



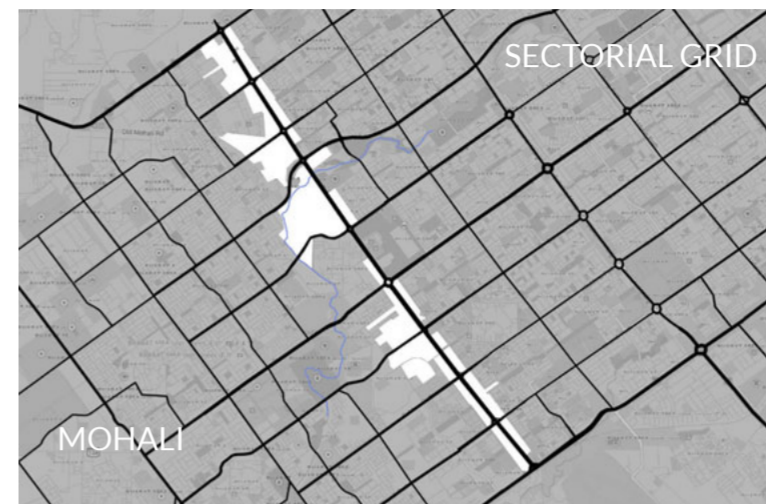
# EMBEDDING THE URBAN POOR



# REFLECTION

## General information

**Area of the Plot** 7.243 m<sup>2</sup>  
**Coverage** 36%  
**Built Area** 8.996 m<sup>2</sup>  
**Floor Area Ratio** 1,24  
**Dwelling units** 234 units  
**Accommodated people** 1200 people  
**Density:** 5,1 person per dwelling



## Context

During our visit to the city of Chandigarh in February we noticed the big economical gap between the higher economical classes and the urban poor in all the mayor cities in India. In Chandigarh there is a slum free policy and the government is struggling to find a solution for rehousing the urban poor. The methods now used isolate these people and by the lack of a future perspective they do not solve the problem. These issues lead to our problem statement: the urban poor of Chandigarh have no place in the city and the society. The mixing of social classes was one of Le Corbusier's focus points while designing the city of Chandigarh and still the urban poor are not embedded in the society. For this reason we are implementing our design in the interstices of the periphery of Chandigarh to reconnect the urban poor with the city and it's societal context.

## Location

We want to rehouse the urban poor by creating a series of new communities, which improve their live quality. These communities should be embedded in a broader societal context to drive social and economical growth. For this reason we've chosen the interstices along Road 21 as our location. This interstice is between the centre and the periphery of the city. To achieve a connection with the city of Chandigarh on a broader urban and societal level we used the public transportation road 21 to create a 'face' for our community. A lively street with a public and formal character improves the current situation of the un-qualitative green area next to this main road. This public border along road 21 works also as a barrier for the intimate community situated behind it. We've split this community into smaller neighbourhoods by extending the current infrastructure to increase contact with the direct environment. By the design of these neighbourhoods we want to realise a strong cohesion on communal level, while maintaining the environmental contact.

## Hierarchy of open spaces

The neighbourhoods have a strong hierarchy of public and collective spaces to structure the social realm. The social realm is the main focus point within these communities because of their social and cultural usage. They are an extension of the living space for in India's climate, a main part of life is lived out on the street. The hierarchy of the social realm is architectural defined by the height of the roof, the height difference in the landscape and the articulation of the facades, creating more intimate spaces towards the more private functions. The smooth transitions in the hierarchy create ambiguous spaces. The hierarchy is designed as followed; The public street along road 21 has a public gallery along the sub-road parallel to road 21. The shadow full area defined by the gallery and the ground floor dwelling units orientated on the street, create a lively street with possibility for commercial use. The formal perforated façade creates a buffer for the noise and pollution of road 21 and is thereby the formal face of the community.

The extended current infrastructure creates semi-public streets between the different neighbourhoods. These streets have lively, semi-formal facades and a small gallery with workspaces on the ground floor to achieve social cohesion.

Perpendicular to this semi-public streets there are 2 intimate streets towards the core of the neighbourhood. These intimate streets are smaller in width, a lower roof and sloping landscape. The facades of the dwelling are informal and open.

The intimate streets reach the intimate square of the neighbourhood, the core of social interaction and a space for cultural and religious activities to connect the inhabitants. The square is an open space formed by an ensemble of six clusters. A gallery connects the clusters and defines the square as an intimate, open space with shadow for the usage of social activities on neighbourhood level.

Each cluster surrounding the square is an ensemble of dwelling units situated around an enclosed courtyard. The typology of the courtyards create a save, private shared space for the dwellings and opens towards the square by their entrance. The shared space of the courtyard has the function of routing and is thereby the social meeting point and core of the cluster.

## Program

The clusters are split up in different layers. Each layer is formed by a rigid structure of concrete columns and beams. The inner layer forms the routing around the courtyard and thereby the transition from the shared open space to the private dwellings. In this layer the space between the columns is open and small collective spots are designed along the routing to improve horizontal and vertical connections. The layer around the routing system forms the private and enclosed dwelling units. The dwellings on the ground floor are accessible and orientated towards the streets surrounding the cluster. The dwellings on the first, second and third floor are 30 to 35 unites accessible and orientated to the courtyard. Closed brick walls with doors and windows define the dwelling unites in this layer. There are 9 different dwelling types ranging from 18 to 29 square meters and have the possibility to extend 13 to 18 square meters.

## Change over time

The possibility to extend the living space is in the outer layer of the structure. This layer, along the outer façade of the cluster is a 2400 mm broad balcony and does not only create an outside living space but also makes it possible to create a new indoor space for the inhabitants to extend their house. So the outer layer is adaptable for change over time. This change is architectural articulated by the facades of the balconies. The most formal facades on road 21 have a complete perforated wall, not only as a barrier for the noise and pollution but also for the architectural articulation. The facades on the semi-public roads have a variation of perforated balustrades and perforated walls. The perforated walls with accessibility to the indoor living area create a private balcony area and stimulate the user to extend their living space behind this architectural articulated area and keeping the balcony open. On the informal, intimate streets the façade is only articulated by a balustrade, the possibility for change over time is less articulated here. Only the difference in the perforated and closed brick part of the balustrade stimulates the place for extension of the living area.

By filling in the rigid concrete structure with a variation of perforated brick walls and balustrades we articulate the possibility for change over time. This articulation is defined by the formality of the façade according to the environment. In this way the façade is not only open to change over time, but also a way to define the character of the surrounding open spaces.

## Structure, materials and climate design

The pattern of the brick walls within the concrete structure is a local material and technique, which fits the decorative culture of the Indian. The load-bearing concrete structure of column and beams provide flexibility by making a distinction between the permanent concrete structure and the variable building components of the brick walls.

We integrated climate solutions to accommodate a moderate climate in our design by the use of shadow and natural ventilation. The large overhanging roof not only architectural defines our design but creates shadow in the open spaces surrounding the cluster and prevents the dwelling mass from heating up. To accommodate indirect light we perforated the roof with wooden beams, in the layer along the courtyard and in the outer layer along the streets. The typology of the courtyard makes cross ventilation possible for the dwellings stimulated by opening of the cluster at the entrance. In the open, public spaces the use of galleries accommodates shadow and articulates the social realm.

## Design Process

Our design of a community for the urban poor in the interstices along road 21 in Chandigarh could be summarized as a hierarchy of public to private spaces through an ensemble of clusters with an adaptable structure.

For the lively, public area along road 21 we were inspired by the liveliness we've seen in India alongside roads. This is the space where the Indian people have little shops, sell products on the street, there are even barbershops under the trees. The road functions as the main public area. For the hierarchy of open spaces from public to private we got inspired by the many lively communal squares in India and the work of Hassans Fathy's, New Gourna Village, in Egypt. Charles Correa was a reference for the open spaces and their structure, materialisation and light. Balkrishna Doshi was our inspiration for the sloping landscape of stairs and sitting areas. For the typology of the cluster we have seen the usage in India during our visit, and the way it stimulates social cohesion and fits the climate of India by shadow and ventilation. The use of Plan Libre, filled up with brick and the use of gallery's were a precedents from Le Corbusiers plans for Chandigarh. The layer of adaptability and flexibility within a permanent concrete structure was inspired by Herman Hertzberger's structuralism approach.



