing demands of the society. Generated is an empty, hard border between 'old' and 'new', an unarticulated green belt between these two worlds. Chandigarh's road system enhanced this separation, the v1 (highway 21) is splitting the sectorial grid from the southern new developments.

INTERVENTION

The intervention we designed is an attempt to connect these two forms of urban tissue. The site we picked is an extreme example of the described disconnection. With the design strategy we not only want to bridge the undefined in between space but we also intervene in both contexts. The contexts will not be changed, but the project will adapt to it. With one mega structure, covered with a continuous roof, we create a mix of different functions. Adapting to context with one solution will stitch the core of two sectors. The design is based on one typology that can adapt to different circumstances. The units are arranged horizontally and define a sequence of public spaces. These semi enclosed public squares form an attractive routing from one 'side' to the other. The under layer of the mega structure is formed by different platforms, differing in height to accommodate the transition from public to private. Using steps instead of walls will create an open architecture. It's an alternative for the closed off gated communities and fenced high-rise buildings.

The continuous roof creates shade and thereby a pleasant atmosphere, not only at ground floor but also on the roof terraces. Portals with wide columns supporting the roof divide the units at the base. In between these portals the living- and public functions are arranged. There is one basic typology and a secondary type with shared gallery routing instead of private stairs. Both typologies can be combined in different ways to create bigger living functions like temporary housing in the form of student housing or a hotel. All dwelling units have a basic structure and can adapt for change and growth over time. Parallel load bearing structure with two open sides result into cross ventilated spaces. The plan of one unit is divided in three zones. One as a core and two buffers including routing and services. Bathroom and kitchen are situated near the facade for ventilation. Facades can be placed in front of the buffer or behind, so the buffer space is in- or outside. This way of placing the facade could split or unify two levels. The elevation is divided in three levels. Ground level could contain living space or can be part of a plinth of (work)shops. Top level is used as roof terrace, for a more private outside space. The roof terrace is shaded and has more wind flow because of its height. Overtime this surface could be used as expansion space. The public functions are also situated between the portals. Every public square has its own function next to it, from a market hall, a well, washing space, school or community centre to plinths of smaller shops and work-shops. By leaving out infill, openings are created in the structure. This will connect the clusters and it shapes a public trail. The big v1 is bridged by an attractive pathway underneath the roof, with benches and small stalls common for Indian public street life.

The continuous structure in the form of roof and portals will be emphasized. These fixed, most prominent, aspects are from concrete. To refer to the iconic figure of Chandigarh's architecture. The more flexible infill in between the portals is mainly from brickwork, because it's a

> PROBLEM STATEMENT

'There is no fluent gradient and tangible human scale (in the sense of building height and -size, architectural typologies, social classes) in the transition from the traditional, sectored grid to the new developments in the periphery'

> FUTURE PERSPECTIVE/ DESIGN HYPOTHESIS

'The developments in the periphery of the city are going to expand/ increase because of the population growth and changing needs. Bridging or articulating this segregation is needed to keep the city and its surroundings alive and connected. This goal should be achieved by using a strategy to allow/ accommodate growth and change over time to meet the needs of future generations'

> FACTS

Area of the Plot
21.000 m² platforms
21.500 m² platforms with bridges

Coverage
8.500 m² built of 21.500 m² plot size
40% built ground floor of the plot

Built Area
17.500- 26.000 m² (growth over time)

Floor Area Ratio
54m²- 80 m² building size to 36 m² of property (growth over time)

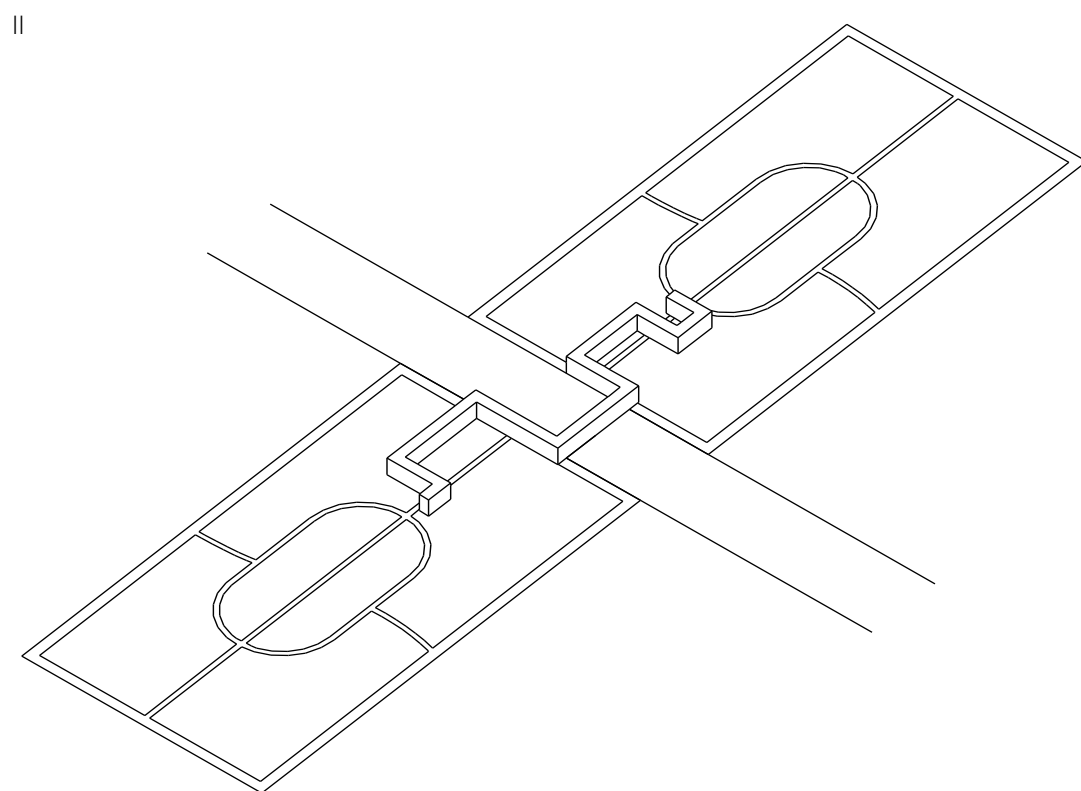
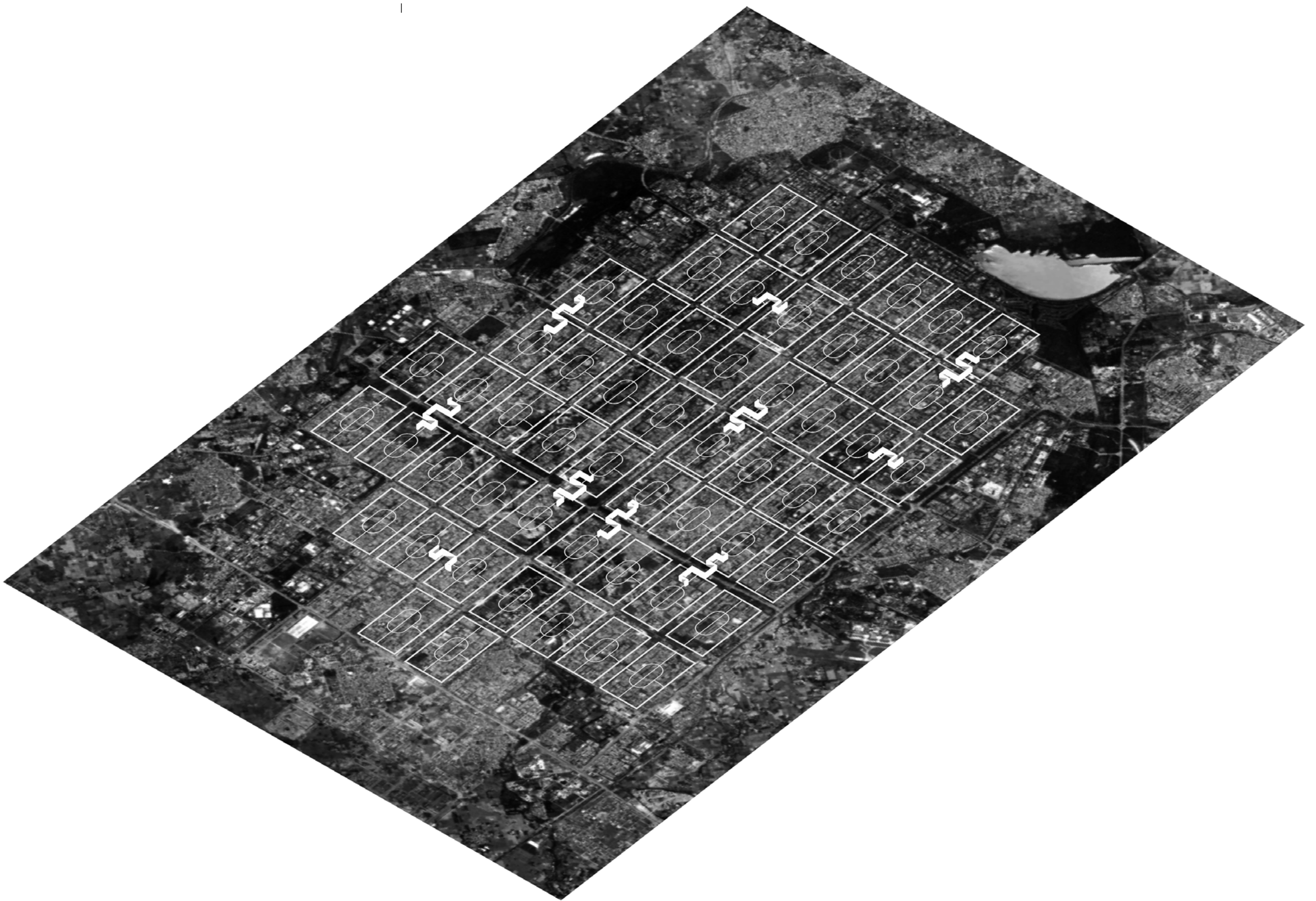
Number of dwelling units created
130 units:
90 basic units
40 gallery units

Estimated number of people accommodated in the project
400 people

Target group
New upcoming middle class

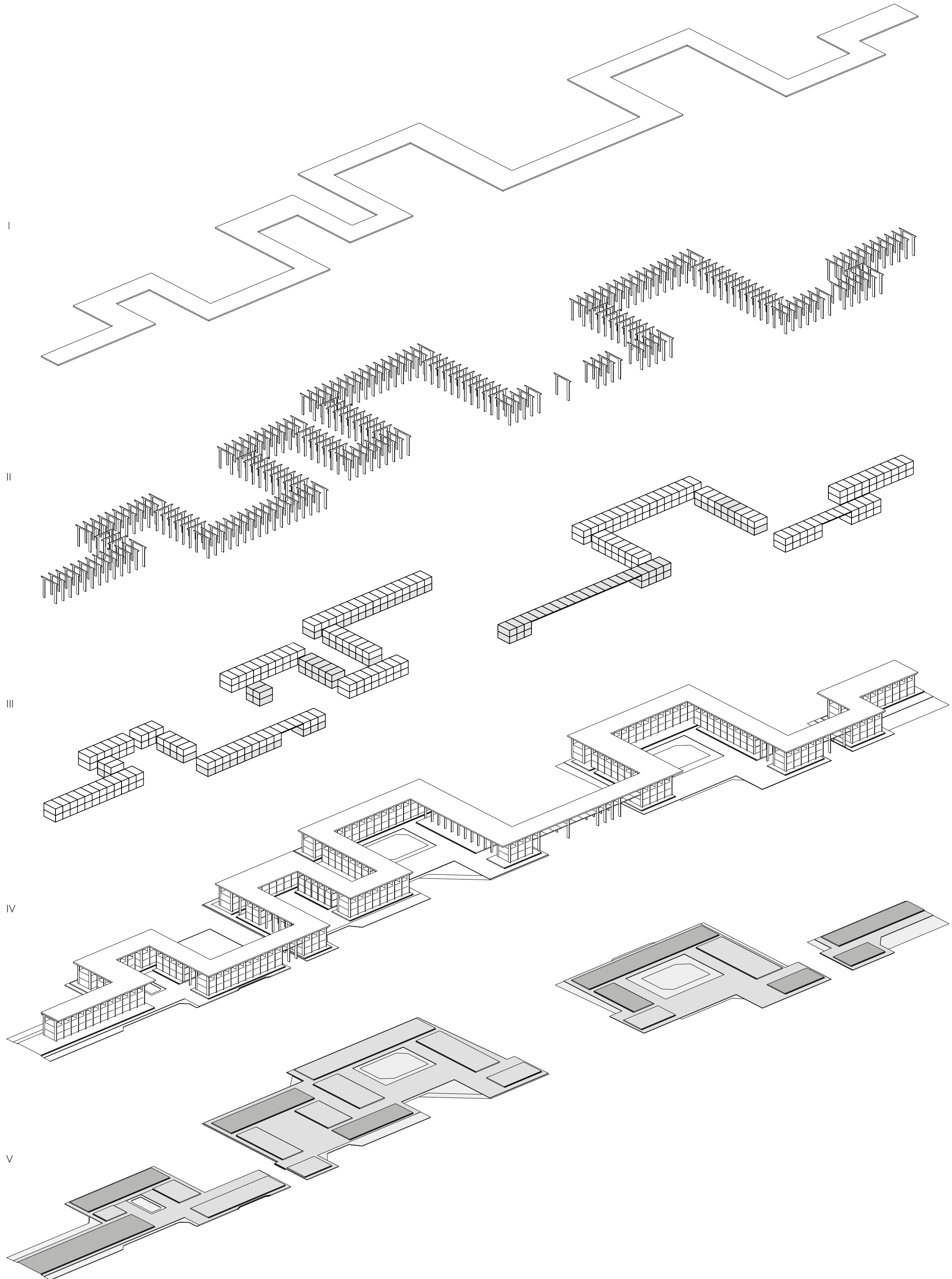
Density - population
185 people per hectare

Density - accommodation
 $400/130 = 3$ people per dwelling



I city of Chandigarh: closed off island
II Stitching two island with the megastructure

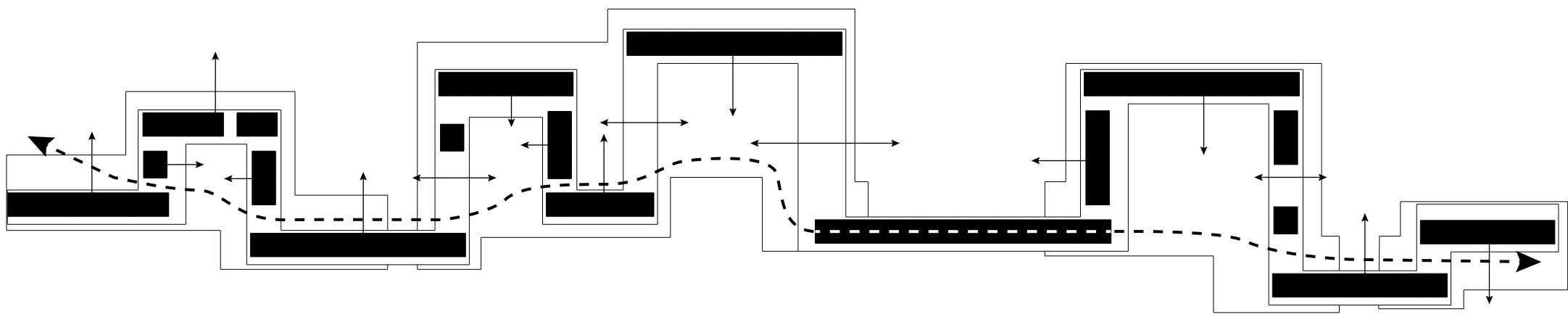
> LAYERING THE MEGASTRUCTURE



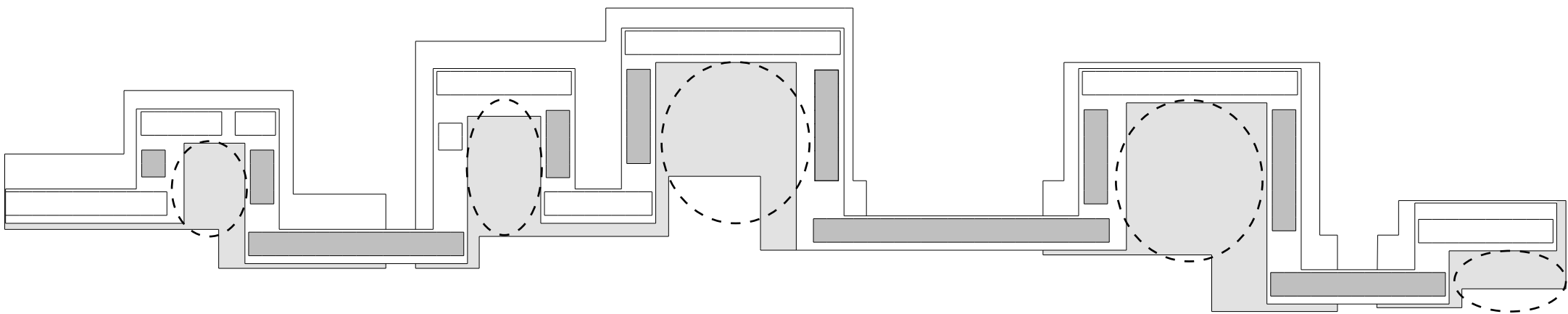
- I Continues roof structure sheltering the neighbourhood
- II Portals supporting the roof and dividing the units at the base
- III Flexible infill: dwellings and public functions alternate each other
- IV Overall view
- V Platforms form transitions from public to private

> CONCEPTS

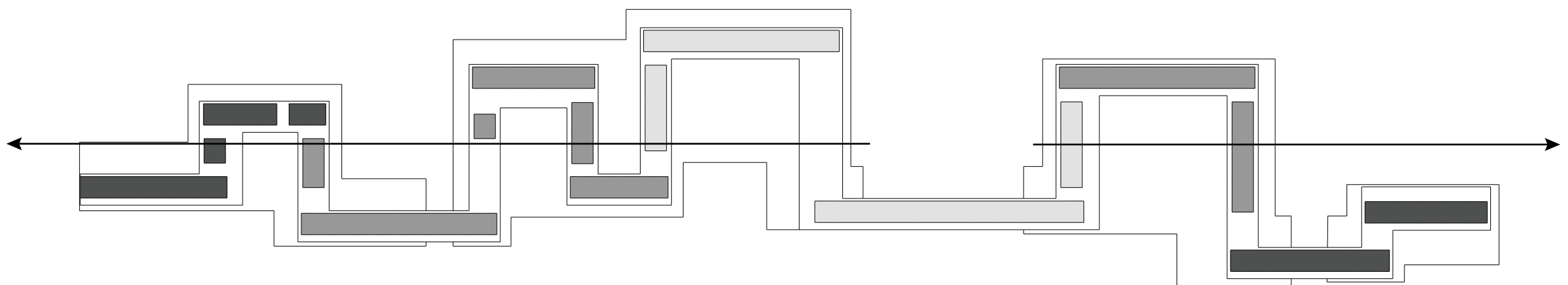
I



II

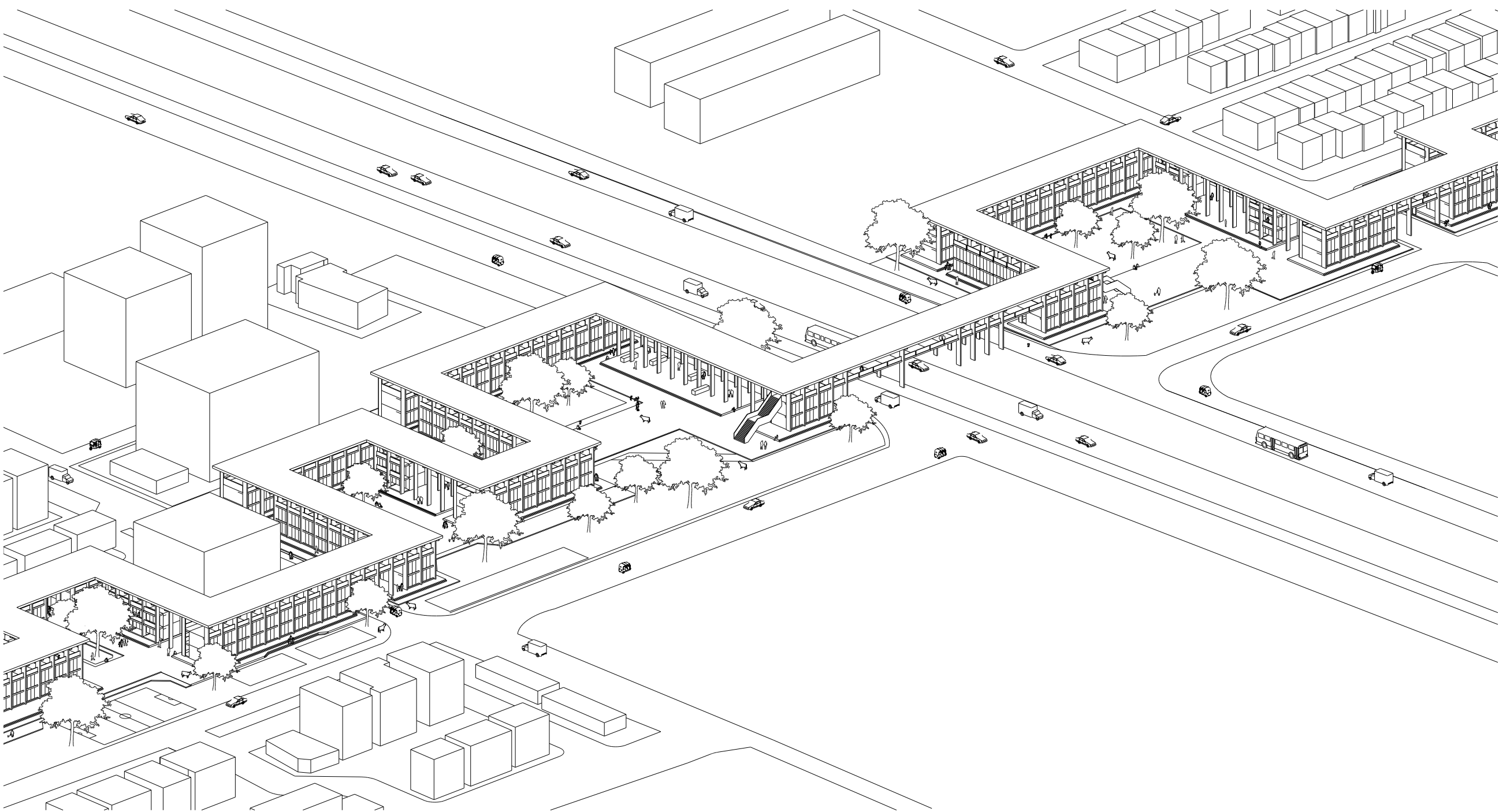


III

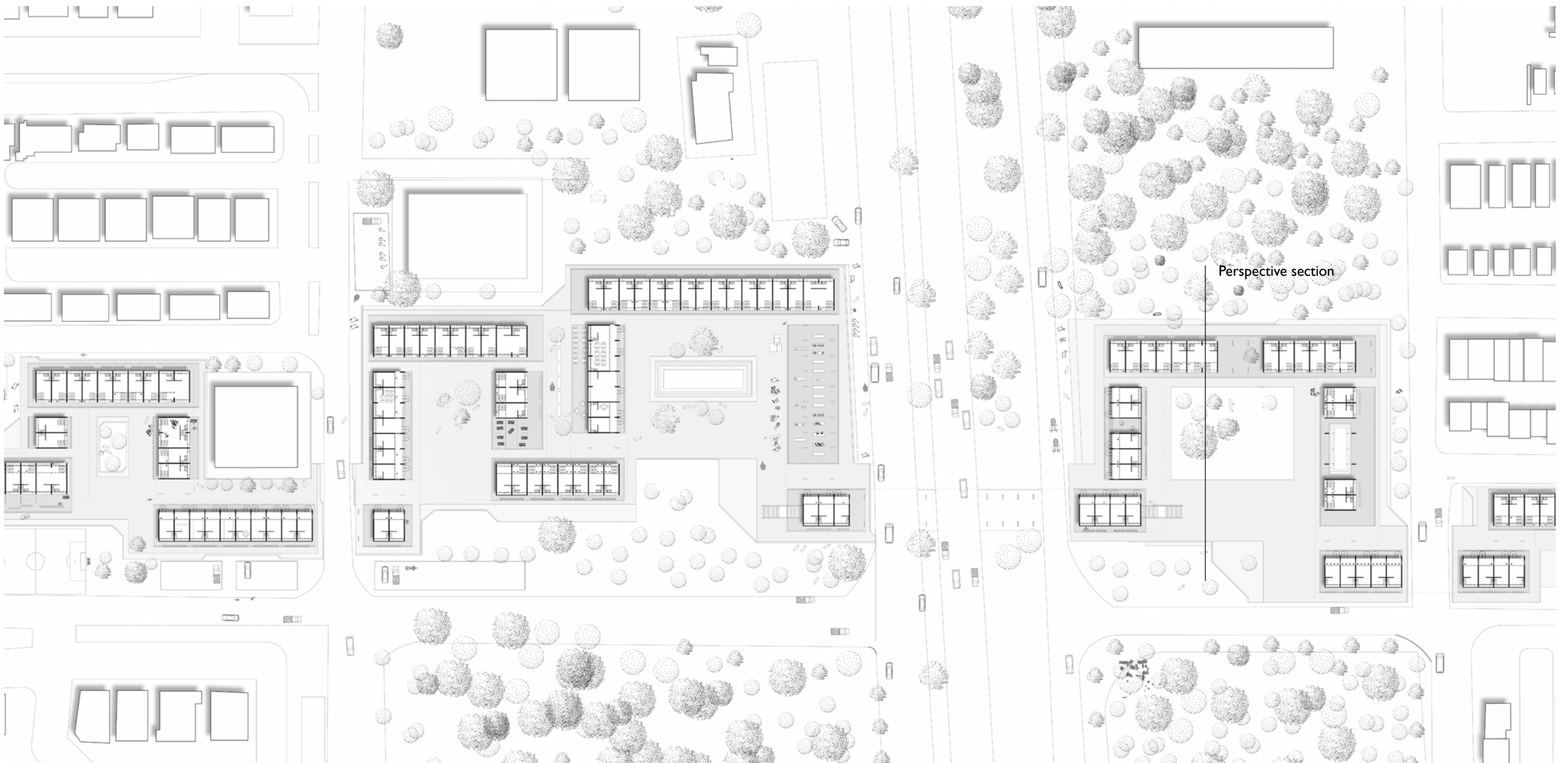


I Public pathway created by cutting out infill, all infill has a direction
II Megastructure creates a sequence of squares with public functions adjacent
III Focuspoint near the highway is the most public, into the sectors the structure becomes more private

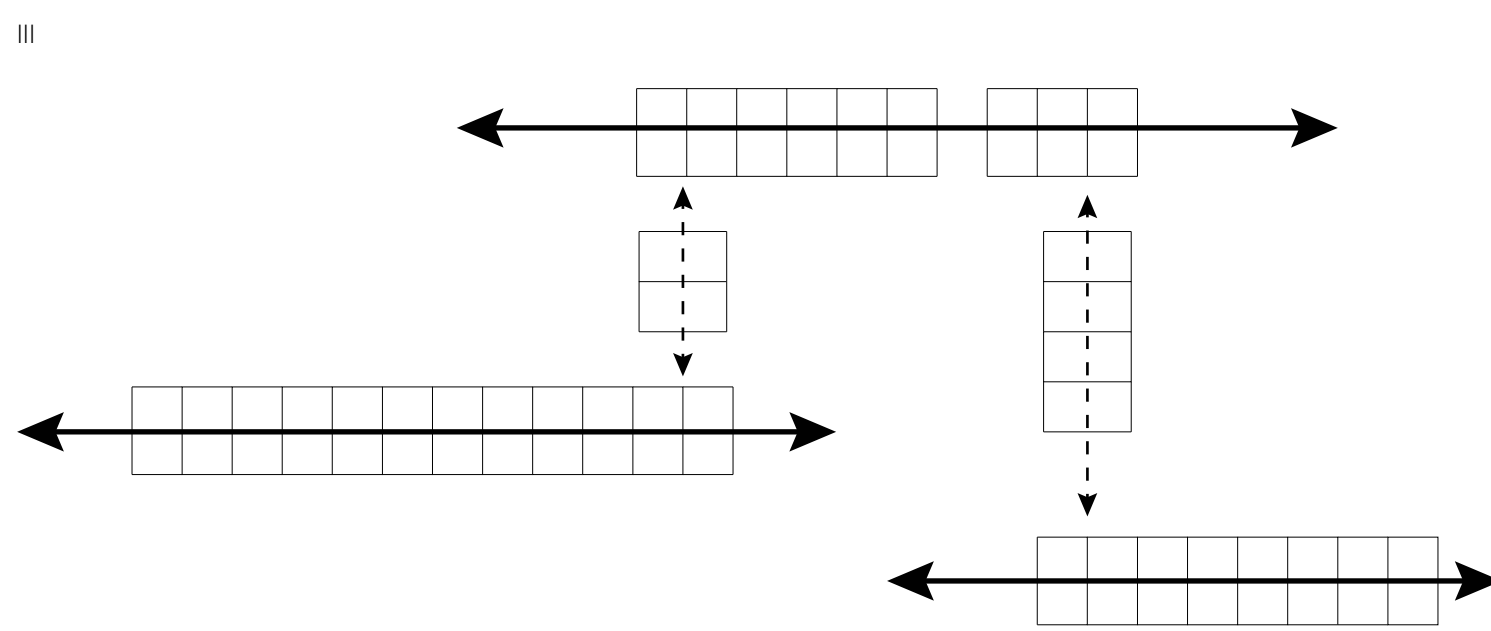
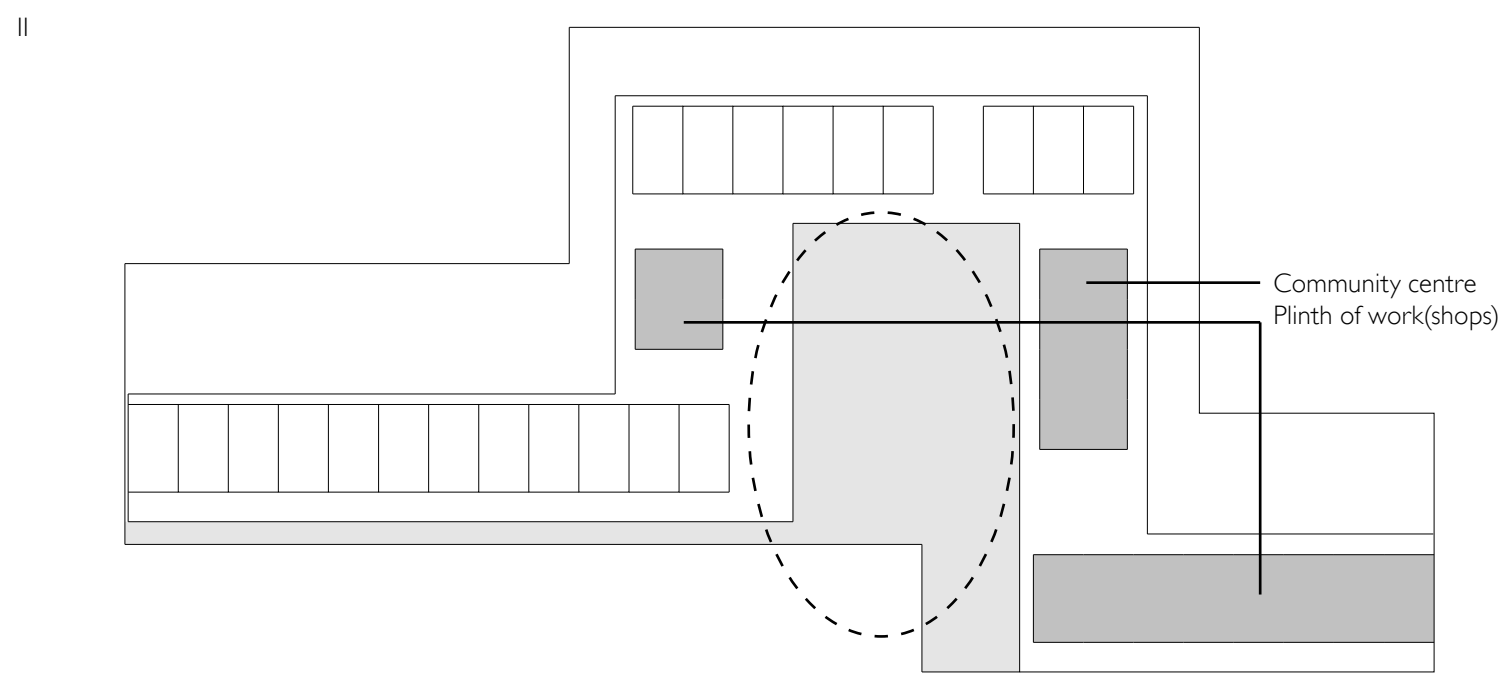
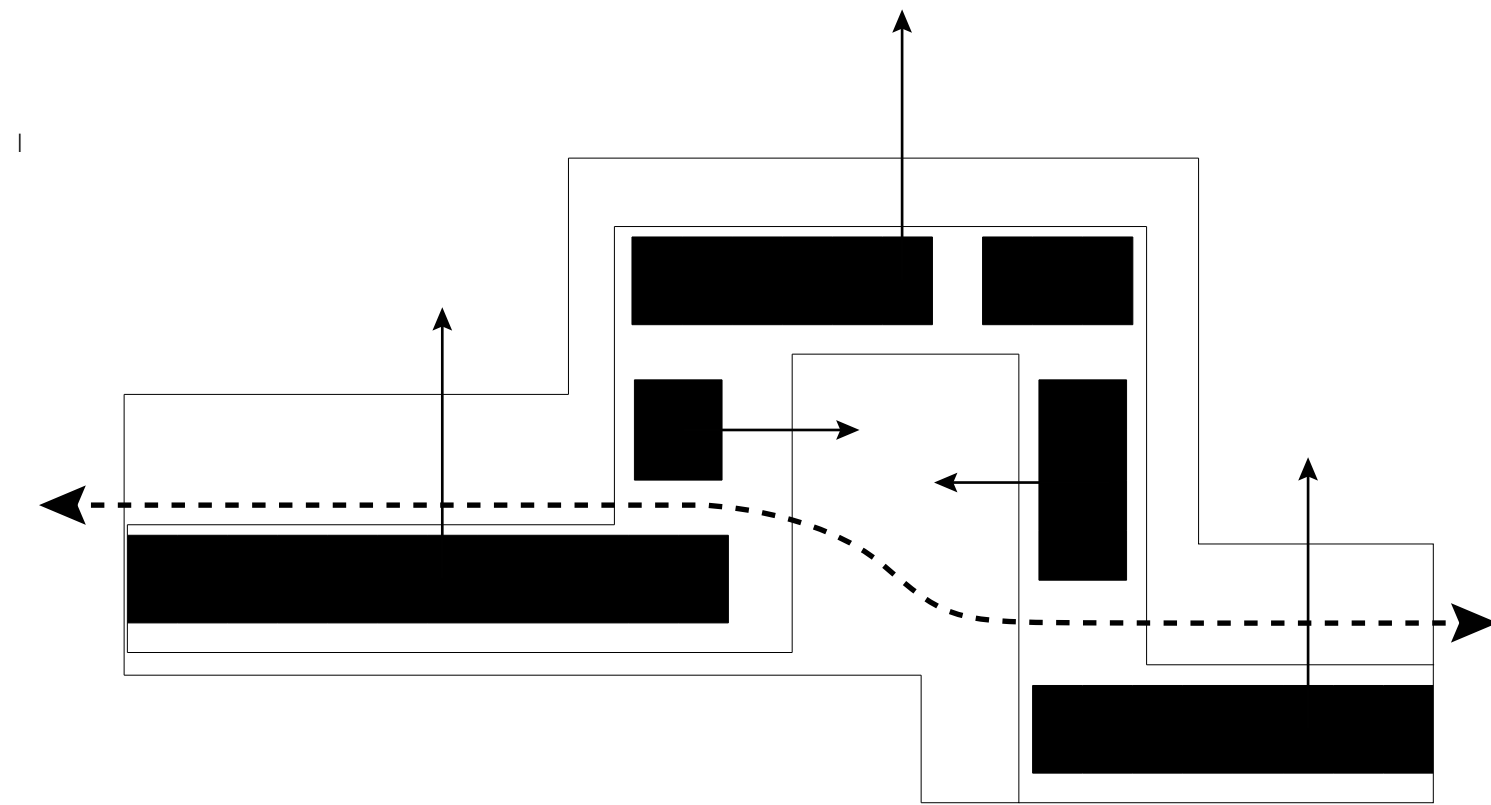
> AXONOMETRIC MEGASTRUCTURE