# PROCESS

Manifesto of Phase 3: Design Hypothesis

## MANIFESTO

Van der Ploeg & Wittebrood

1. Rehousing the slum poor.
2. Creating a series of new communities, which improve live quality.
3. These communities should be embedded in a broader societal context to drive social and economical growth.
4. Creating smaller permeable communities to increase contact with their direct environment.
5. Realising strong cohesion on communal level, while maintaining the environmental contact.
6. Creating a hierarchie of public and collective spaces to structure the social realm.
7. A structure of multiple dwellings are assembled to generate intimate shared spaces.
8. Provide flexibility in dwelling structure to adapt to change over time in population-, economical-, social- growth.
- 9 / Make a distinction between permanent & variable building components.
- 10 / Use local material, building techniques and workers to save budget for spatial quality's.
- 11 / Integrate climate solutions to accommodate a moderate climate over seasonal change.
- 12 / Integrate decoration and colour, to accommodate the decorative nature of the native Indians.
- 13 / Involve future inhabitants in construction processes, to raise job opportunities and sense of responsibility of the public realm.





# PROCESS

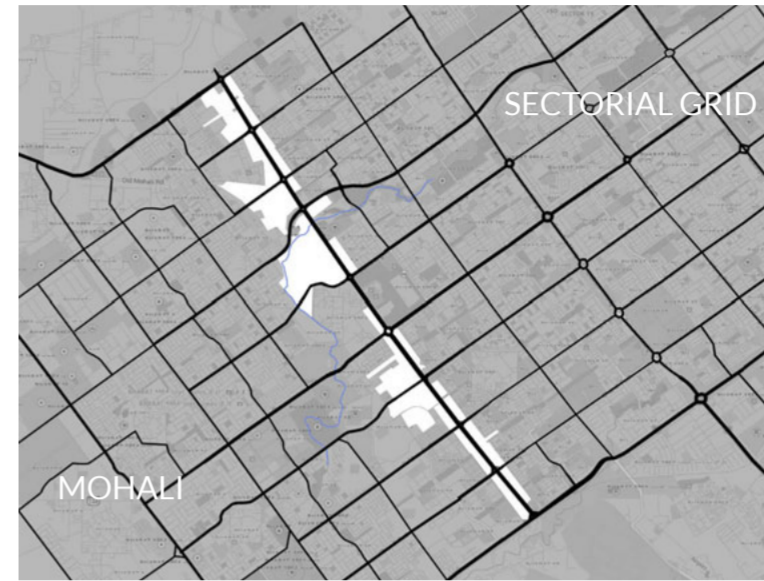
Poster Design Hypothesis 1/3

**/ PROBLEM STATEMENT:**

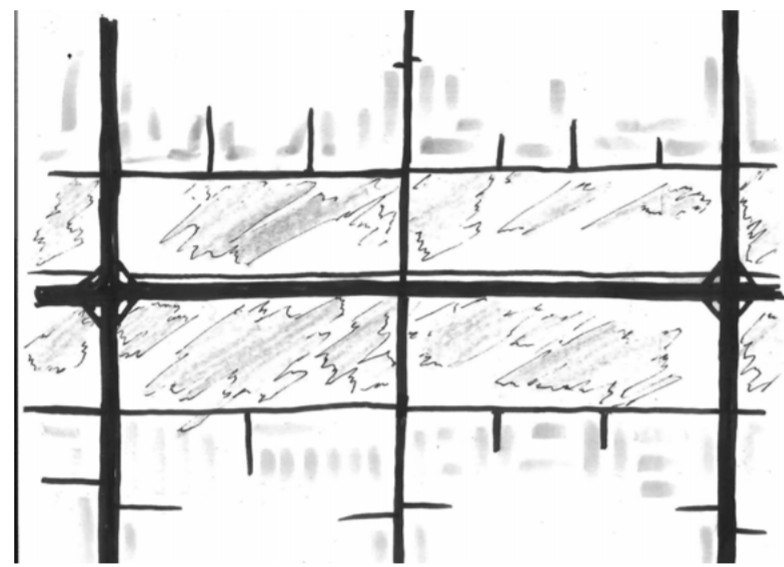
The slum people have no place in the city and the society.

**/ HYPOTHESIS:**

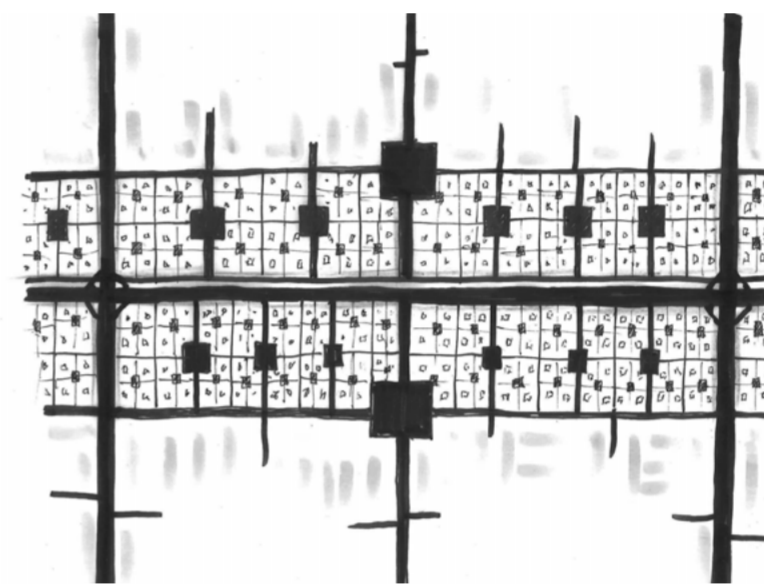
If we implement our communities in *the interstices* of the periphery of Chandigarh we will reconnect the urban poor with the city and it's societal context.



LOCATION MAP CHANDIGARH



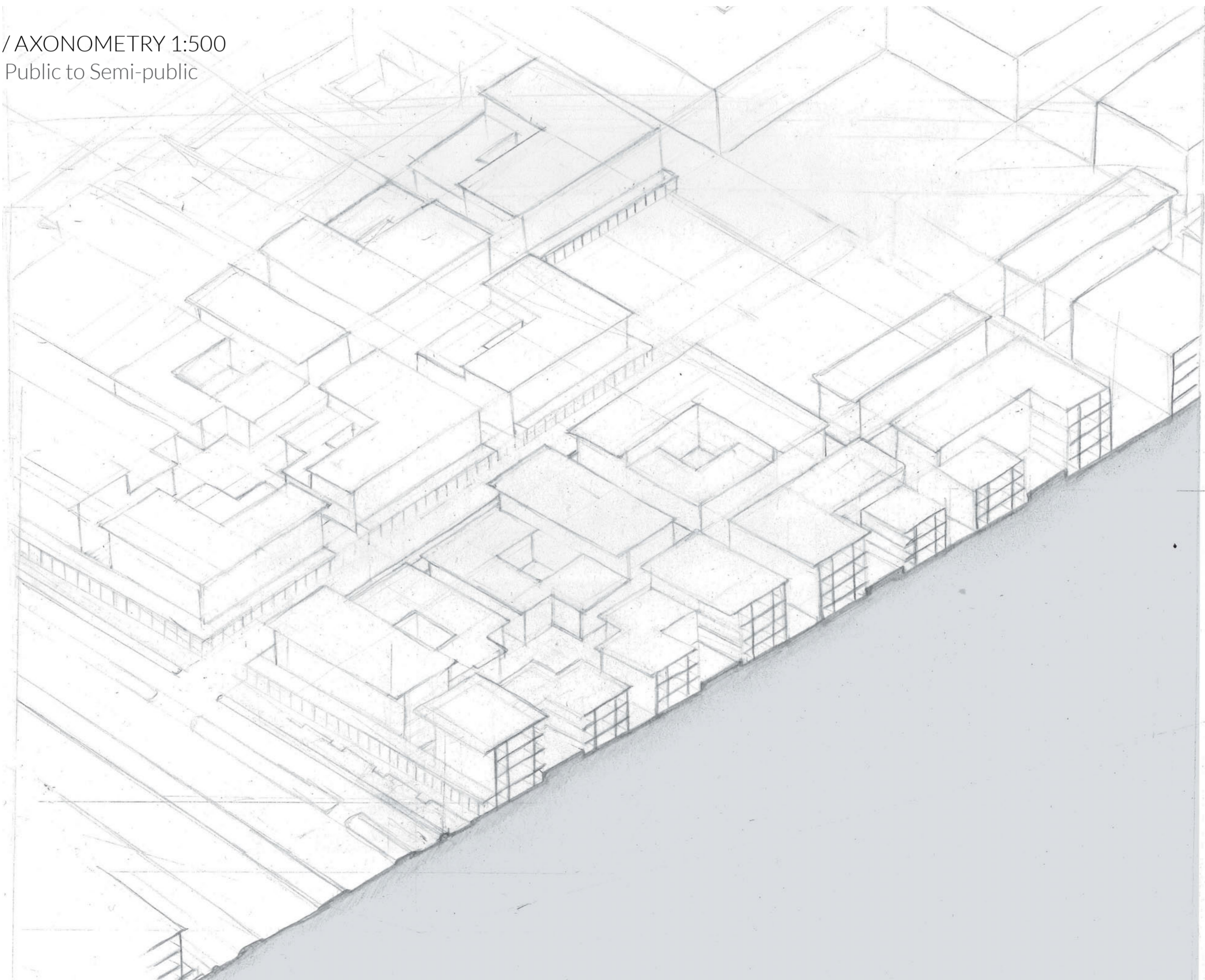
CURRENT SITUATION 1:10.000



INTERVENTION 1:10.000

**/ AXONOMETRY 1:500**

Public to Semi-public



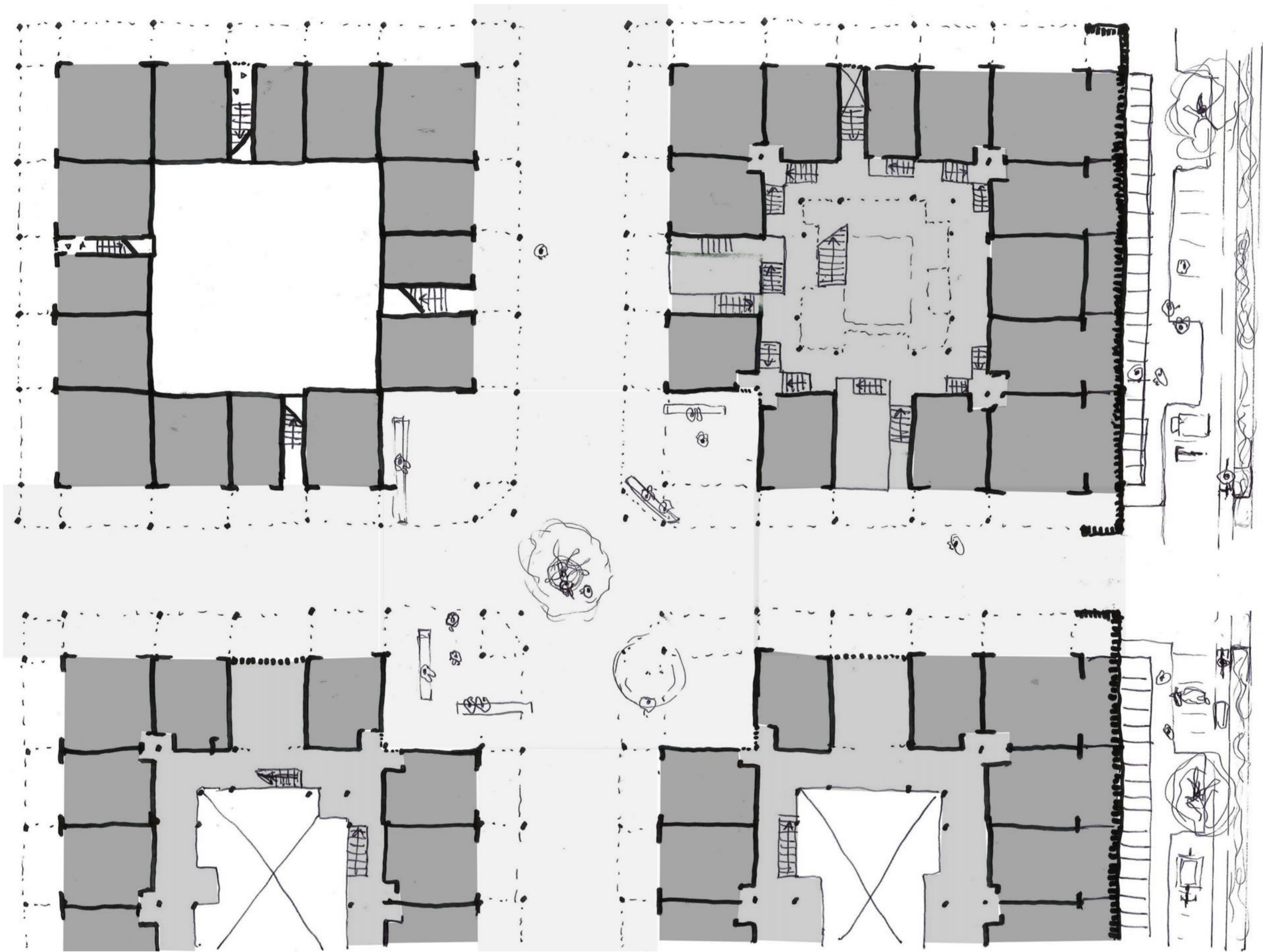




# PROCESS

Poster Design Hypothesis 2/3

CLUSTER PLAN 1:200  
Semi-Public-Collective



CLUSTER SECTION 1:200  
Semi-Public-Collective



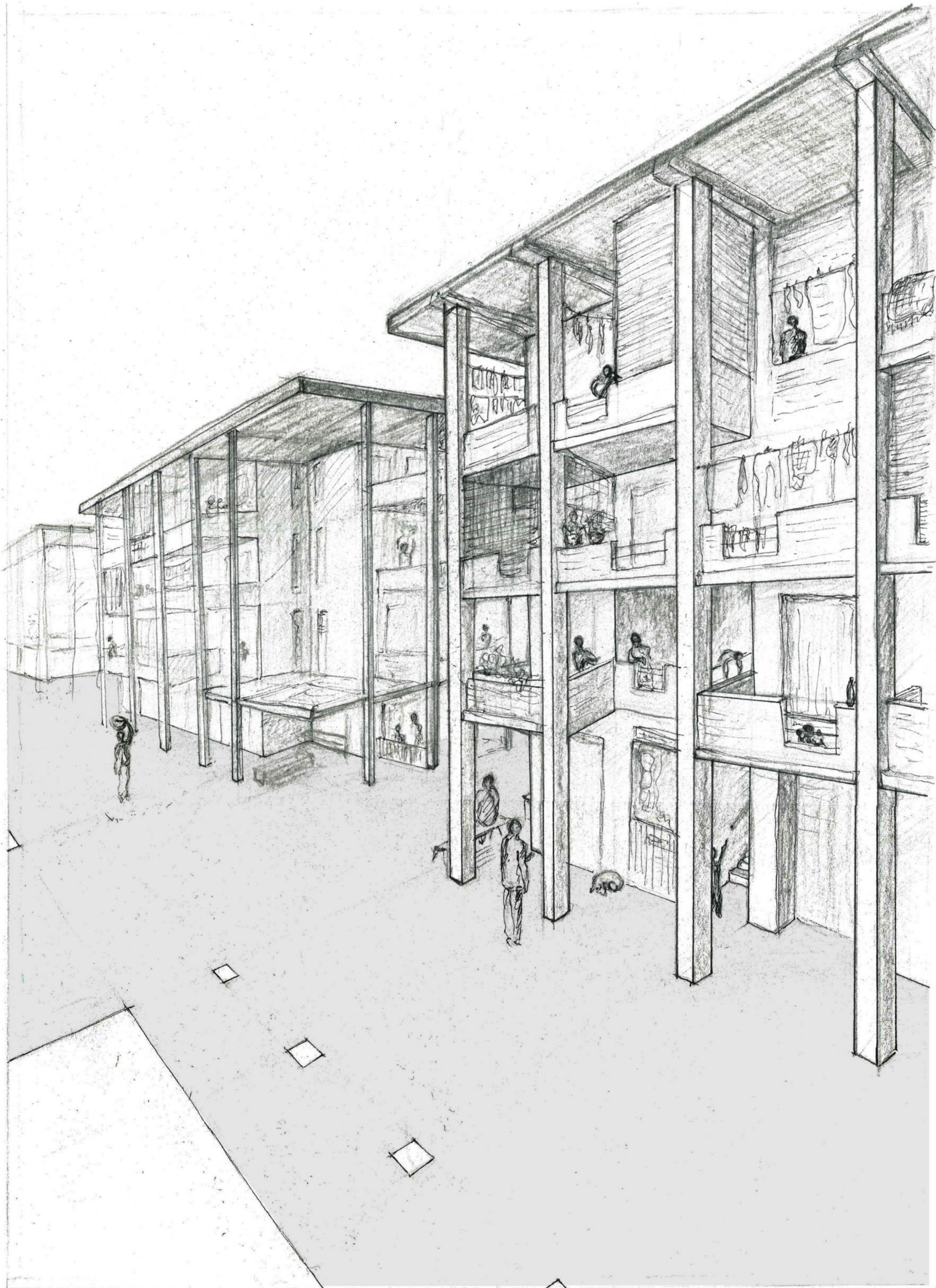




# PROCESS

Poster Design Hypothesis 3/3

IMPRESSION  
Semi-Public-Private







# PROCESS

## PechaKucha Presentation Slides

**Clusters with courtyard**  
4 clusters with collective courtyard.

**Communal square**  
Subtracting mass from each cluster creates a communal square.

**Roof**  
Creating large roof for shadow and articulation of the cluster.

**Height difference in roof**  
Creating difference between public and private streets.

**Height difference courtyard**  
Creating more private courtyards and closer the ground floor dwellings.

**Concrete structure**  
Rigid concrete structure of columns and beams forms the cluster.

**Structure filled with dwelling mass**  
The mass forms a hard border from public to private.

**Openings in the mass**  
Creating four openings in the mass for ventilation and relation to the environment.

**1 opening as an entrance**  
Entrance form for formal square to the courtyard.

**3 openings for vertical routing**  
Vertical routing is possible in the openings and articulates the building.

**Routing and dwelling mass**  
Each vertical routing articulates a part of the dwelling mass.

**Vertical additions**  
The giant dwelling mass articulates the mass of dwellings under the roof.

**Horizontal additions**  
Dwellings could be extended over the mass to cover the structure.

**Groundfloor dwellings**  
Groundfloor dwellings of mass create a possible articulation.

**Dwellings and accessibility**  
Articulation of mass for high level of accessibility.

**Accessibility per 4 dwellings**  
Routing in accessibility per 4 dwellings (Flooring 1:100).

**Different dwelling types**  
One difference of the width, grid and structure of 4 dwelling types.

- A = 22m x 8m
- B = 22m x 8m
- C = 30m x 10m

**Dwelling floorplan**  
Floorplan 1:50 showing construction, doors and sanitary services.

**Facade structure articulation**  
Articulating the possibility for personal actions with columns, beams and anchorpoints.

**Construction detail**  
1:20 detail Anchorpoint articulates the vertical room by their placement.

**Filling the facade**  
Different options from open to closed. Differentiation within the grid. Reacting to the environment.