> PLAN MEGASTRUCTURE 1:1000

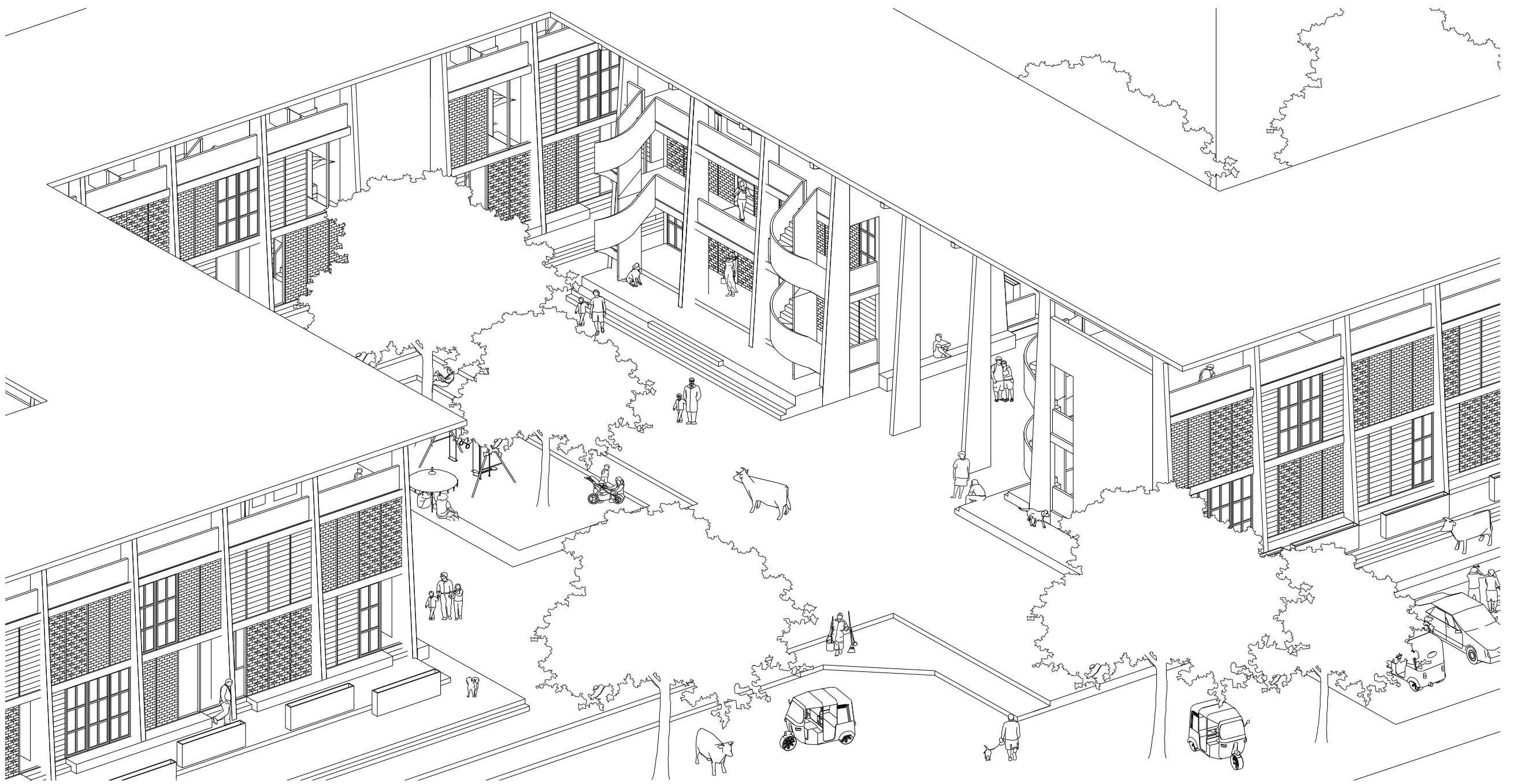


> CONCEPTS CLUSTER



I Public pathway
II Cluster is situated around a square with a plinth of work(shops) and a community centre
III Southwest - Northeast direction is dominant

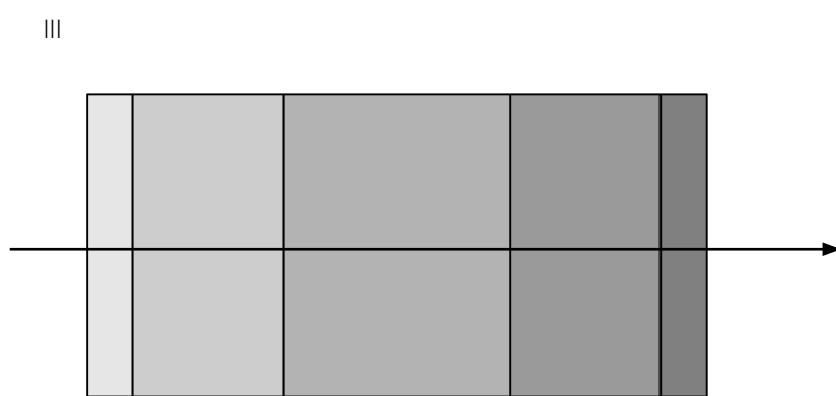
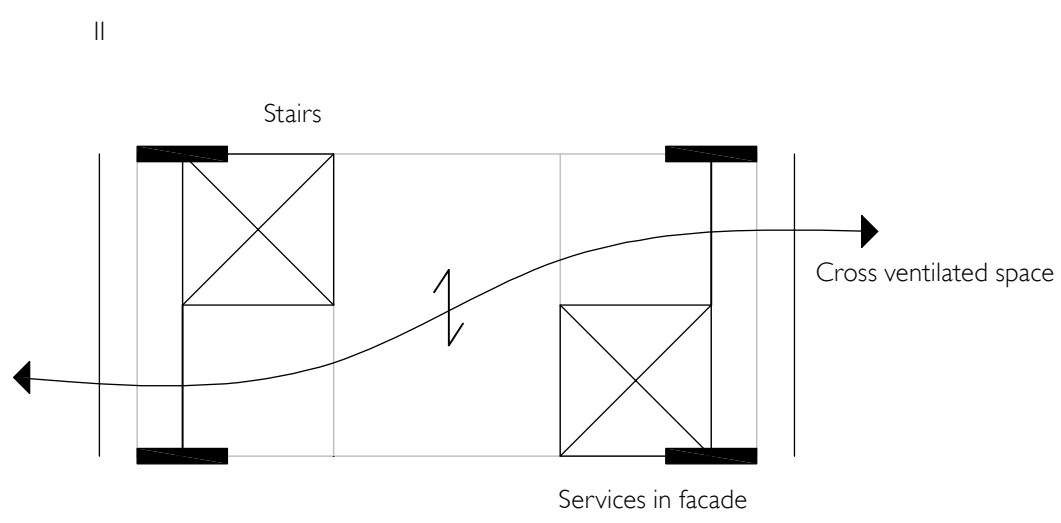
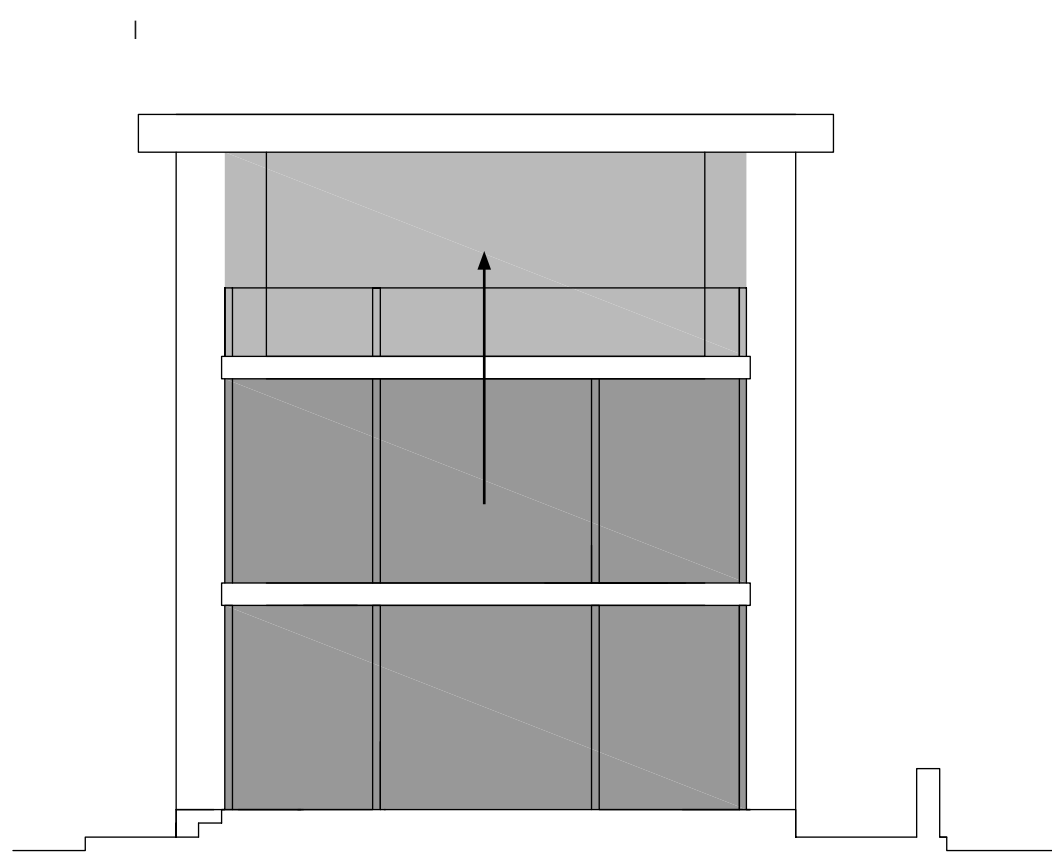
> AXONOMETRIC CLUSTER



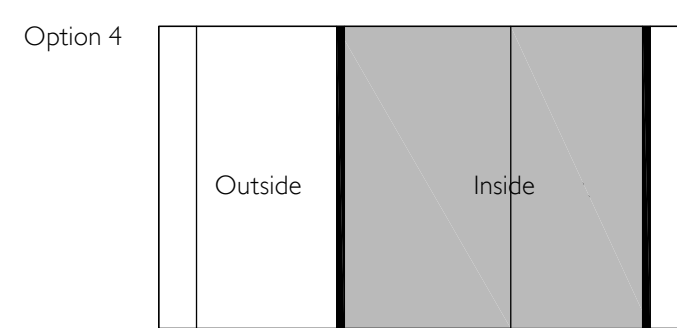
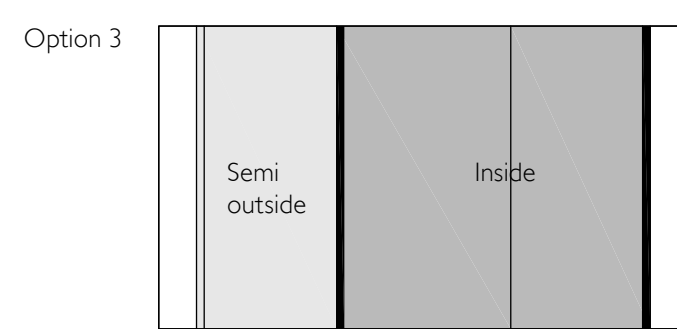
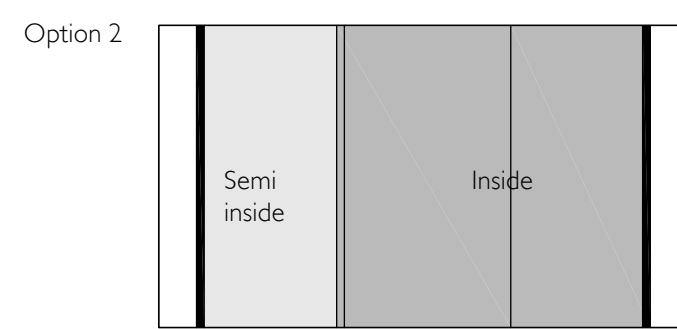
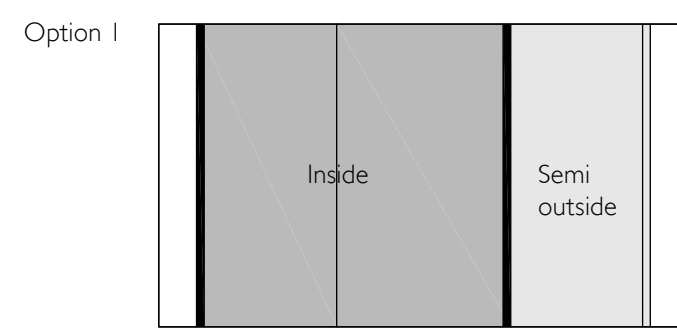
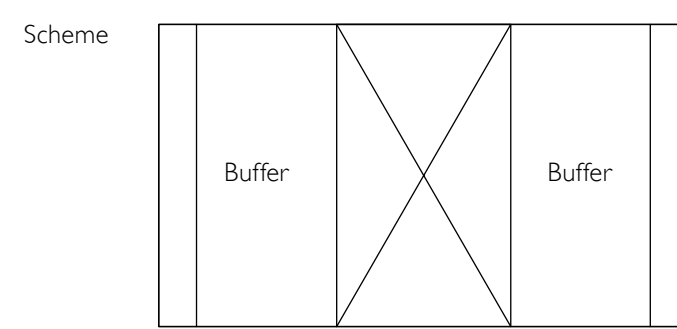
> PLAN CLUSTER 1:200



> CONCEPTS DWELLING UNITS

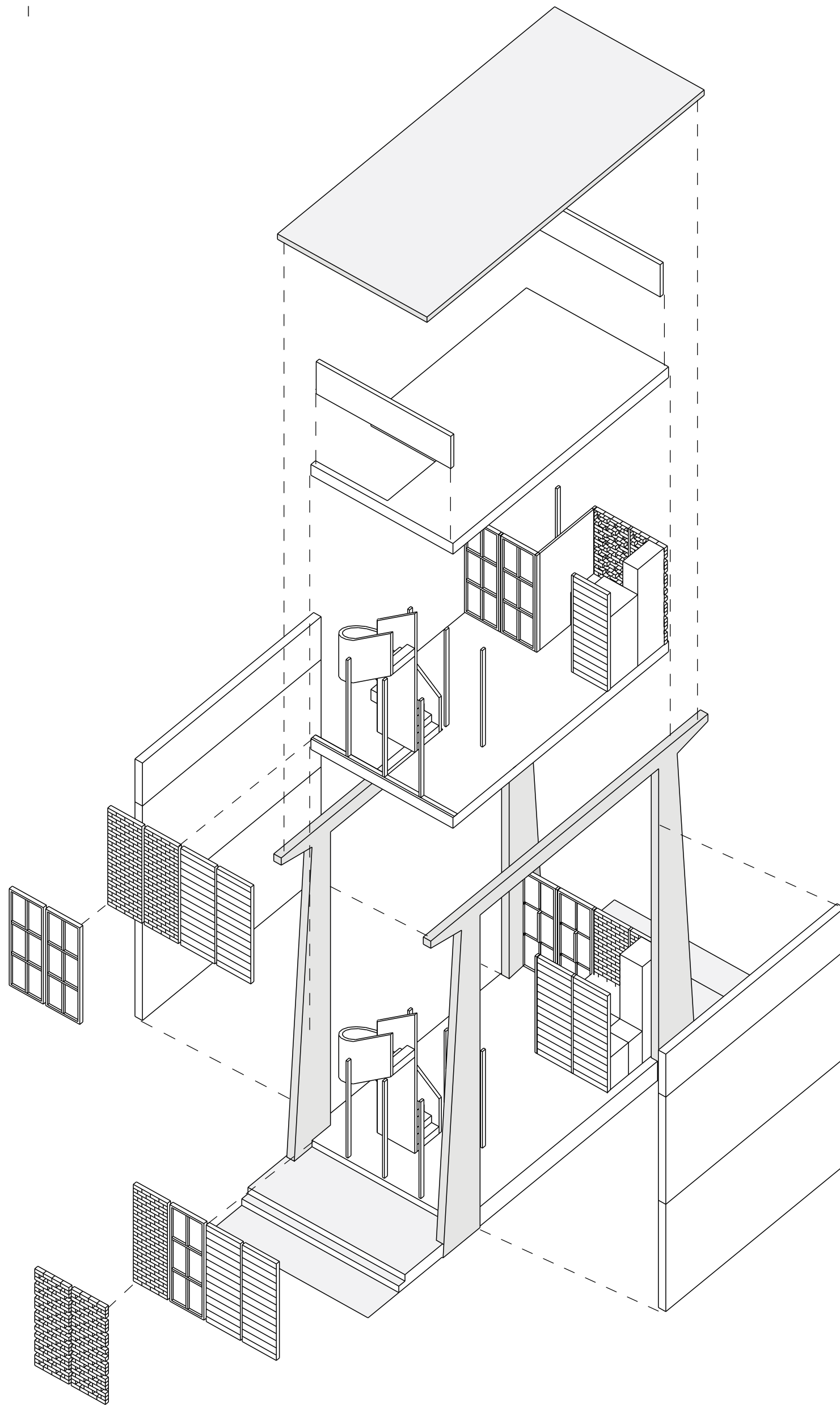


IV



I Growth over time
II Construction and climate concept
III Transition from public to private
IV Zoning & flexible facade