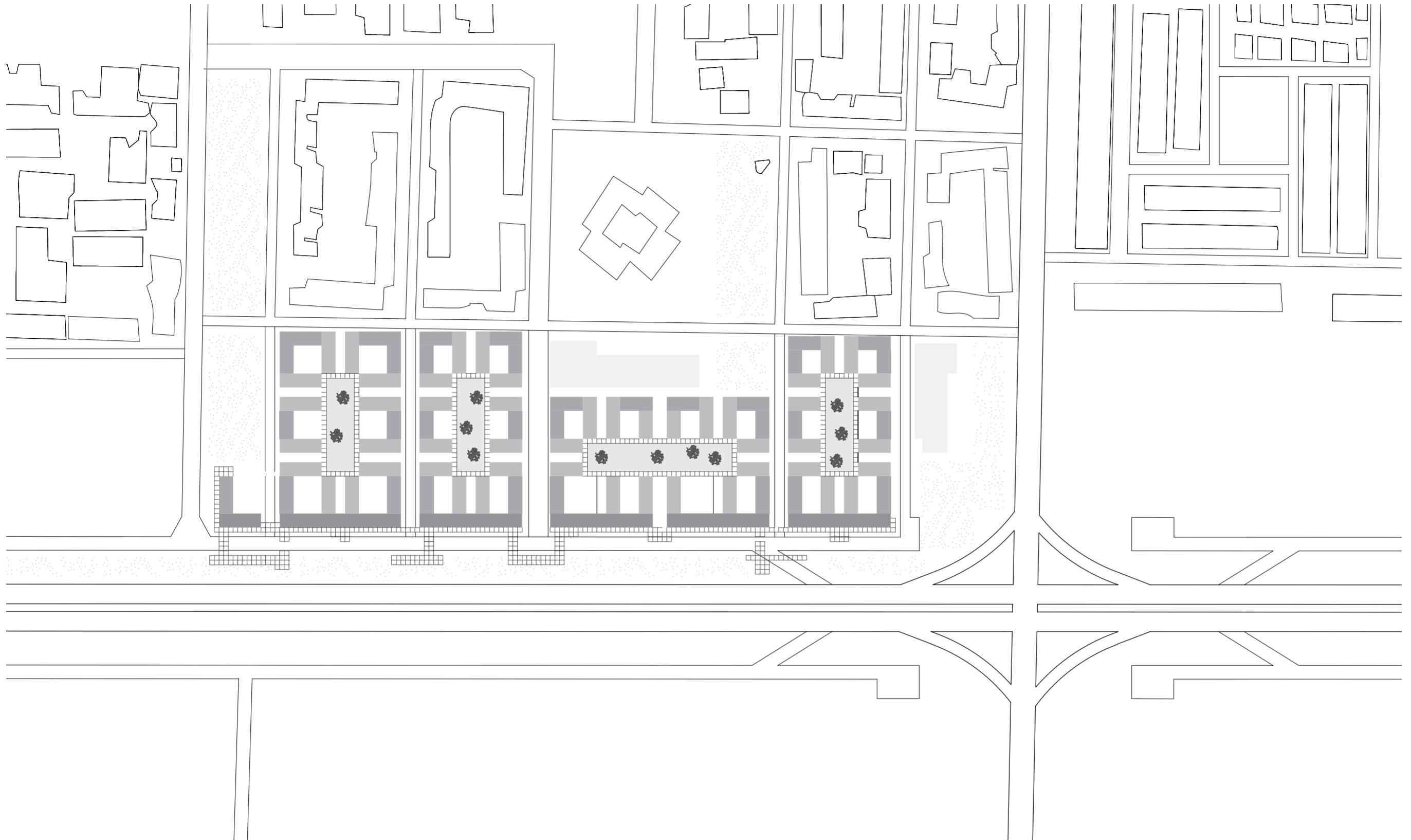


# PROCESS

Presentation Urban Strategy

Urban plan 1:2000

*Filling in the interstices*



Perspective 1:100

*Transition towards Road 21*



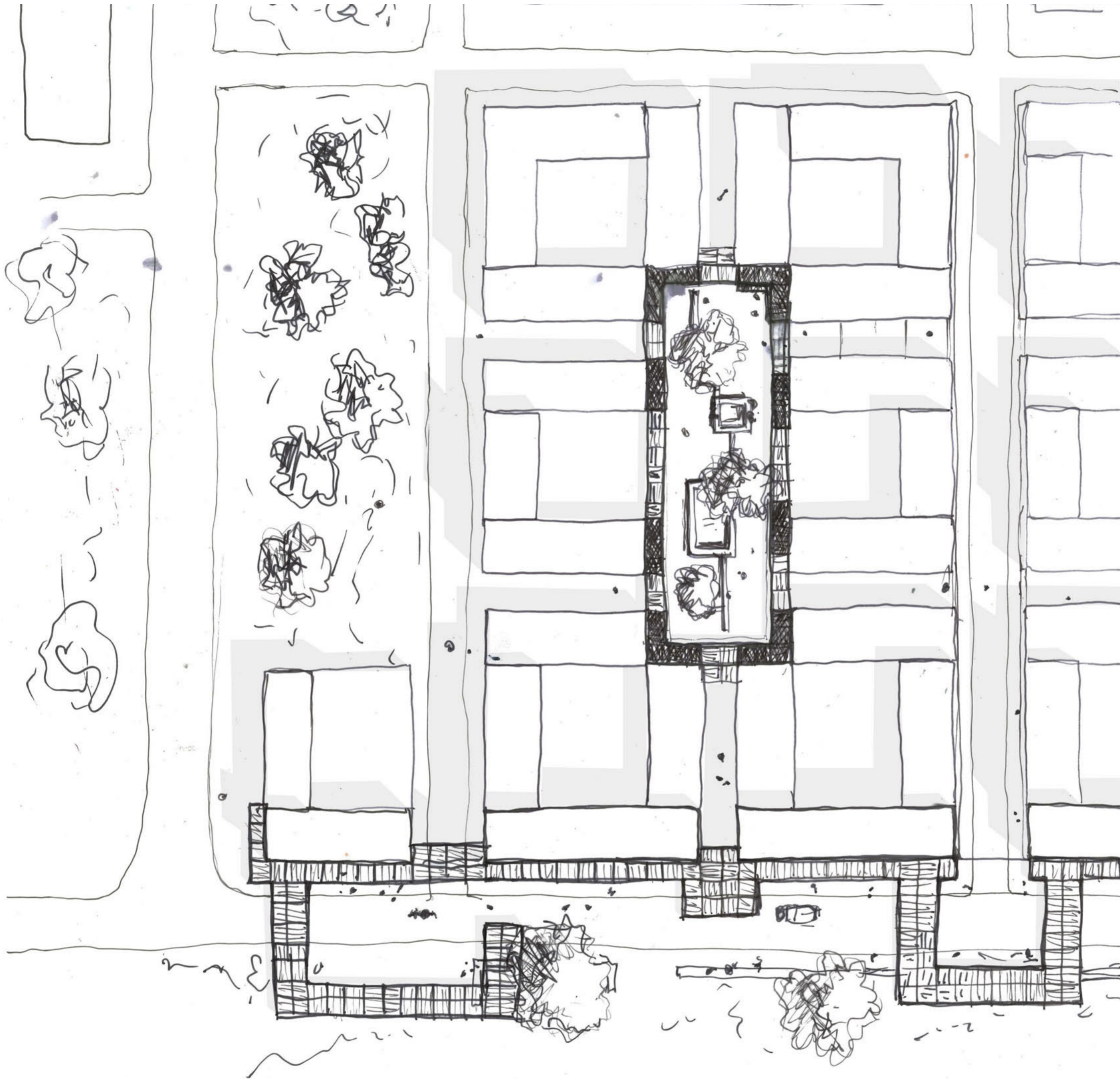




# PROCESS

Presentation Neighbourhood Strategy