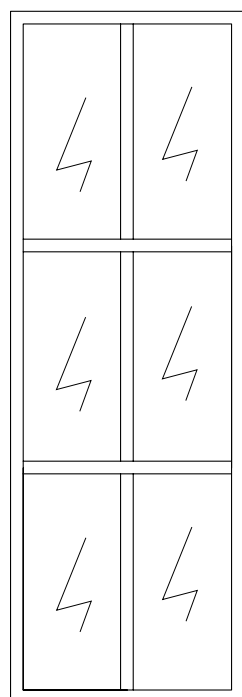
> STRUCTURE & FACADE TYPES



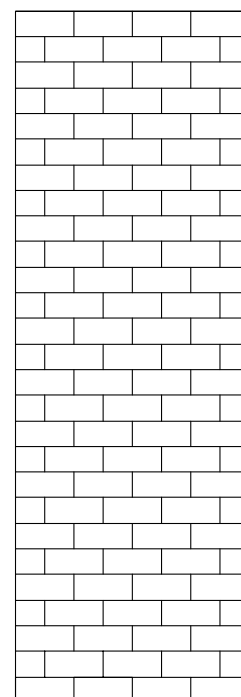
II



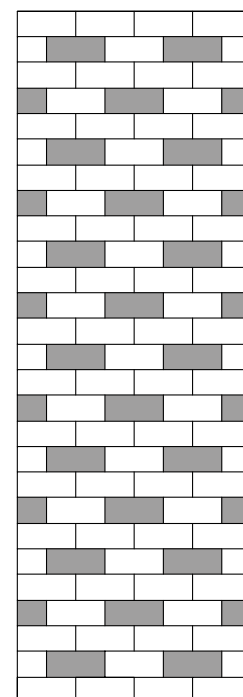
Wooden doors



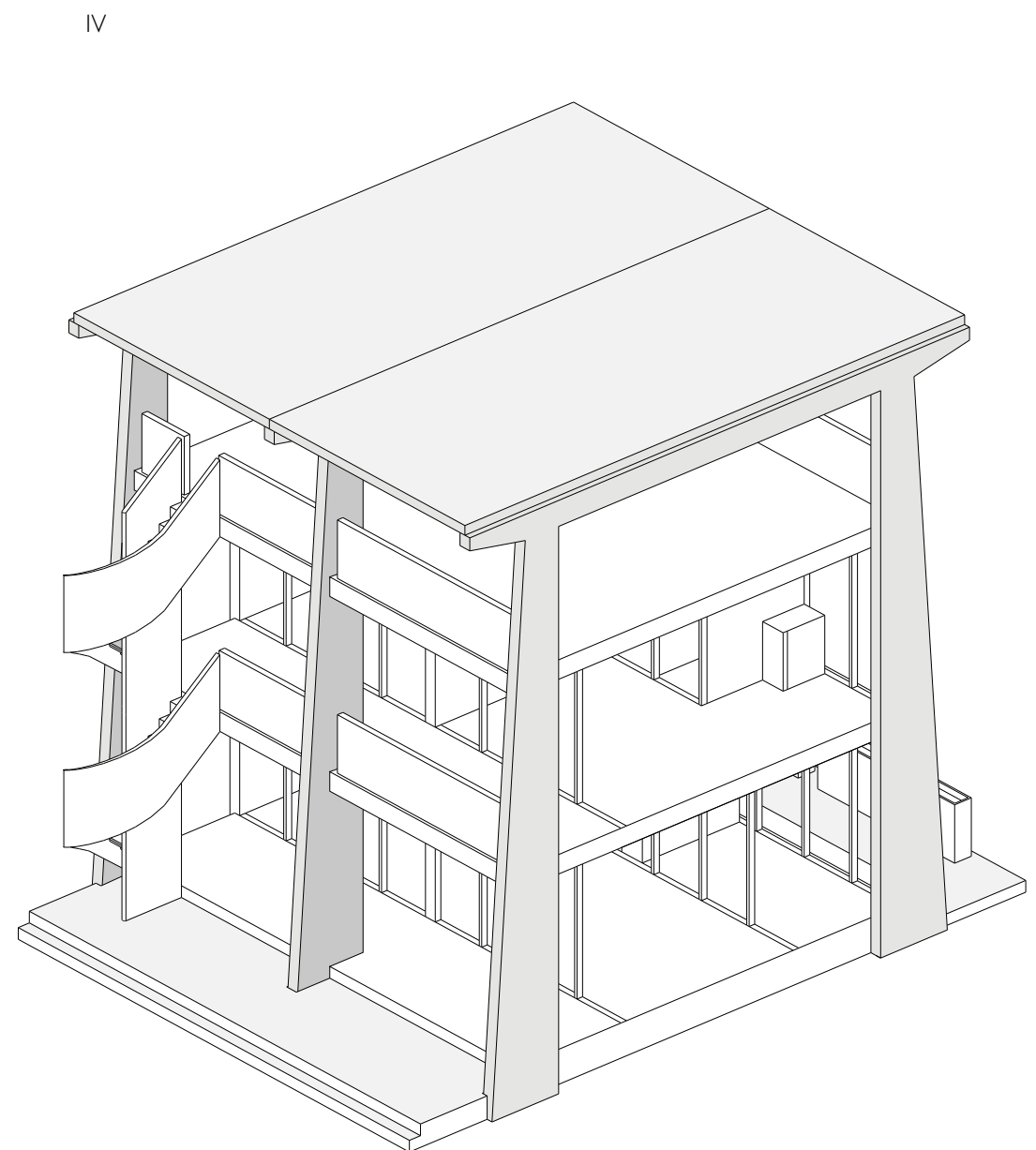
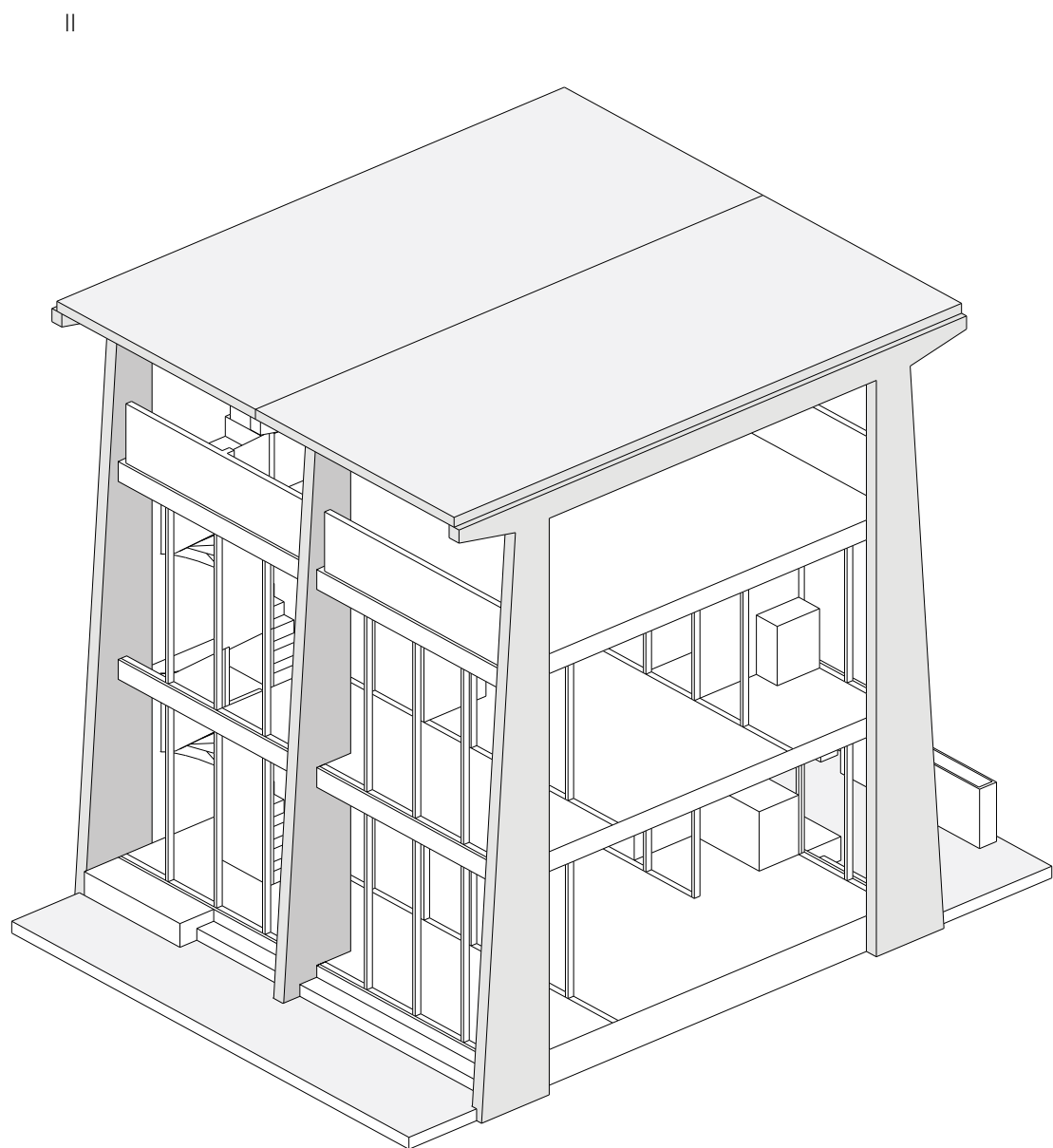
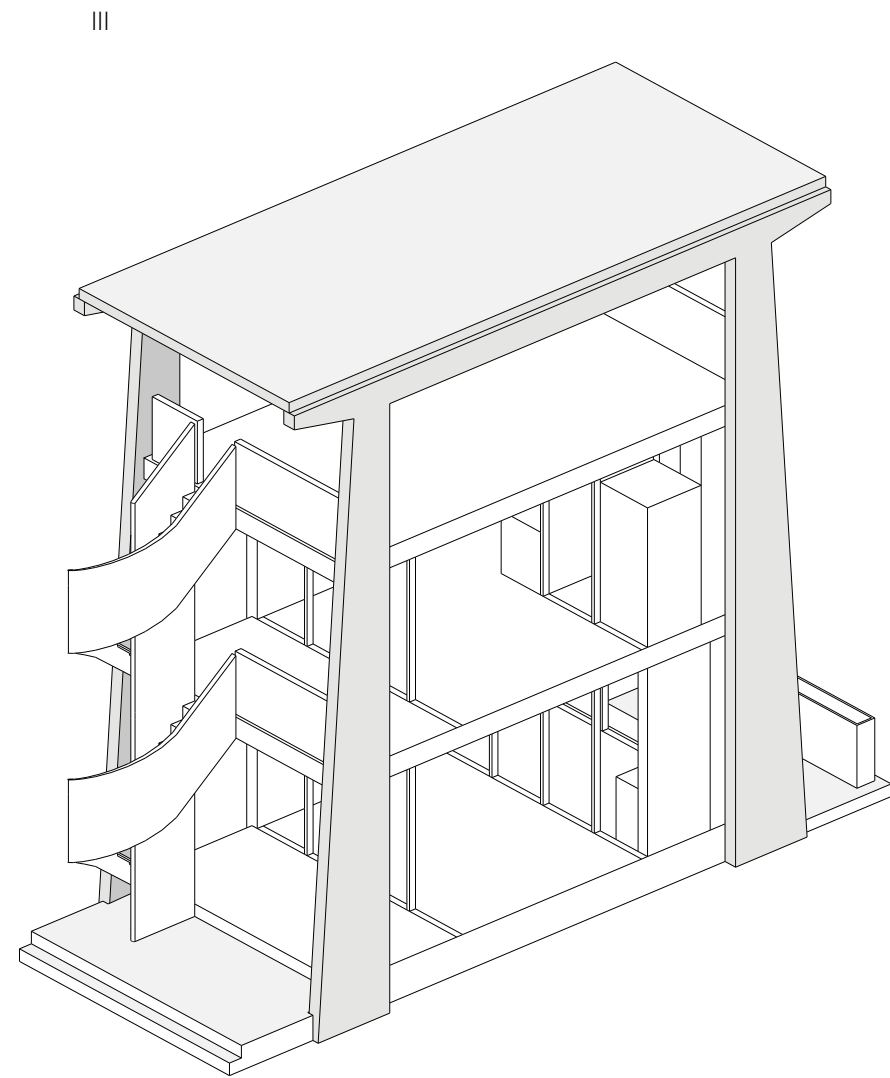
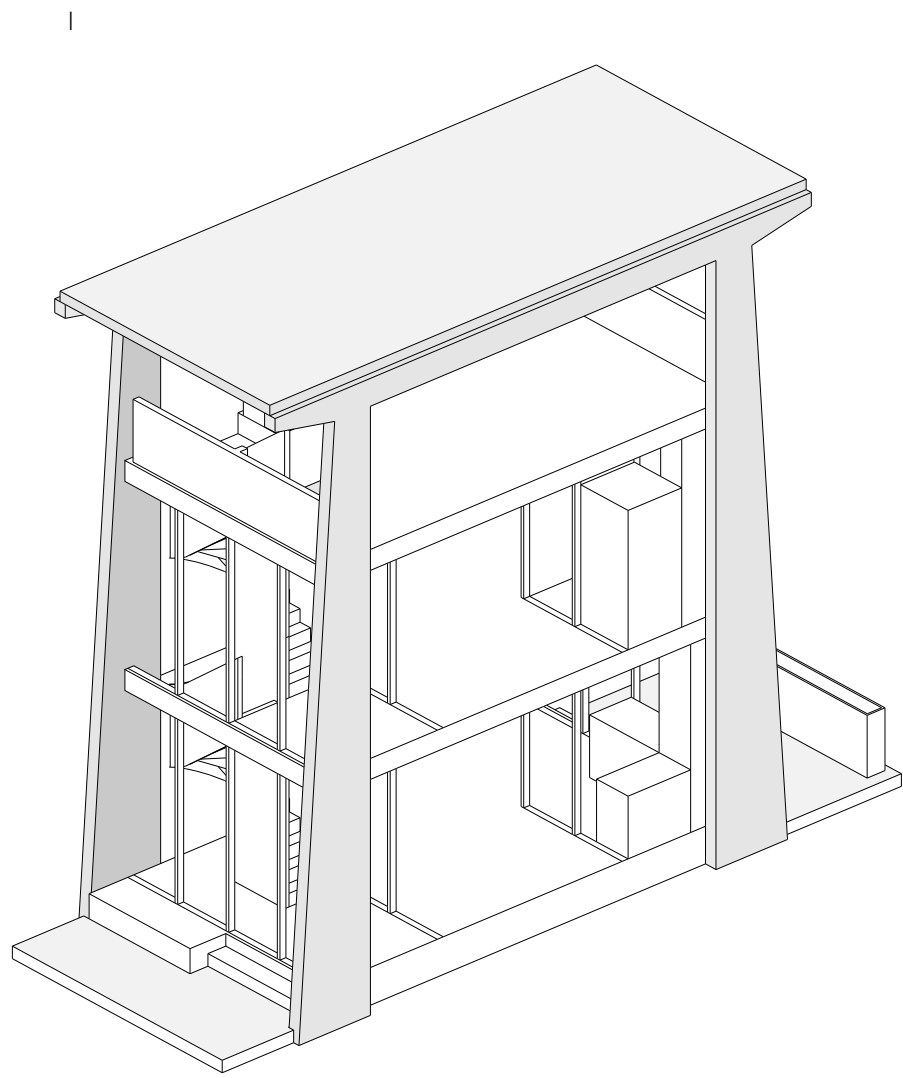
Wooden windows



Brickwork: closed or perforated

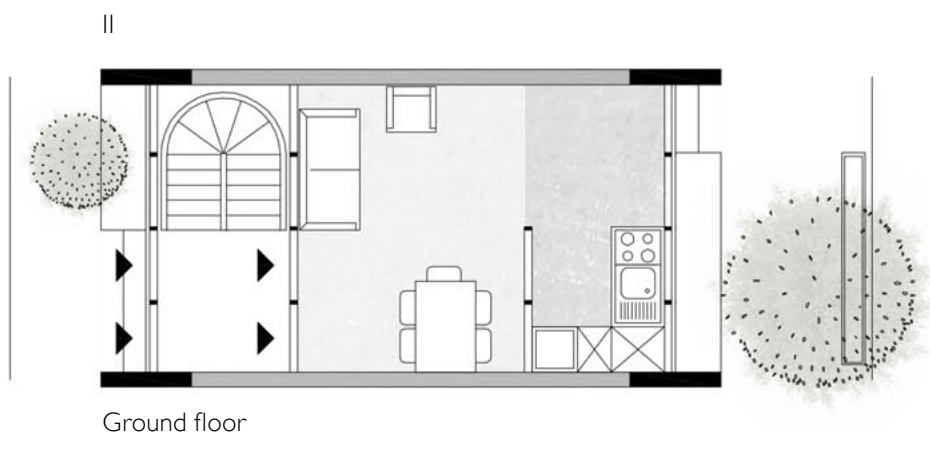
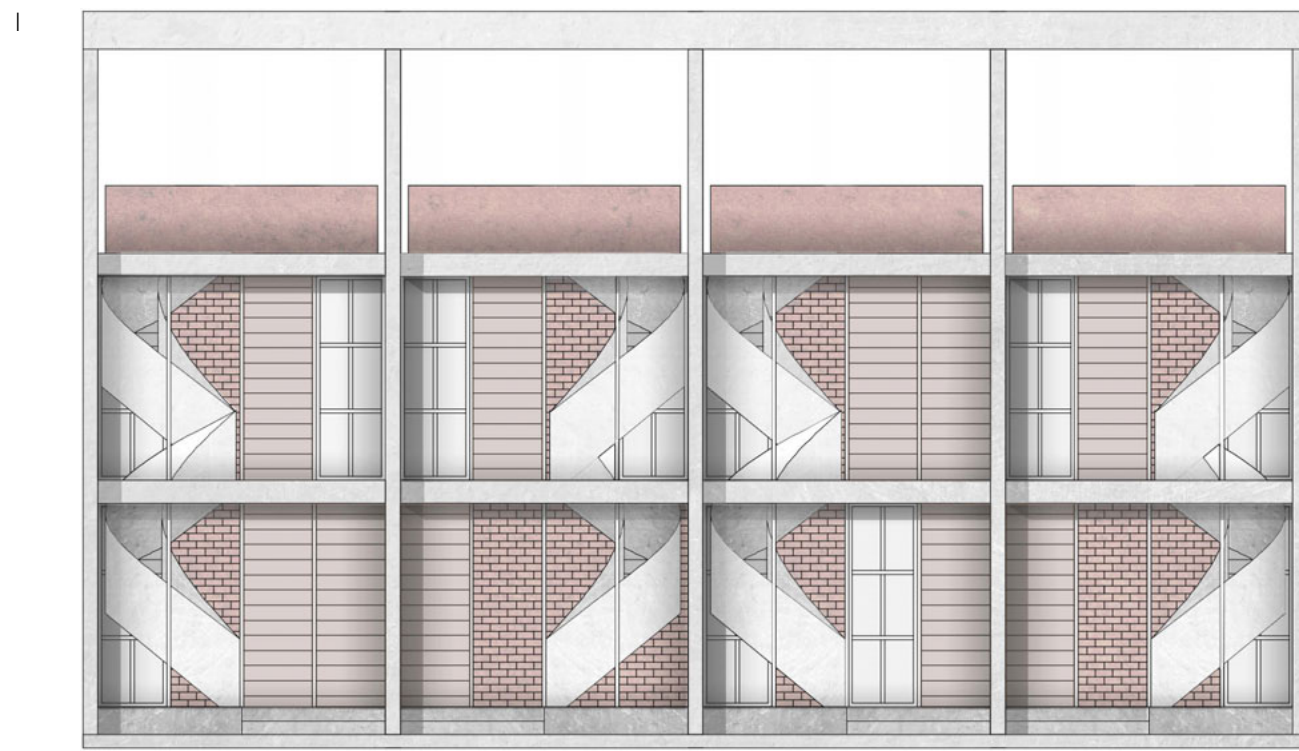


> AXONOMETRICS DWELLING UNITS

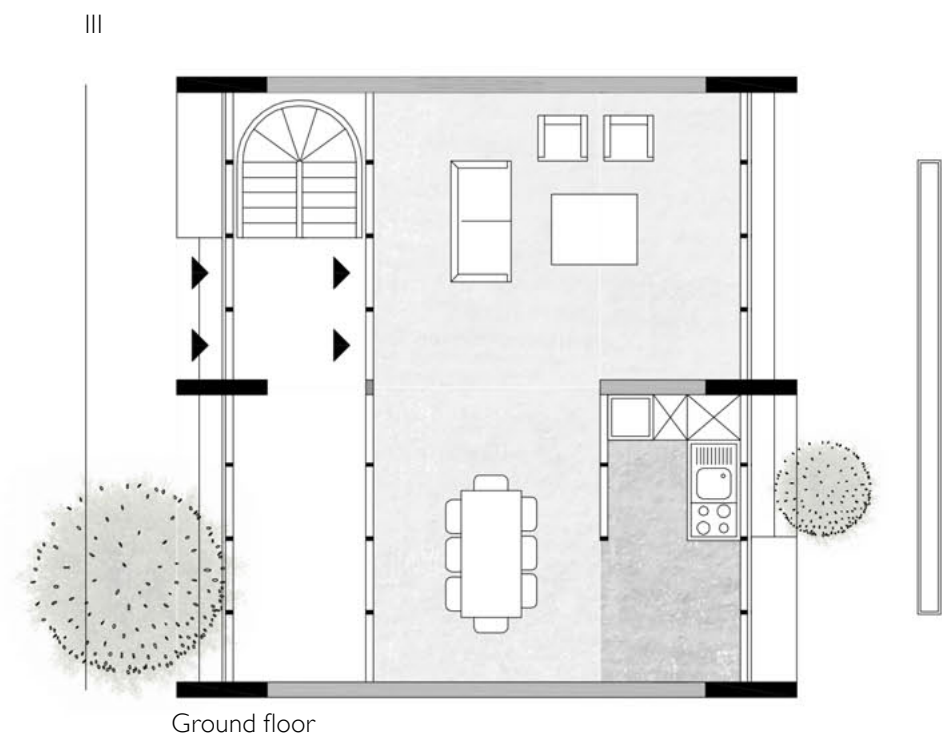


I Basic typology
II Basic typology double
III Gallery typology
IV Gallery typology double