Neighbourhood plan 1:500



Cross-section Square 1:100

*Intimite square*





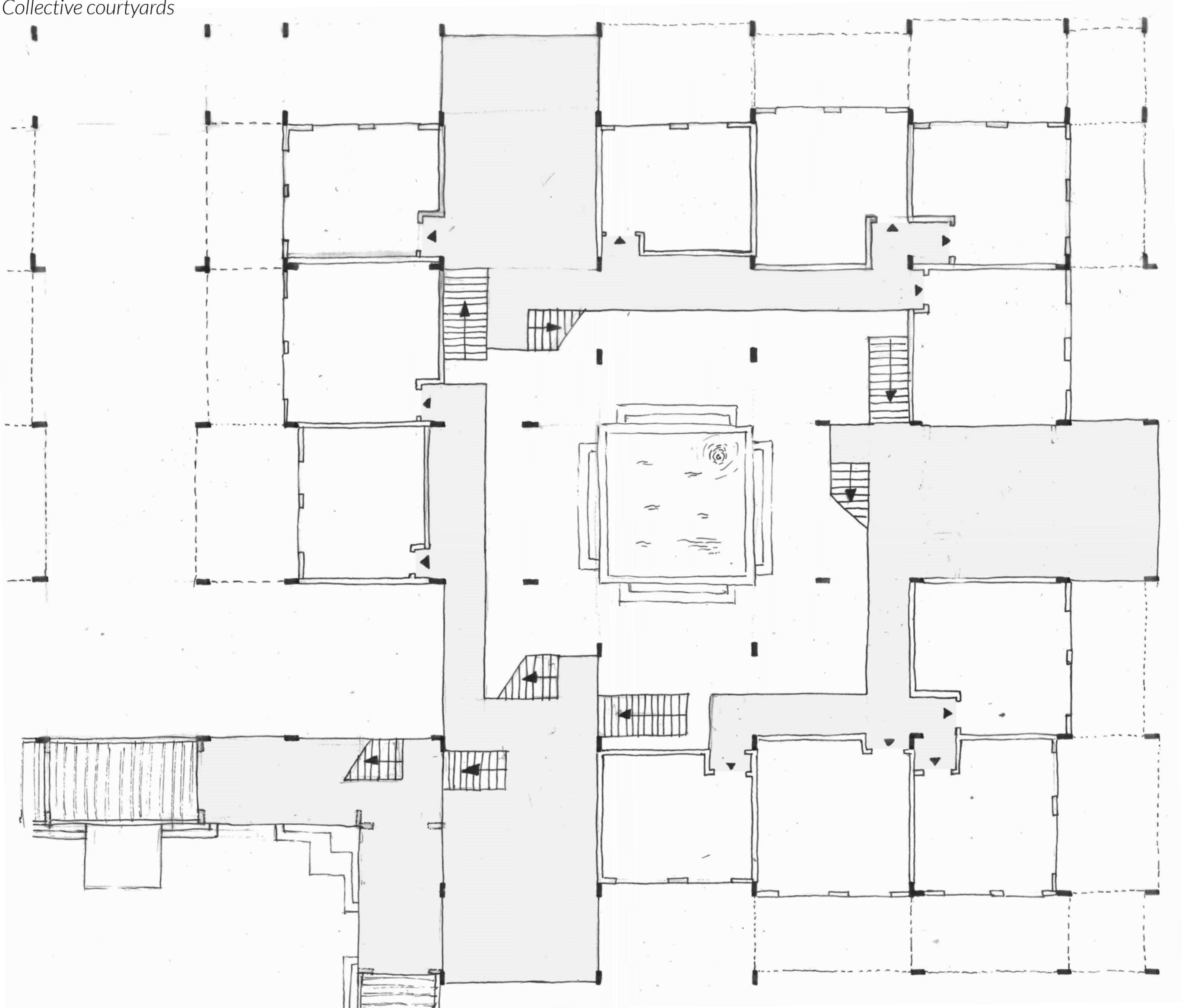


# PROCESS

Presentation Cluster Strategy

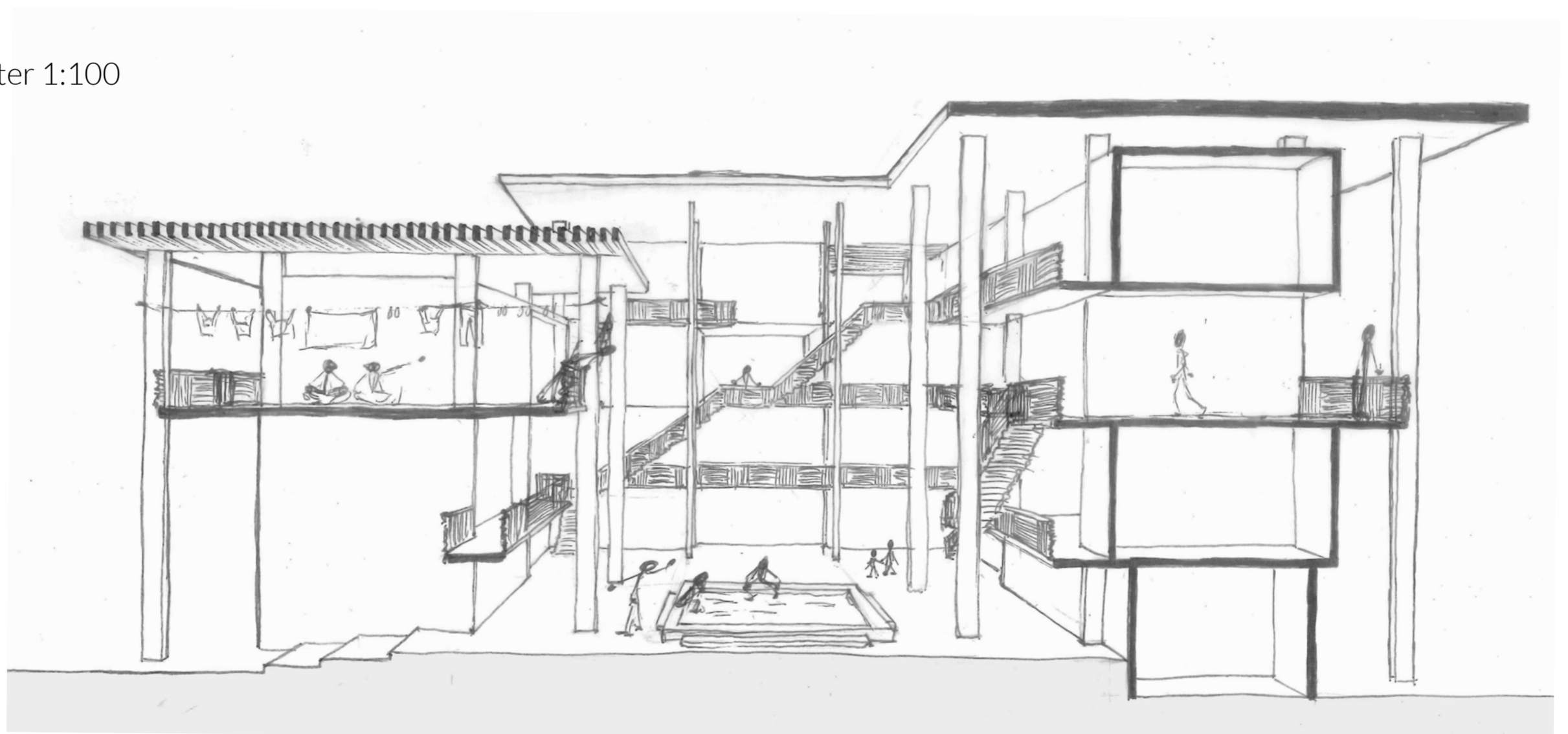
Cluster plan 1:100

*Collective courtyards*