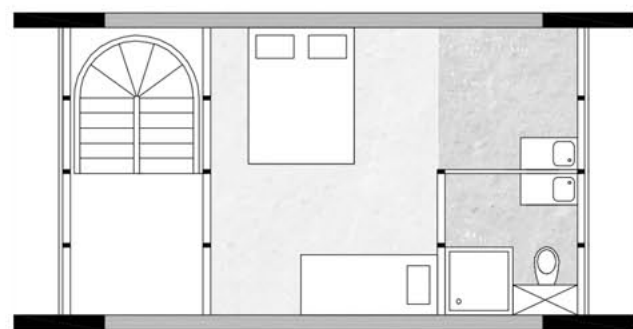
> PIANI AND FACADE DWELLING UNITS



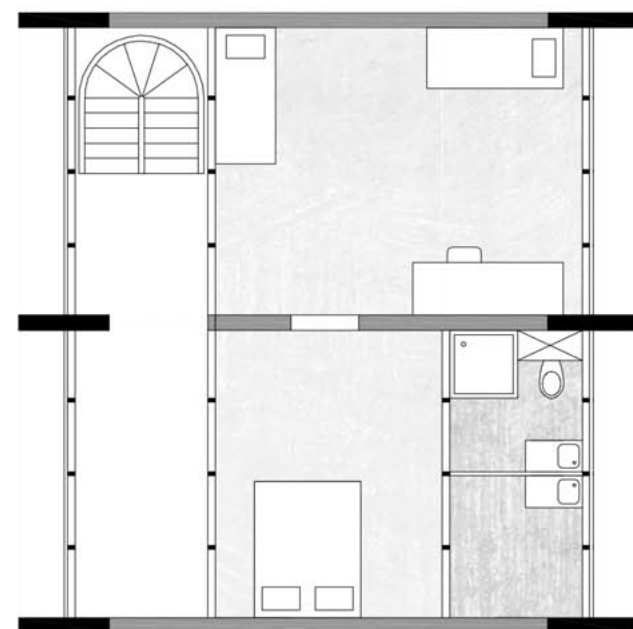
Ground floor



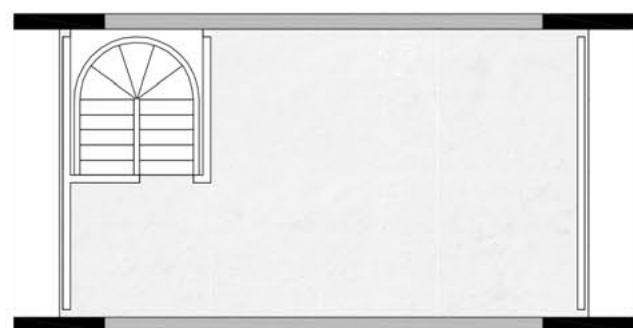
Ground floor



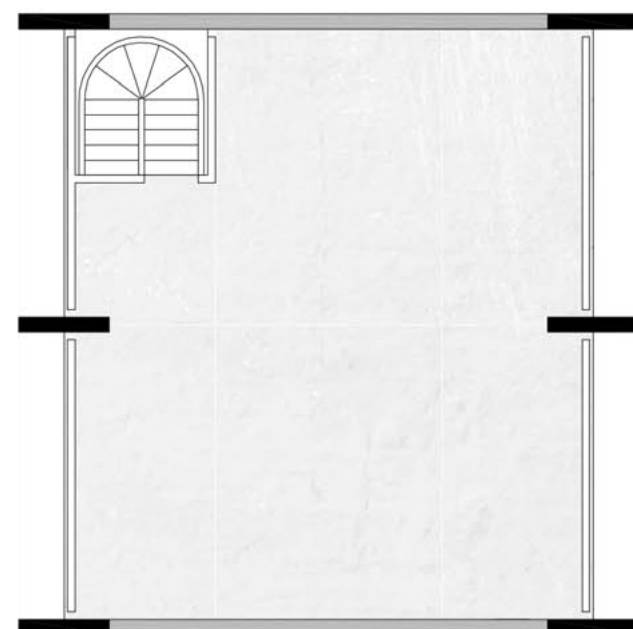
1st floor



1st floor



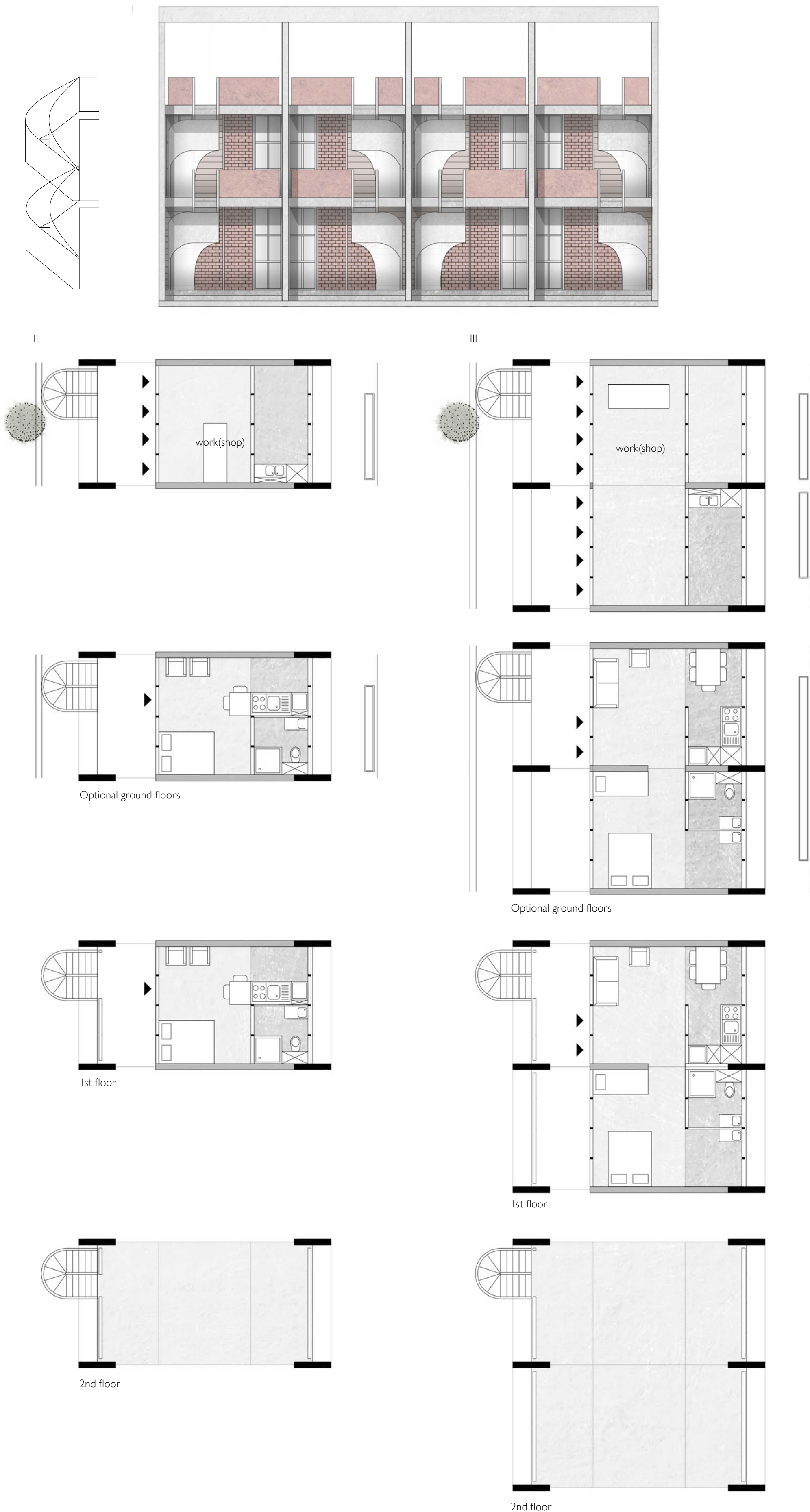
2nd floor



2nd floor

I Front facade 1:100
II Plans basic unit 1:100
III Plans basic unit double 1:100

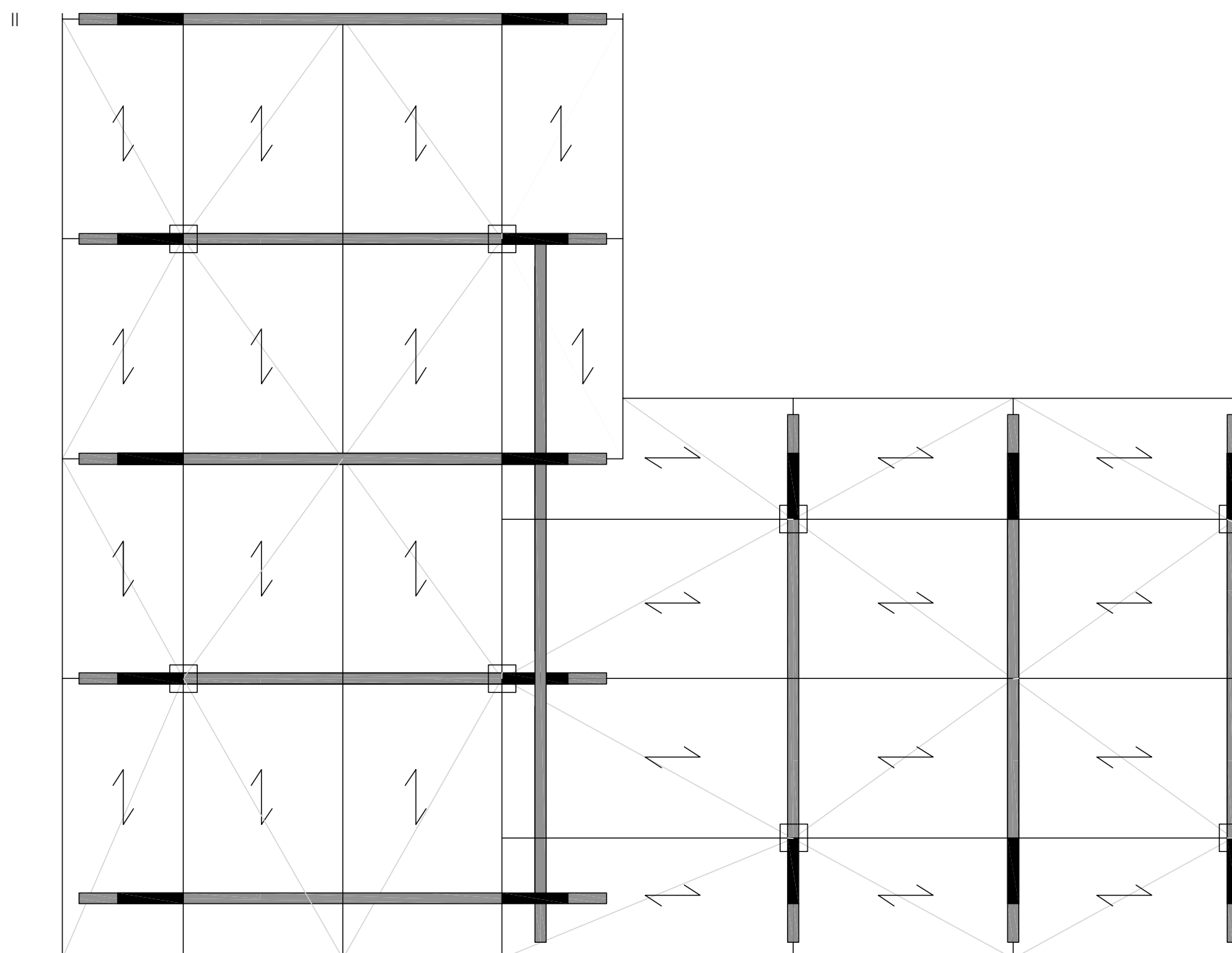
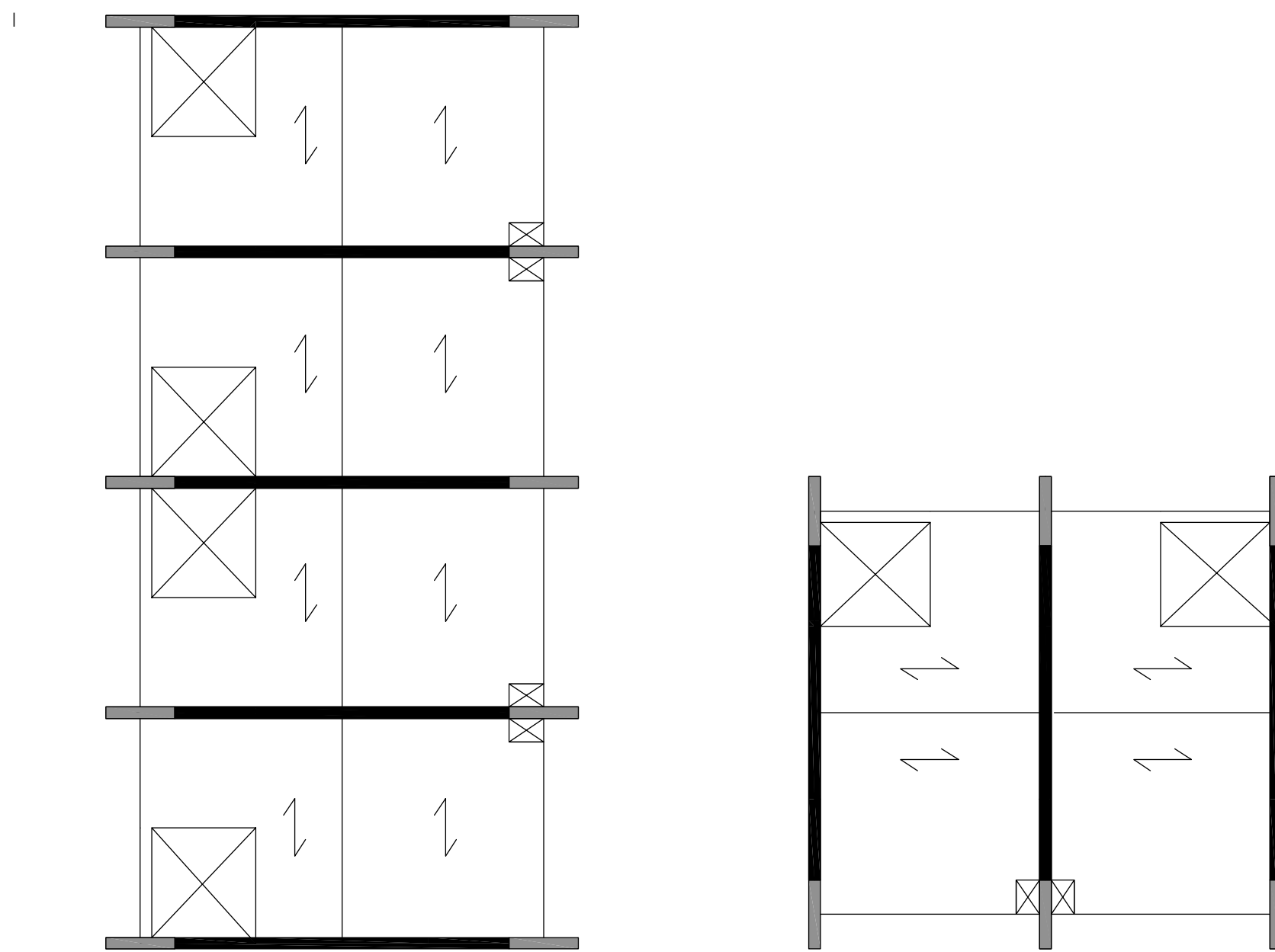
> PLANS AND FACADE DWELLING UNITS



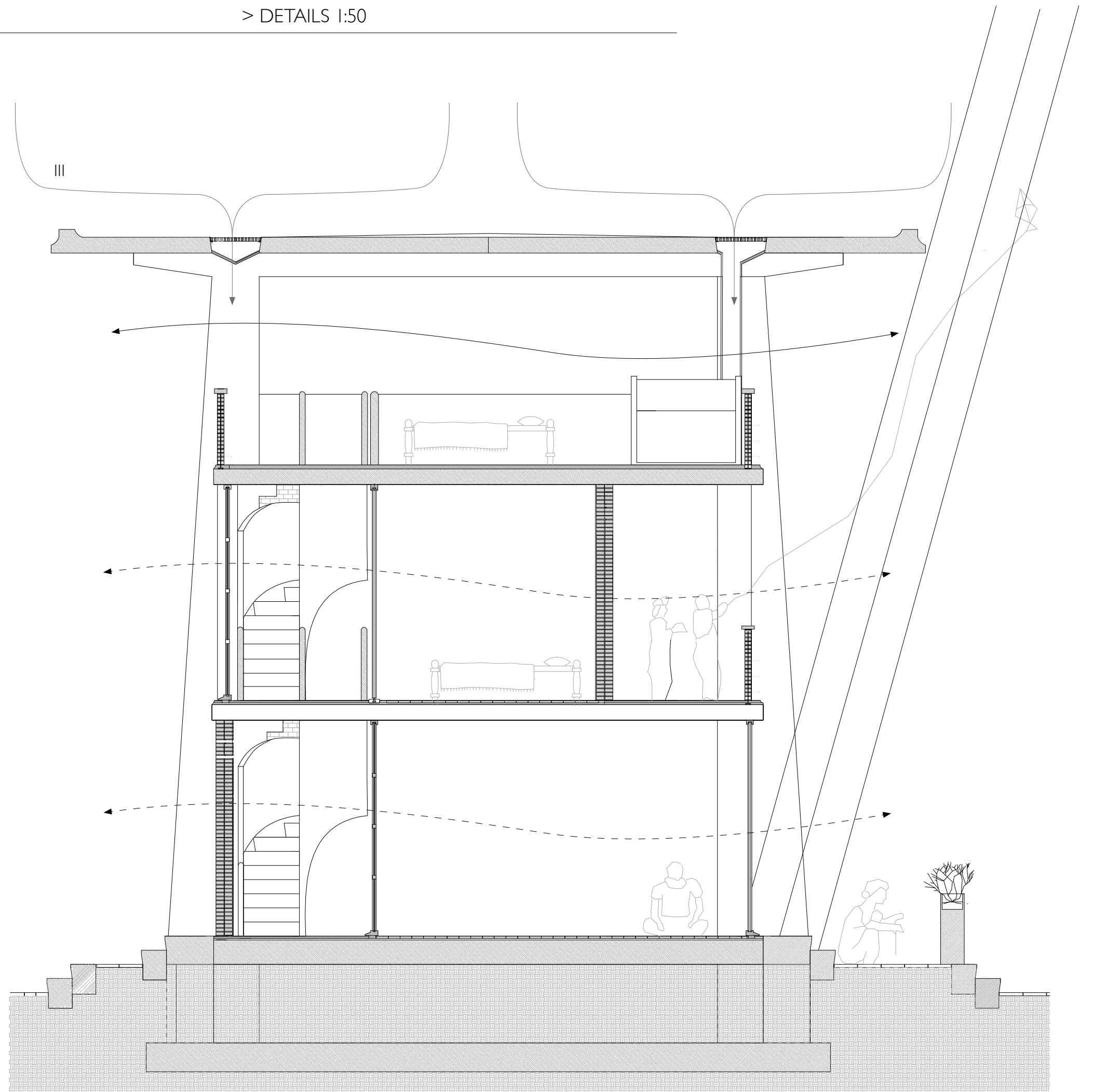
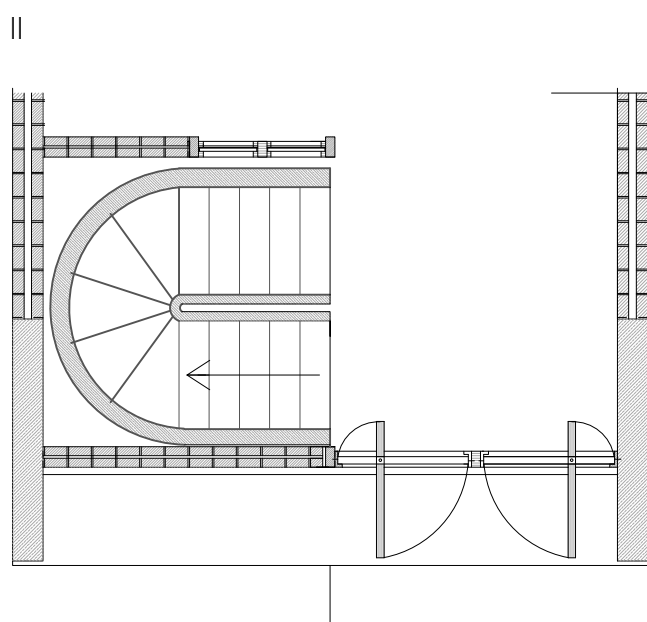
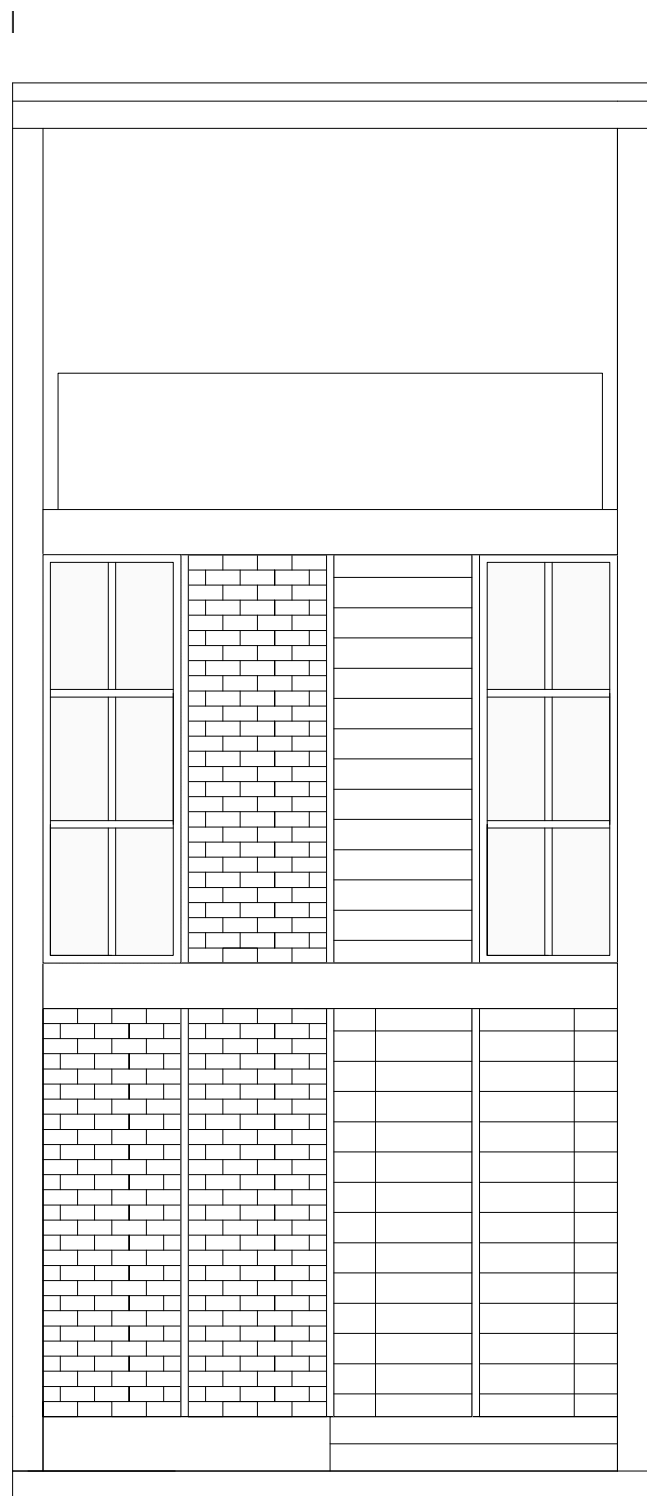
> PERSPECTIVE SECTION



> CONSTRUCTION PLANS

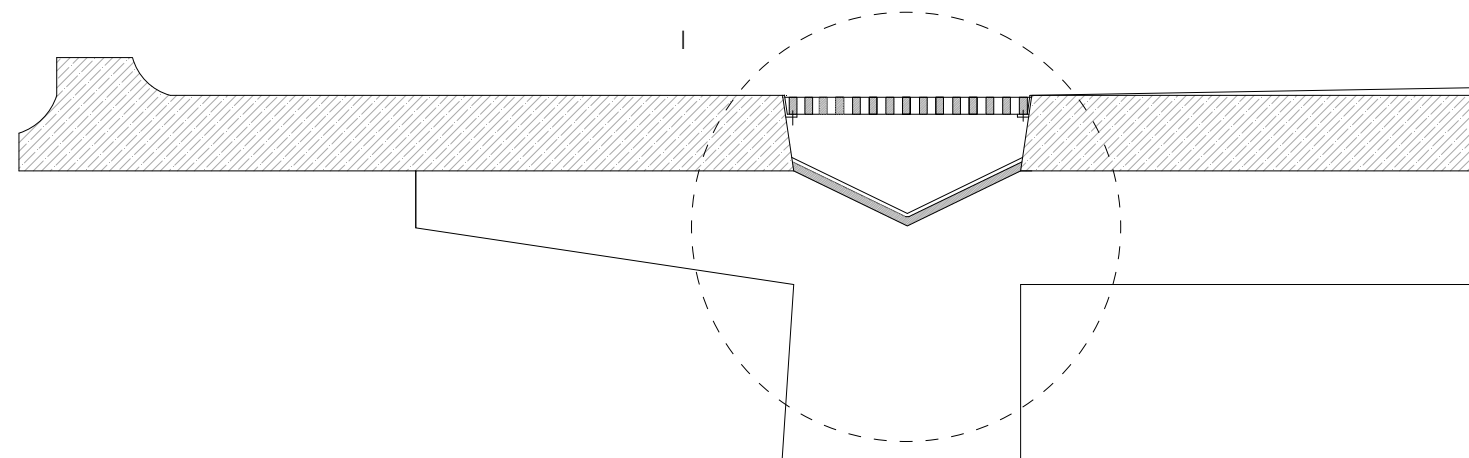


> DETAILS 1:50

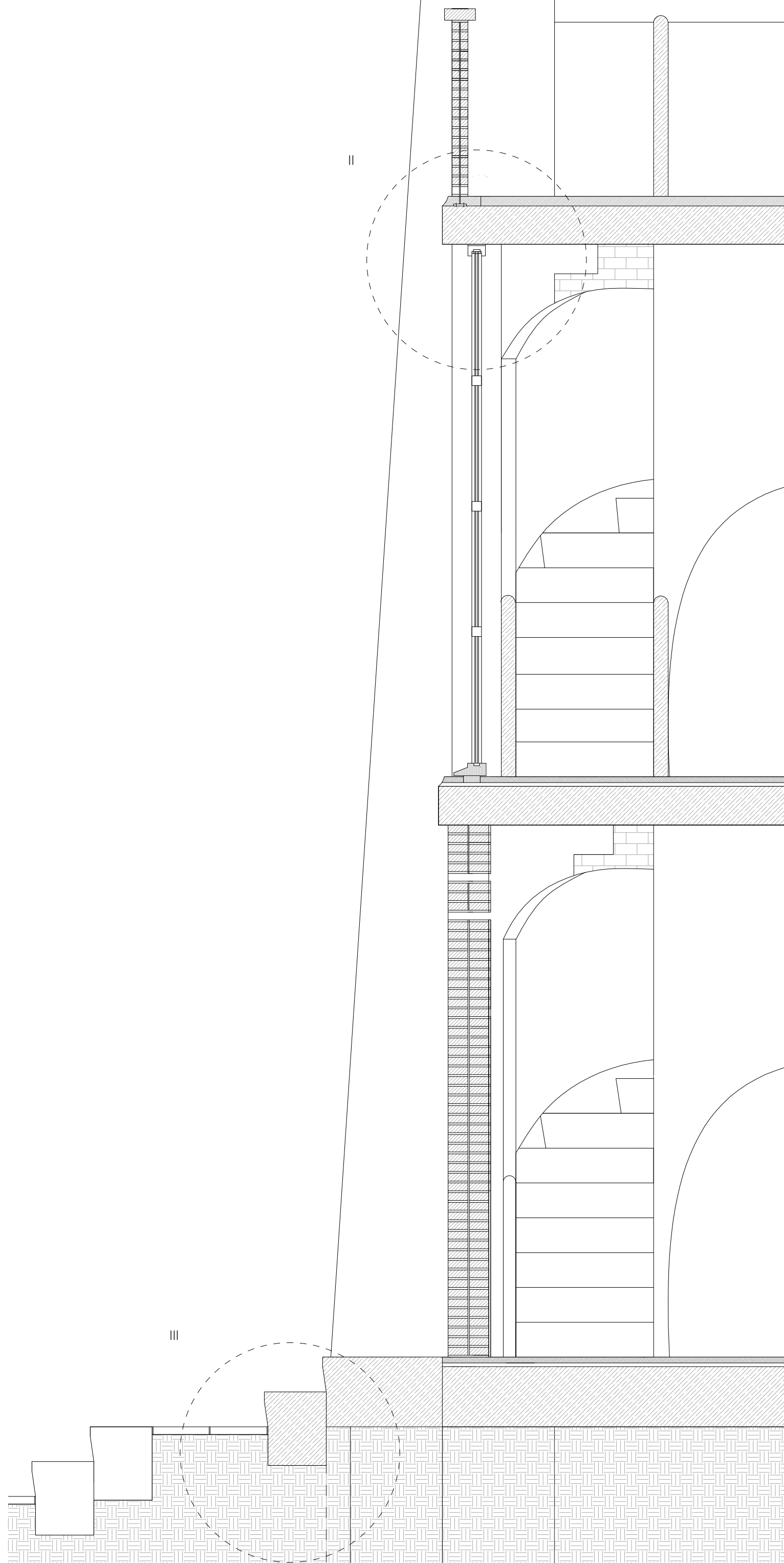


I Front facade
II Horizontal section
III Vertical section

> SECTION I PROJECT

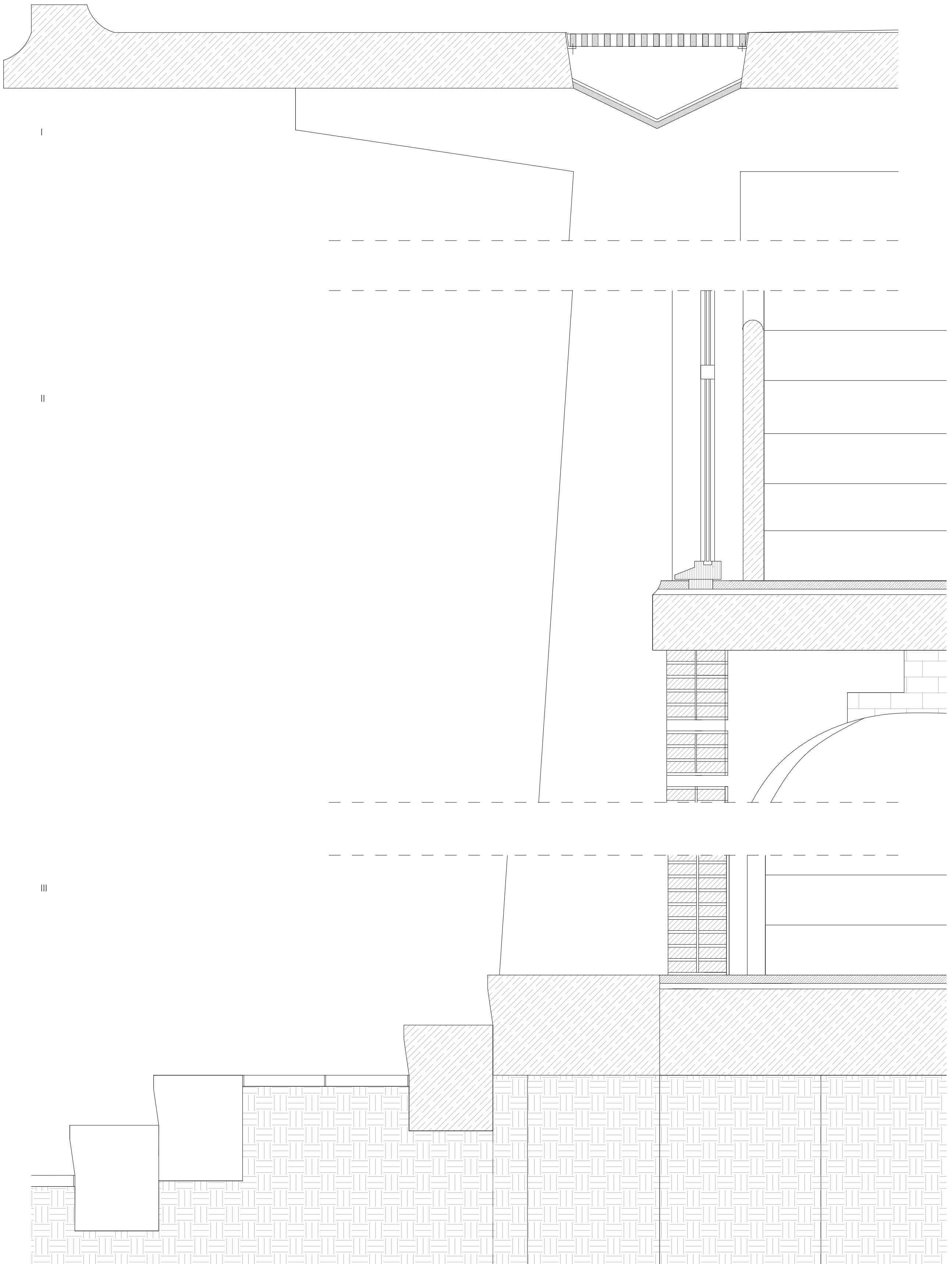


> DETAIL 1:20



I Roof detail
II Floor detail
III Platform detail

> DETAILS 1:5



> IMPRESSIONS



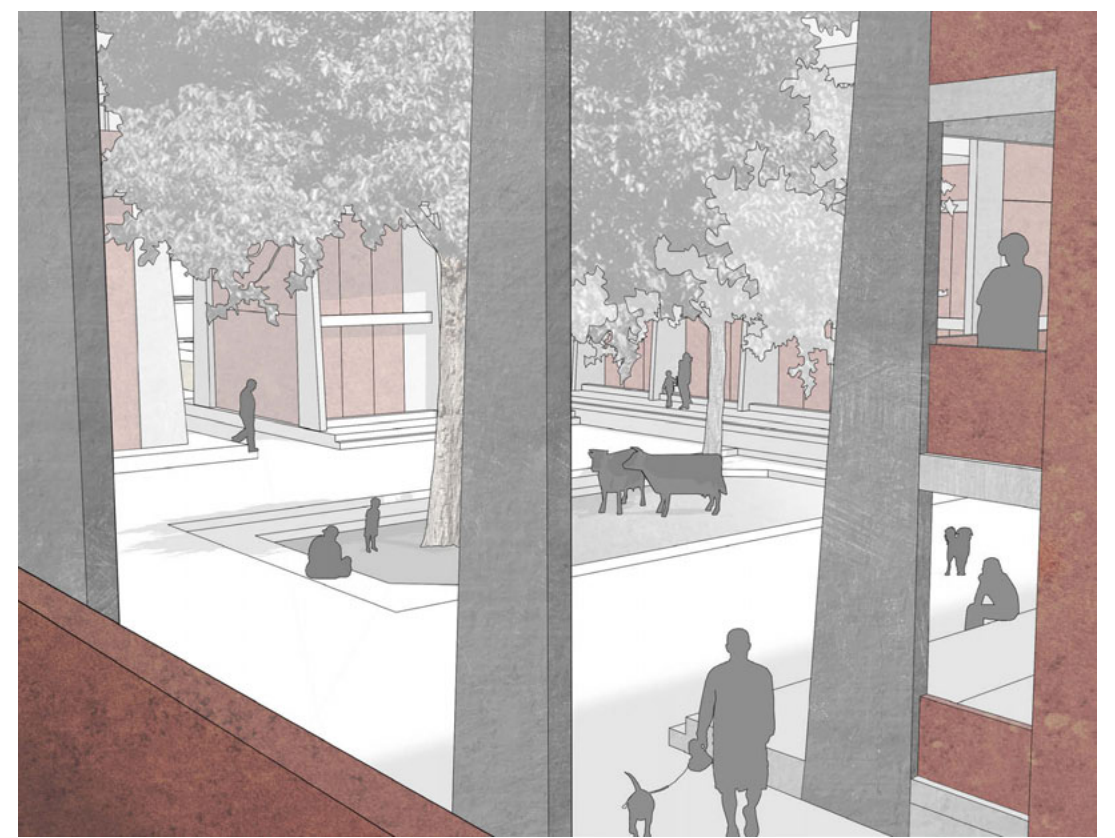
I



II



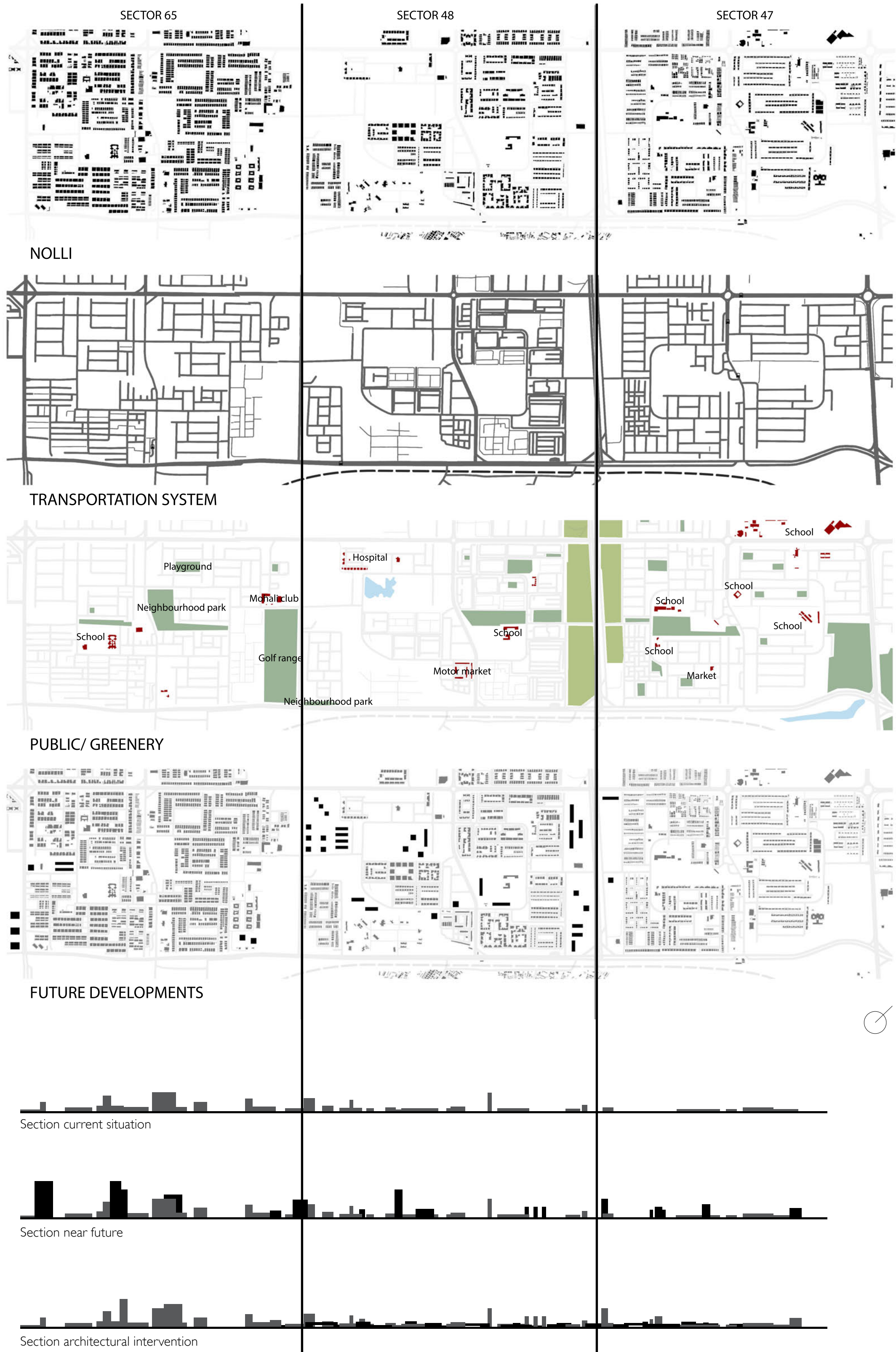
III



IV

I Crossing the v4
II Sequence of squares
III The bridge crossing highway 21
IV A cluster seen from the gallery
on the 1st floor