Cross-section cluster 1:100

*Vertical routing*

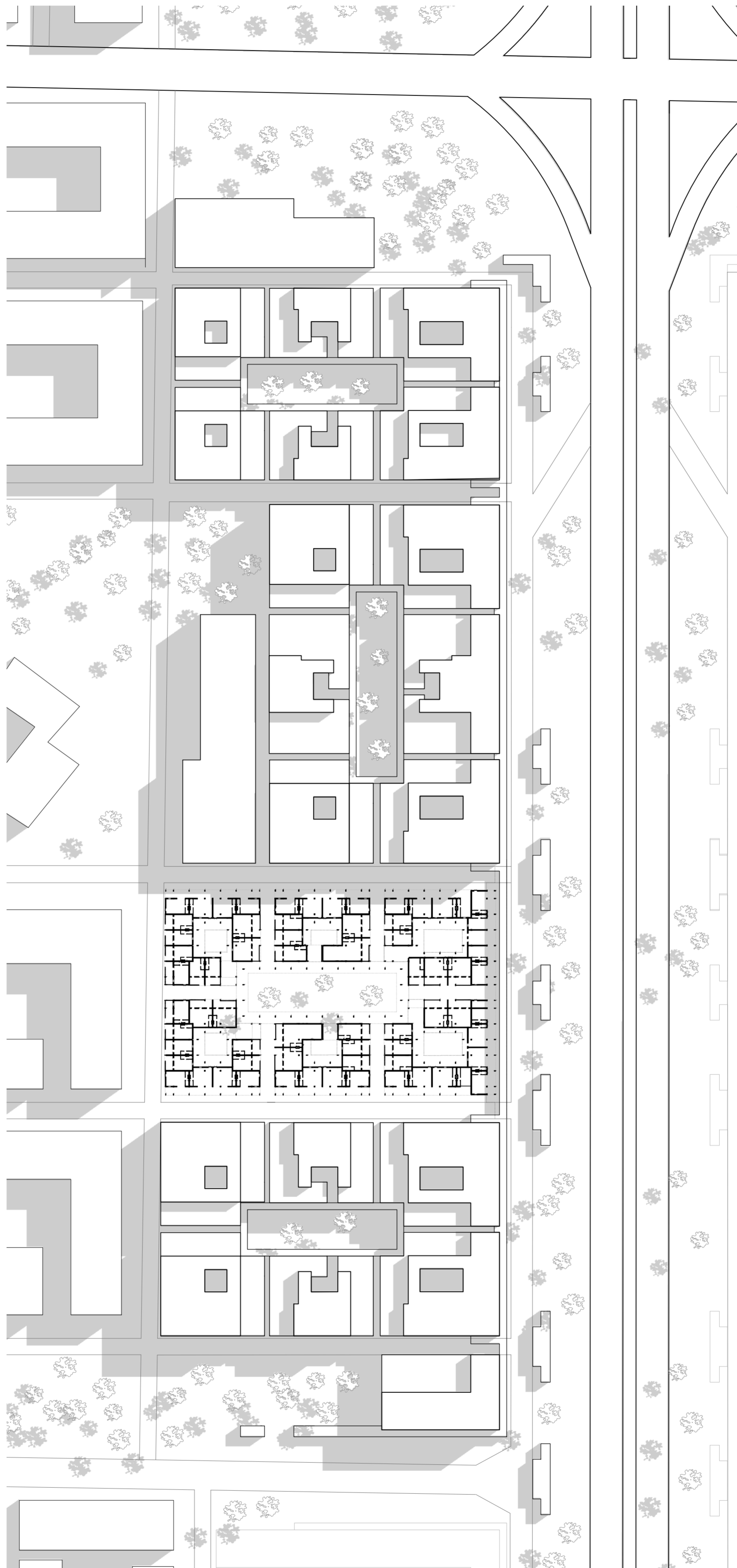






# PROJECT DOCUMENTATION

Community Plan  
1:1000

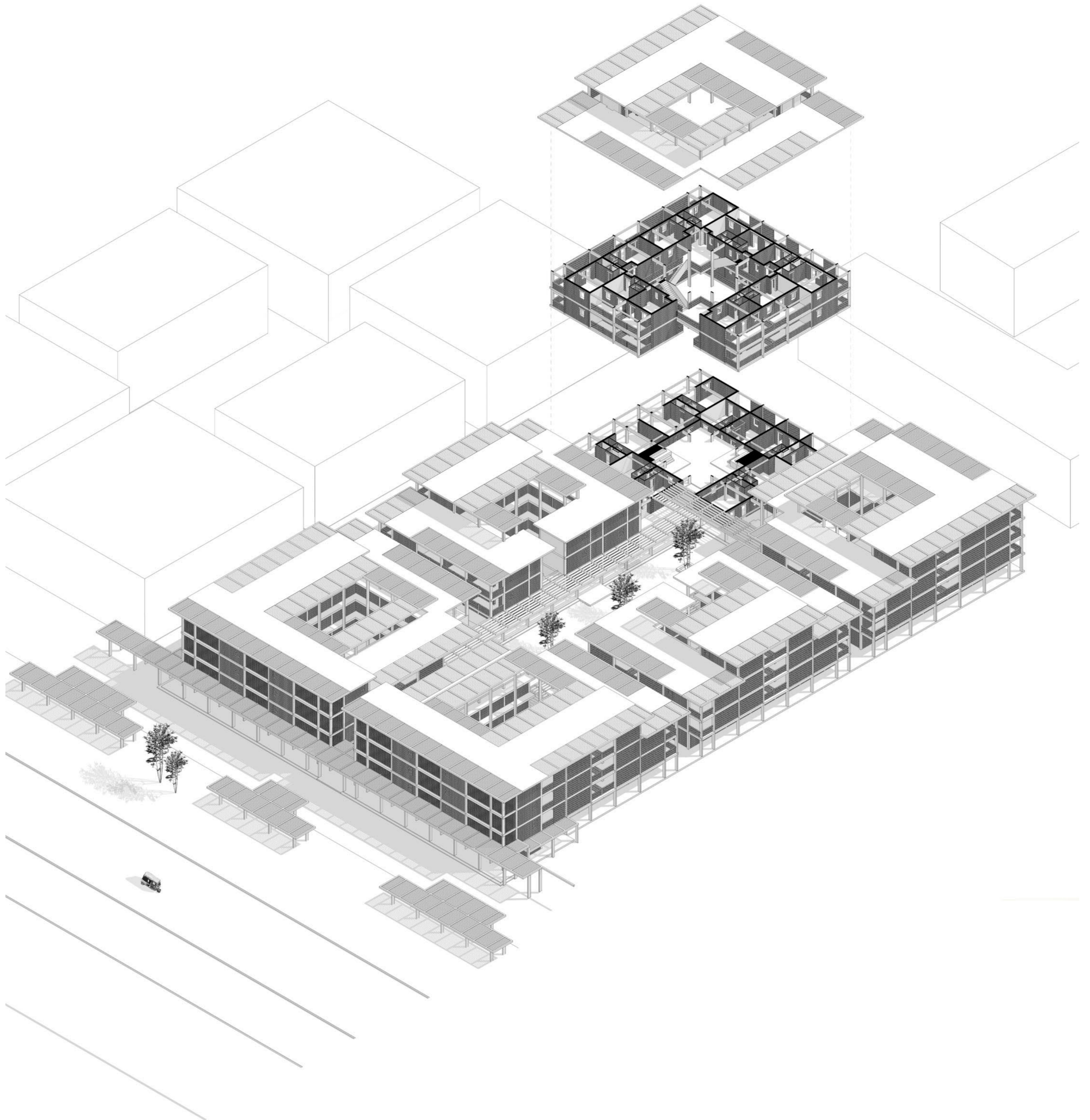




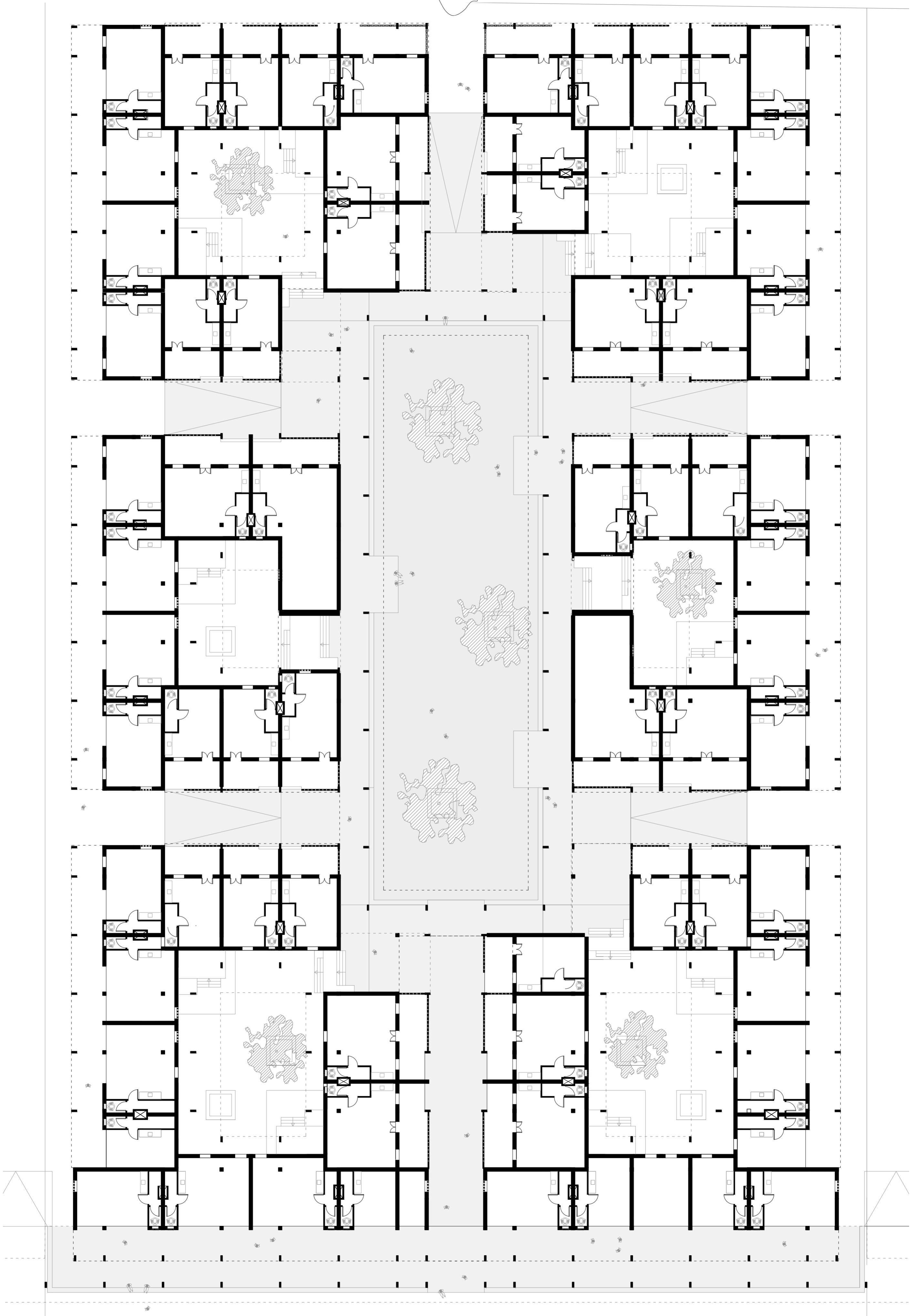