> PROCESS



> PROCESS



II



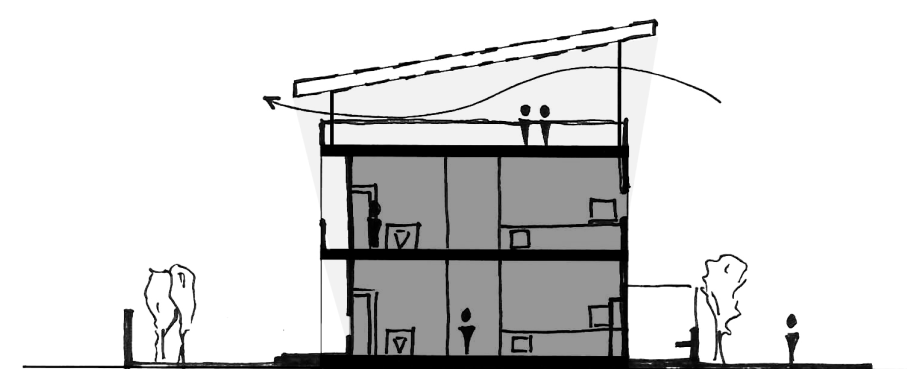
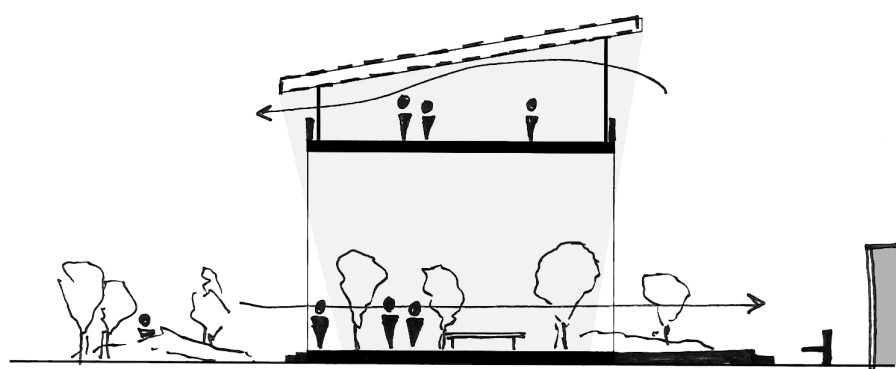
I Location analysis
II First design hypothesis

> PROCESS



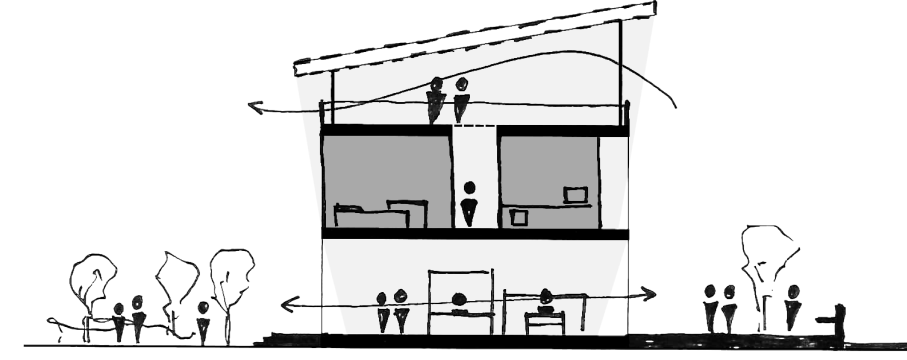
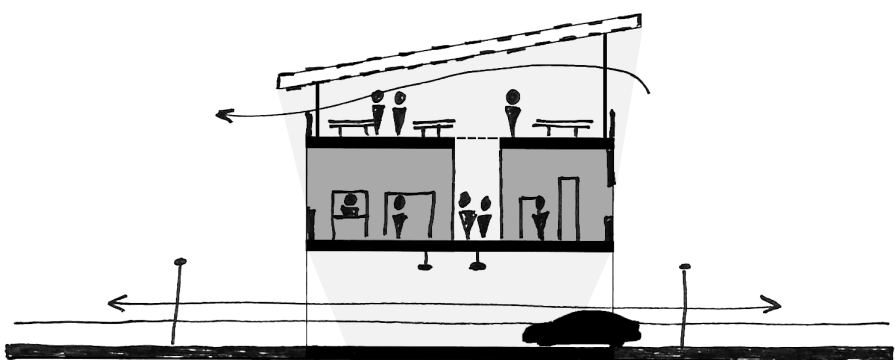
SECTION I GREEN

SECTION II HOUSING

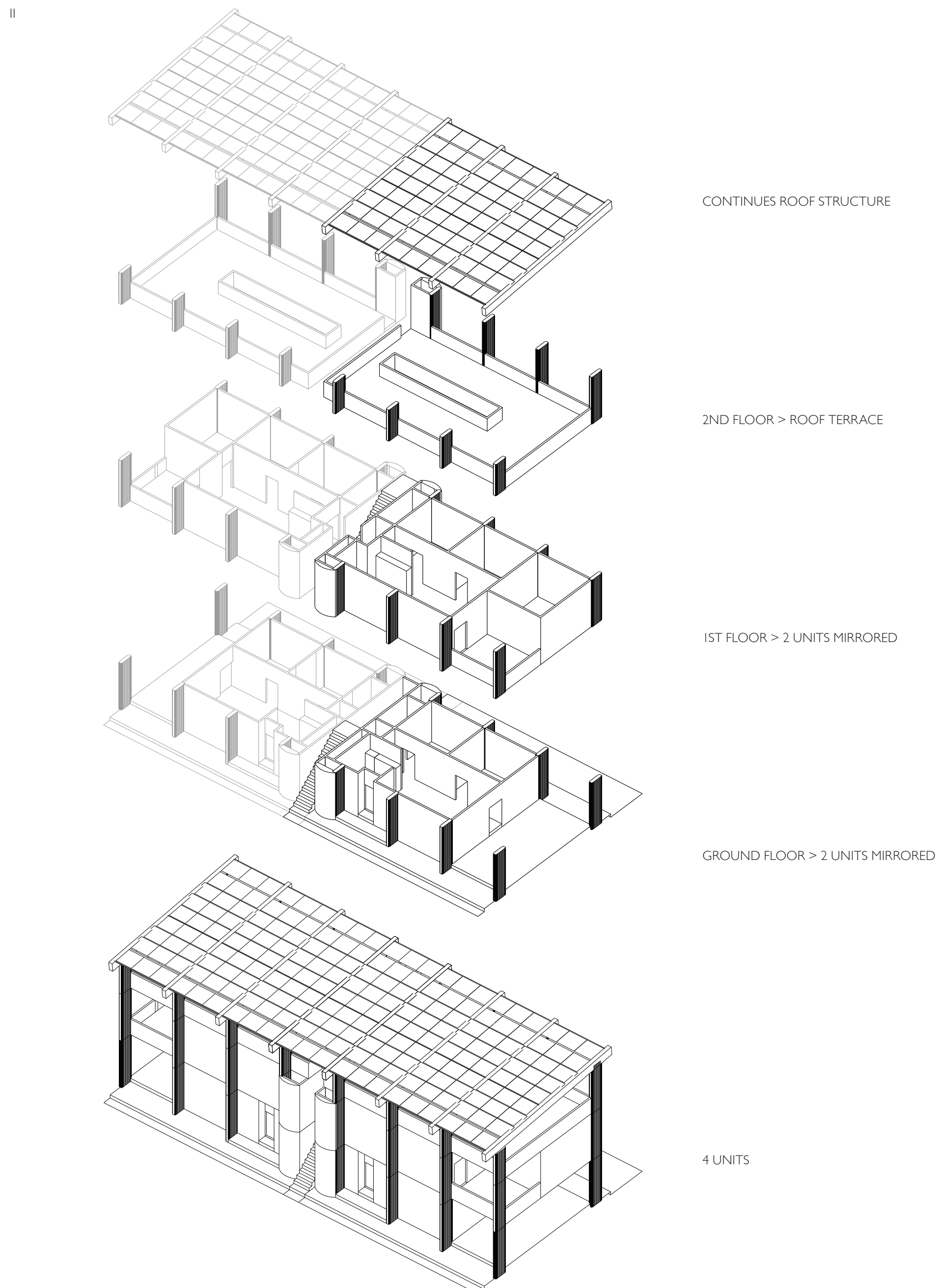
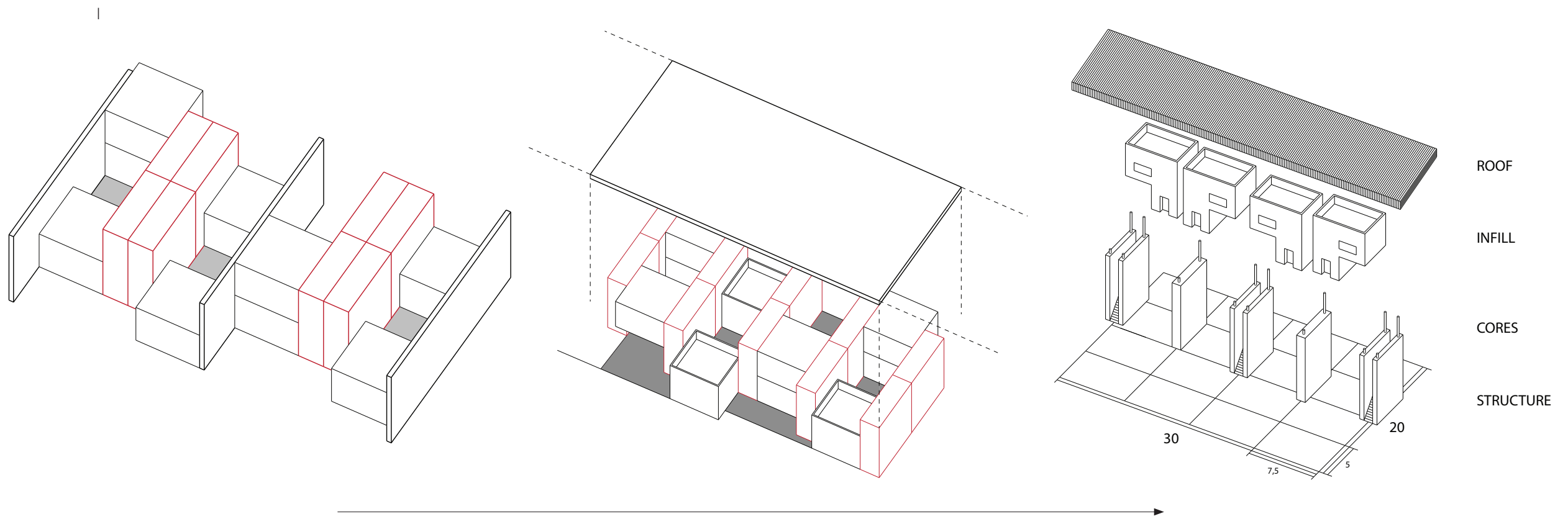


SECTION III ROAD

SECTION IV PUBLIC PLINTH



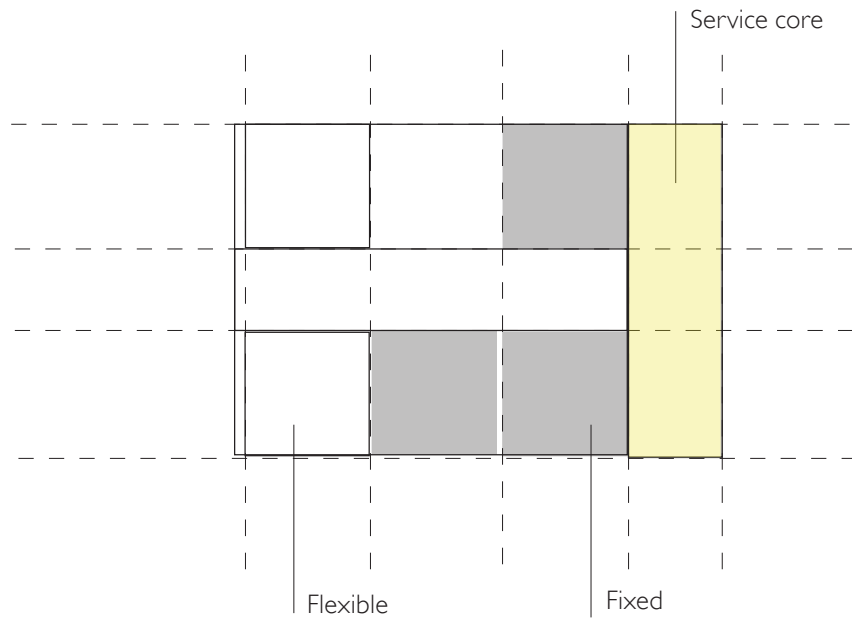
> PROCESS



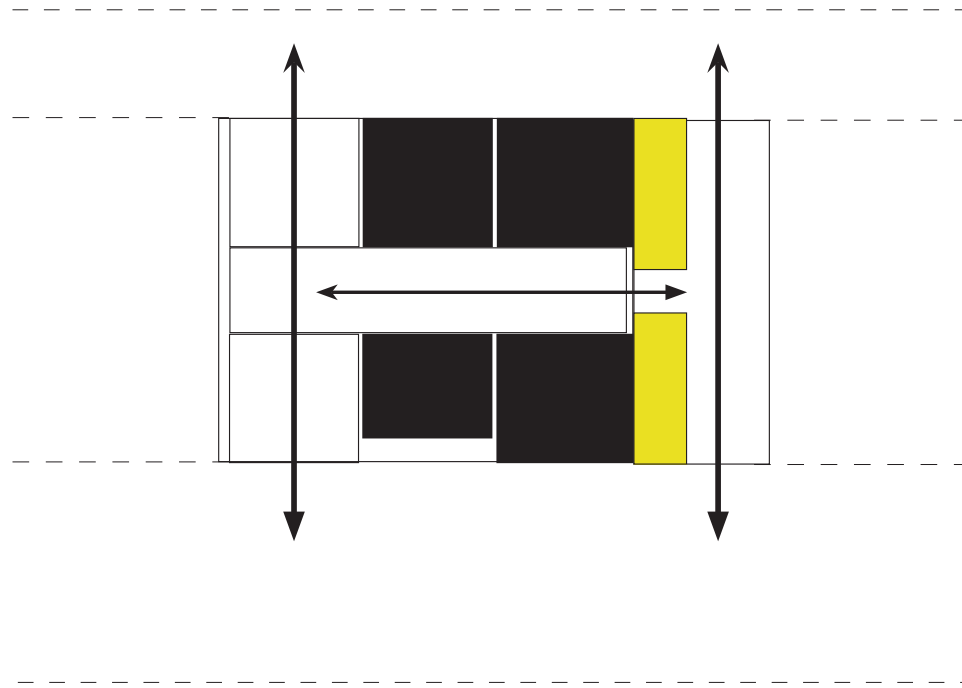
I Transformation dwelling units over time
II Axo dwelling scheme

> PROCESS

I

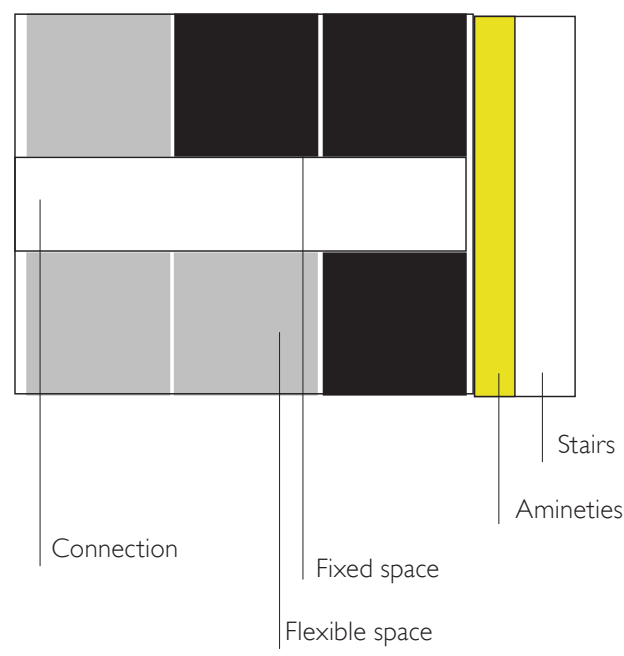


II

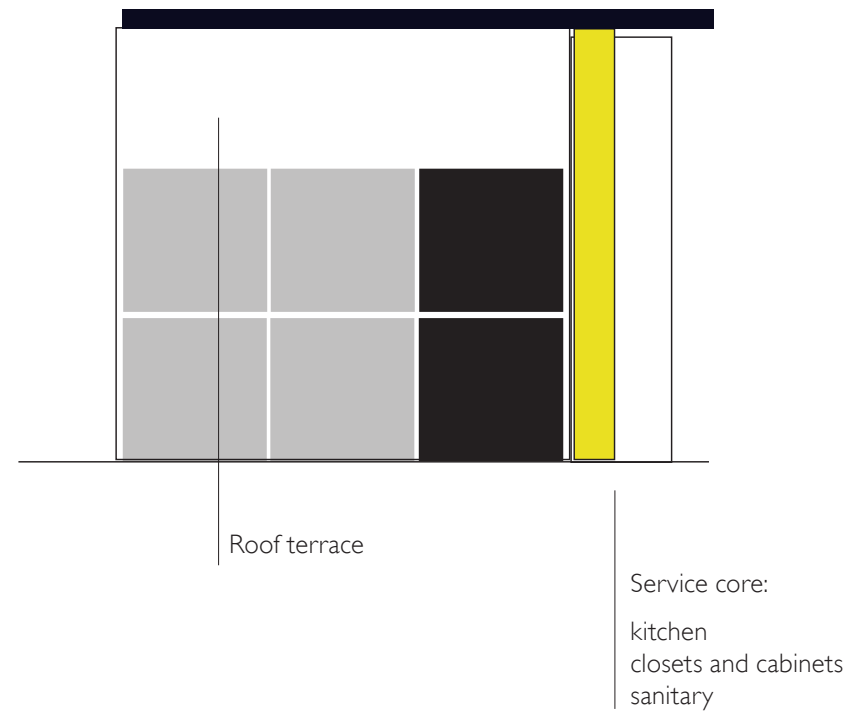


III

Plan

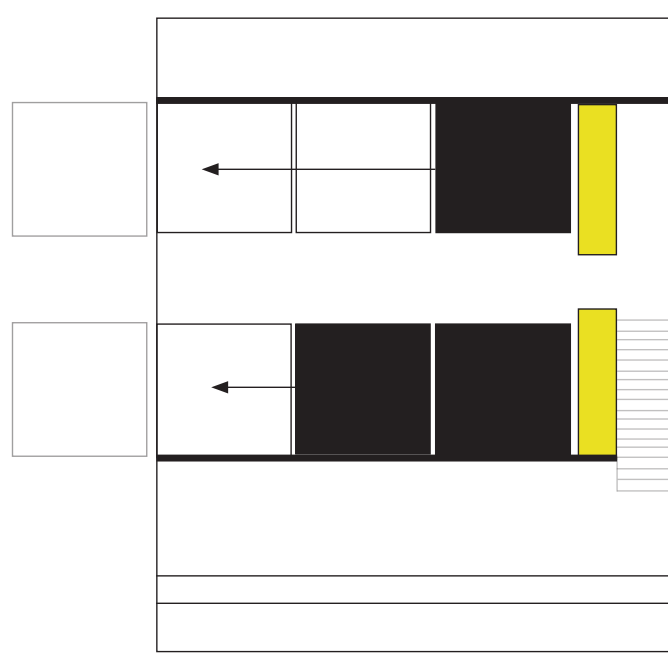


Section

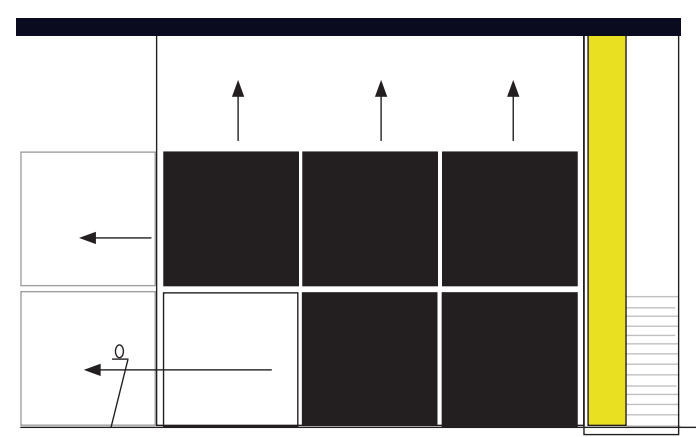


IV

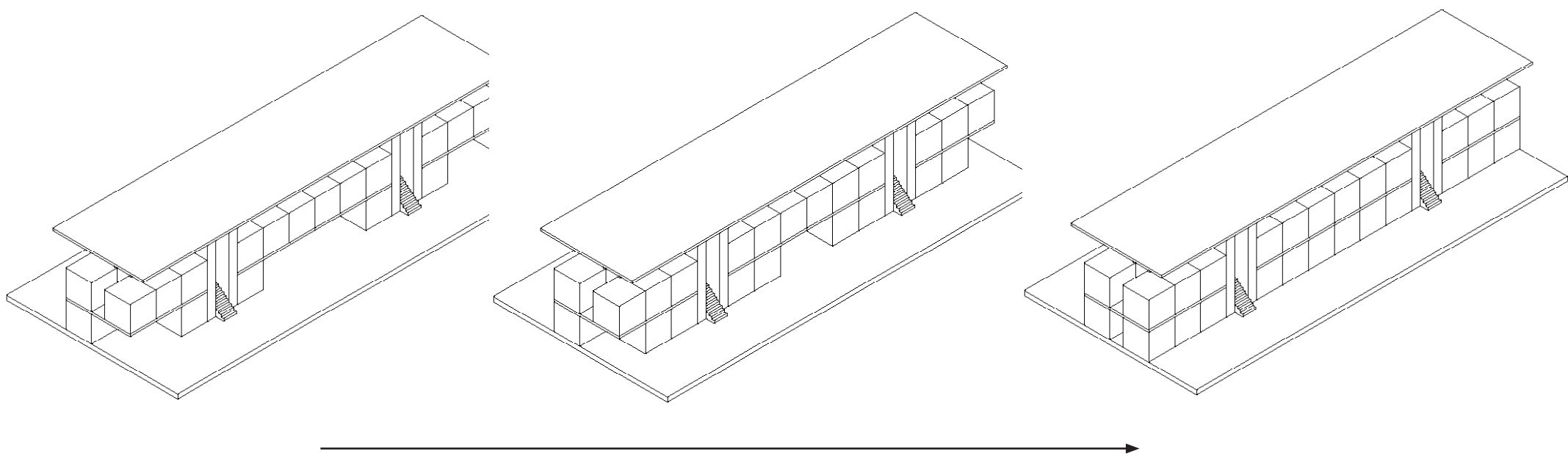
Plan



Section

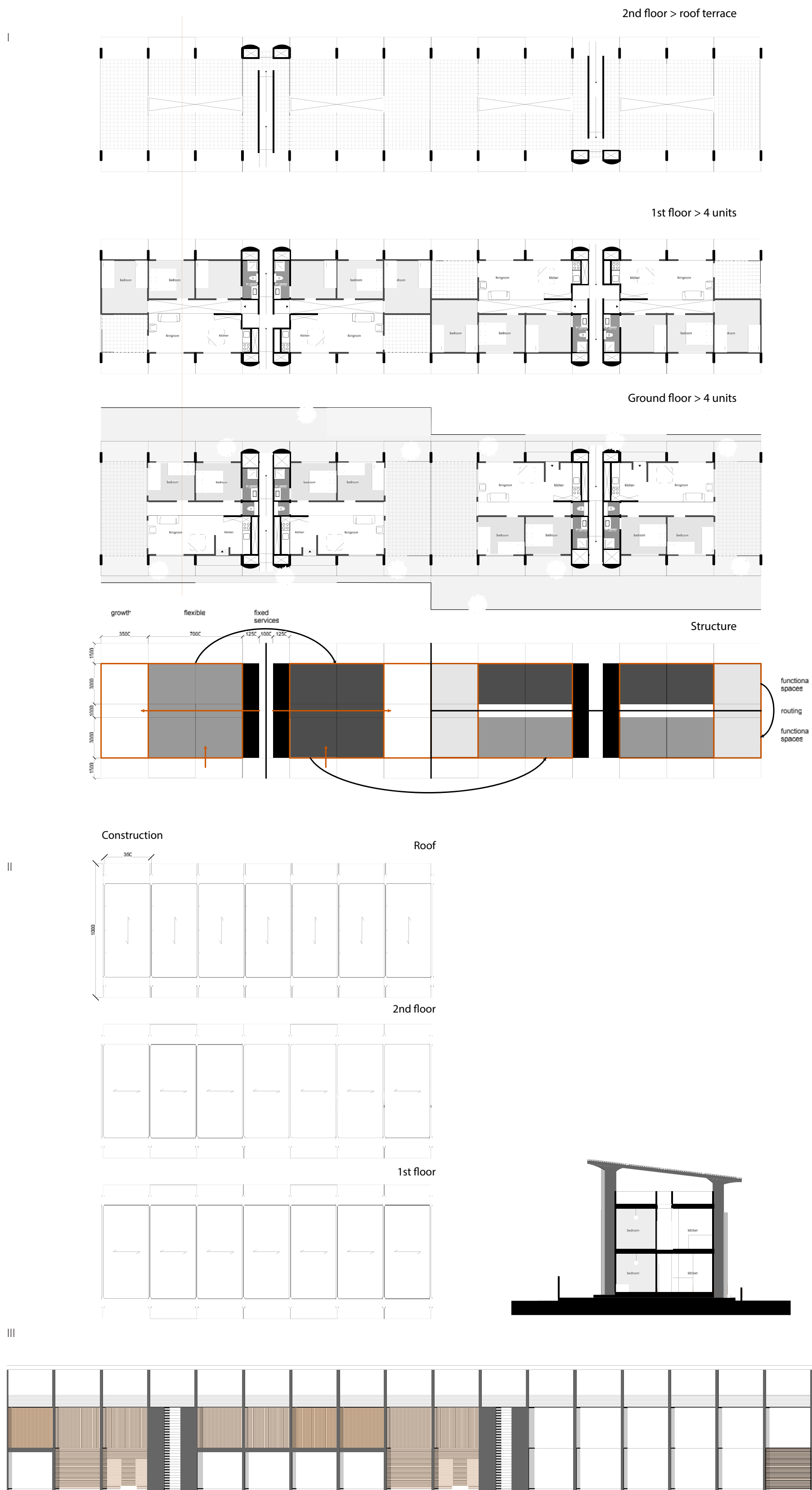


V

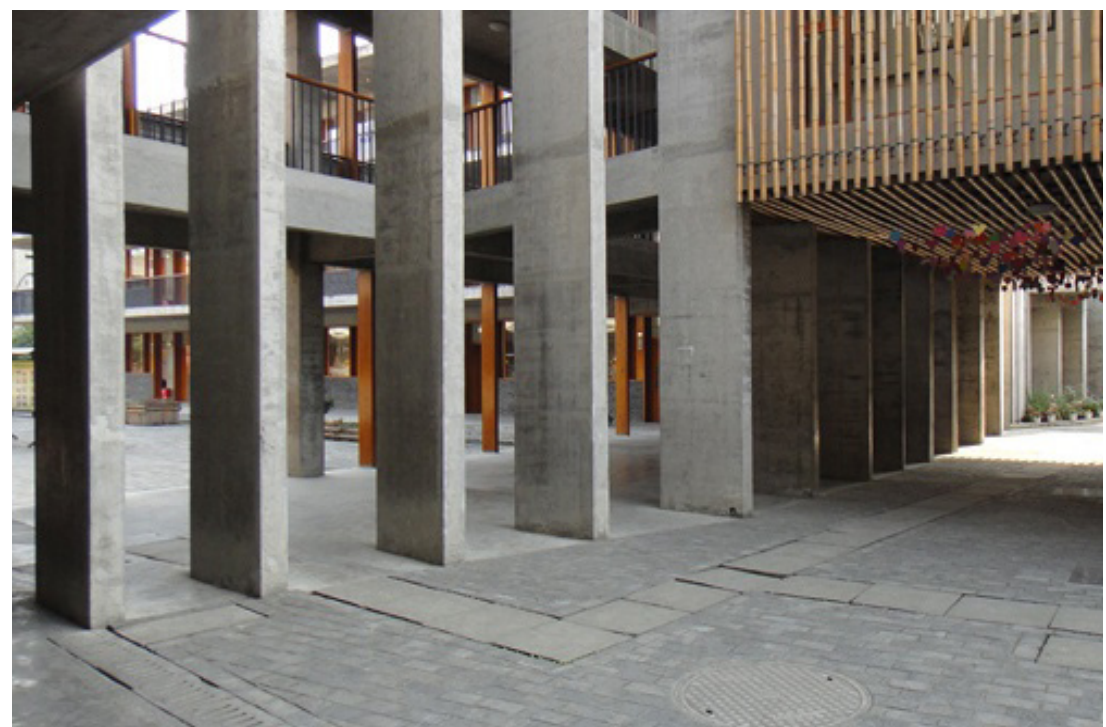


I Structure
II Porosity
III Functions
IV Growth over time
V Future expansions

> PROCESS

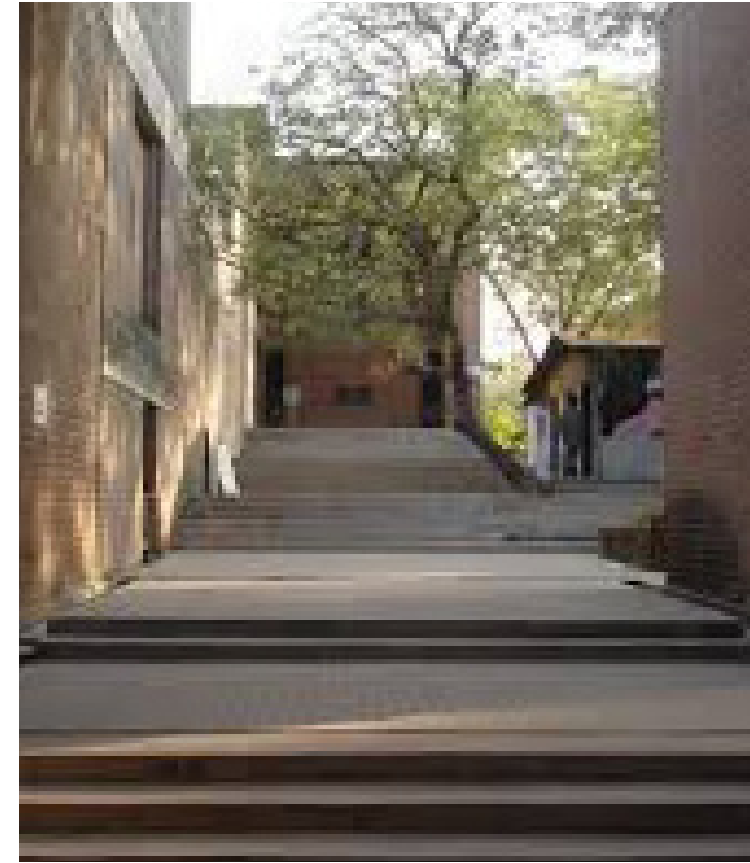


> PRECEDENTS



> PRECEDENTS

I



II



> PRECEDENTS

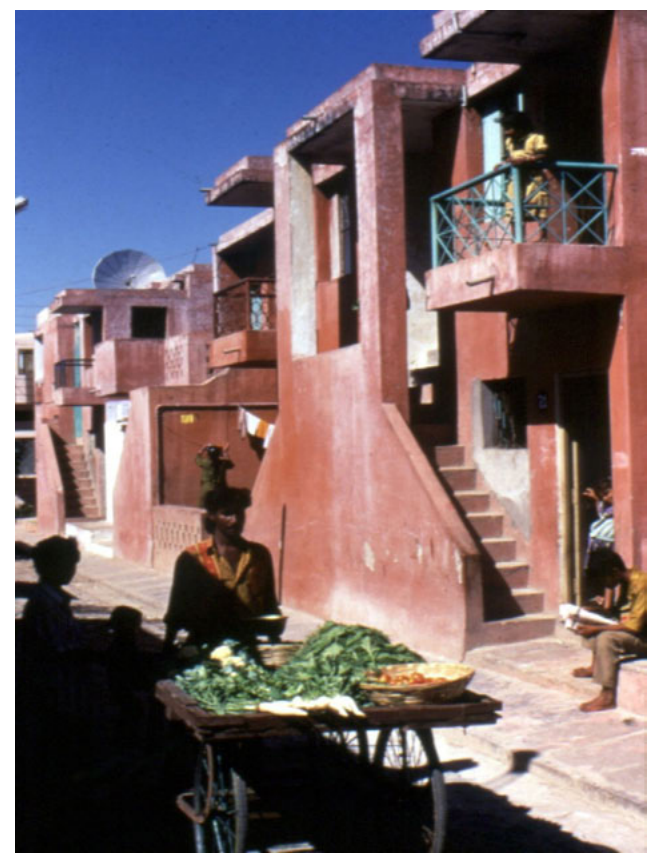
I



II



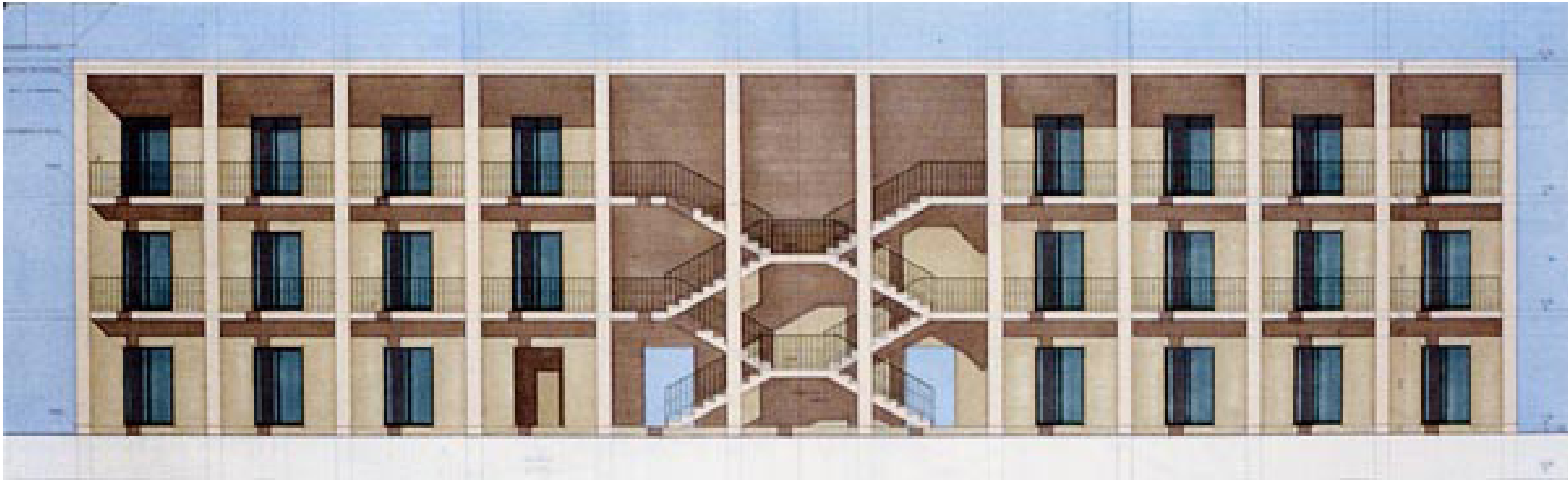
III



I Monterrey, Mexico, Elemental
II Quinta Monroy, Chile, Elemental
III Aranya Community Housing, Indore, Vastu Shilpa Foundation

> PRECEDENTS

I



II



III



I student housing . Chieti . G. Grassi
II DPS kindergarten . Bangalore . Khosla-Associates
III Le Medi . Rotterdam . Geurst & Schulze architecten