# PROJECT DOCUMENTATION

Axonometry Neighbourhood and Cluster in Context





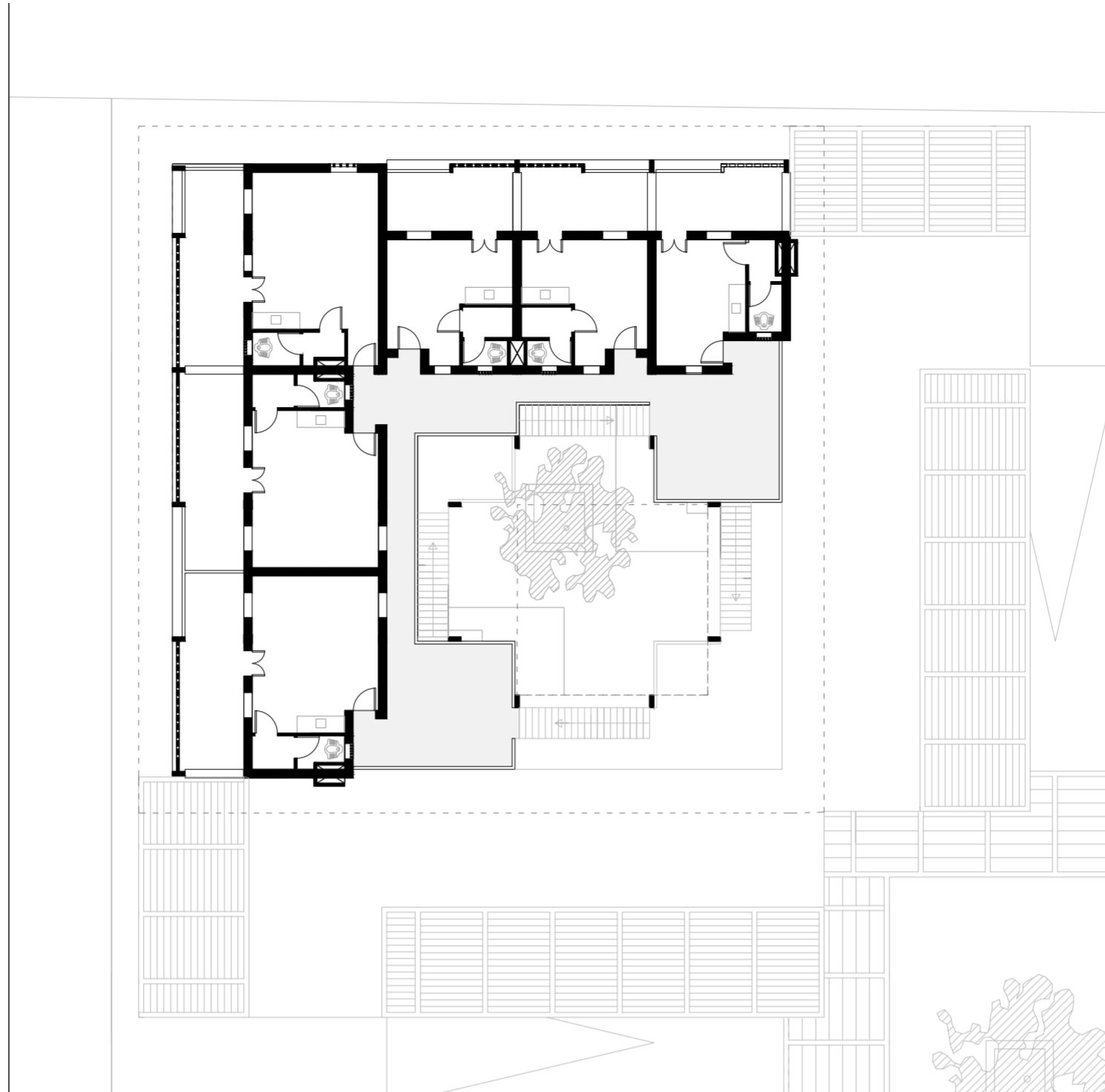




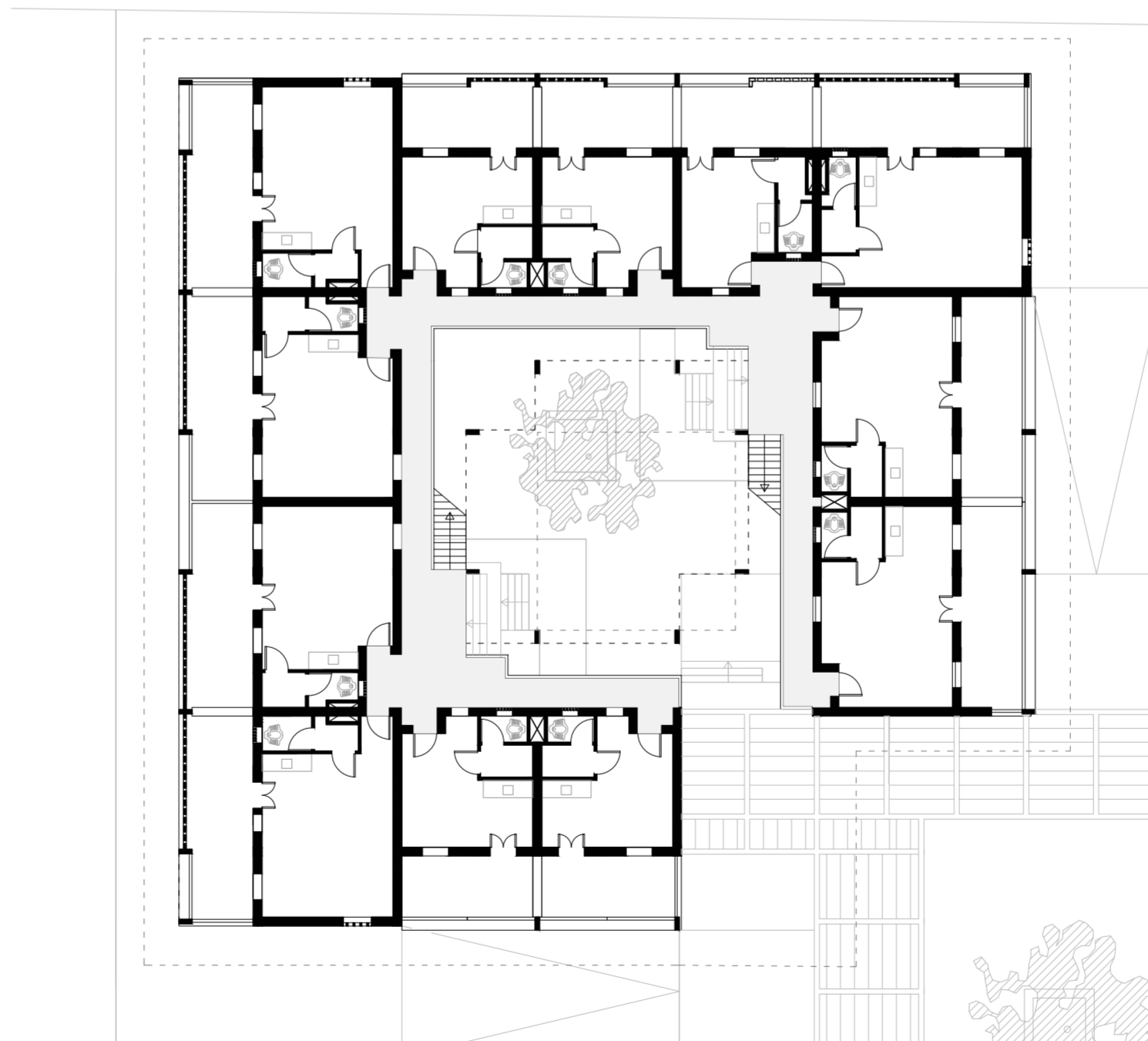


# PROJECT DOCUMENTATION

Third Floor plan 1:200



Second Floor plan 1:200

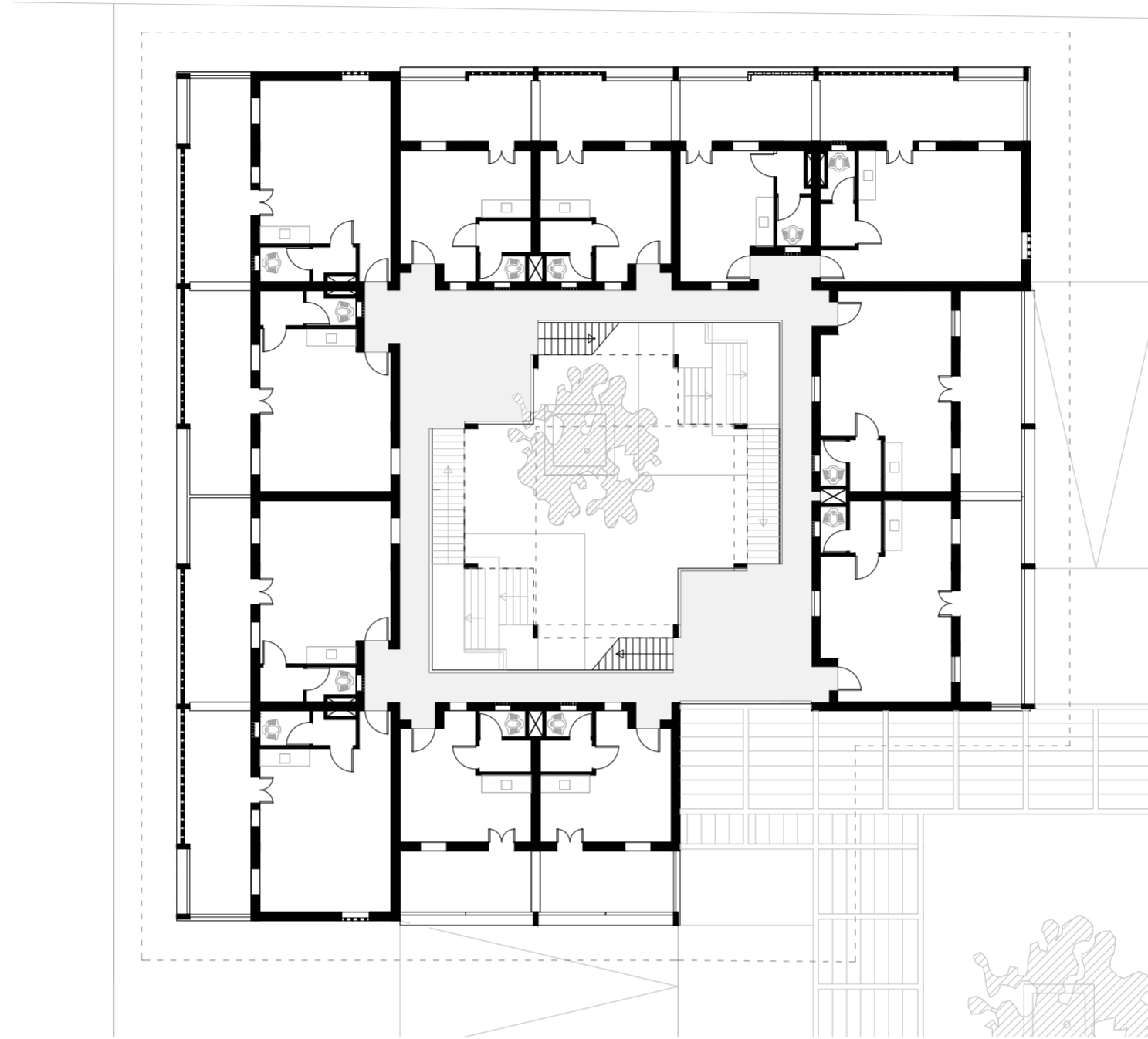




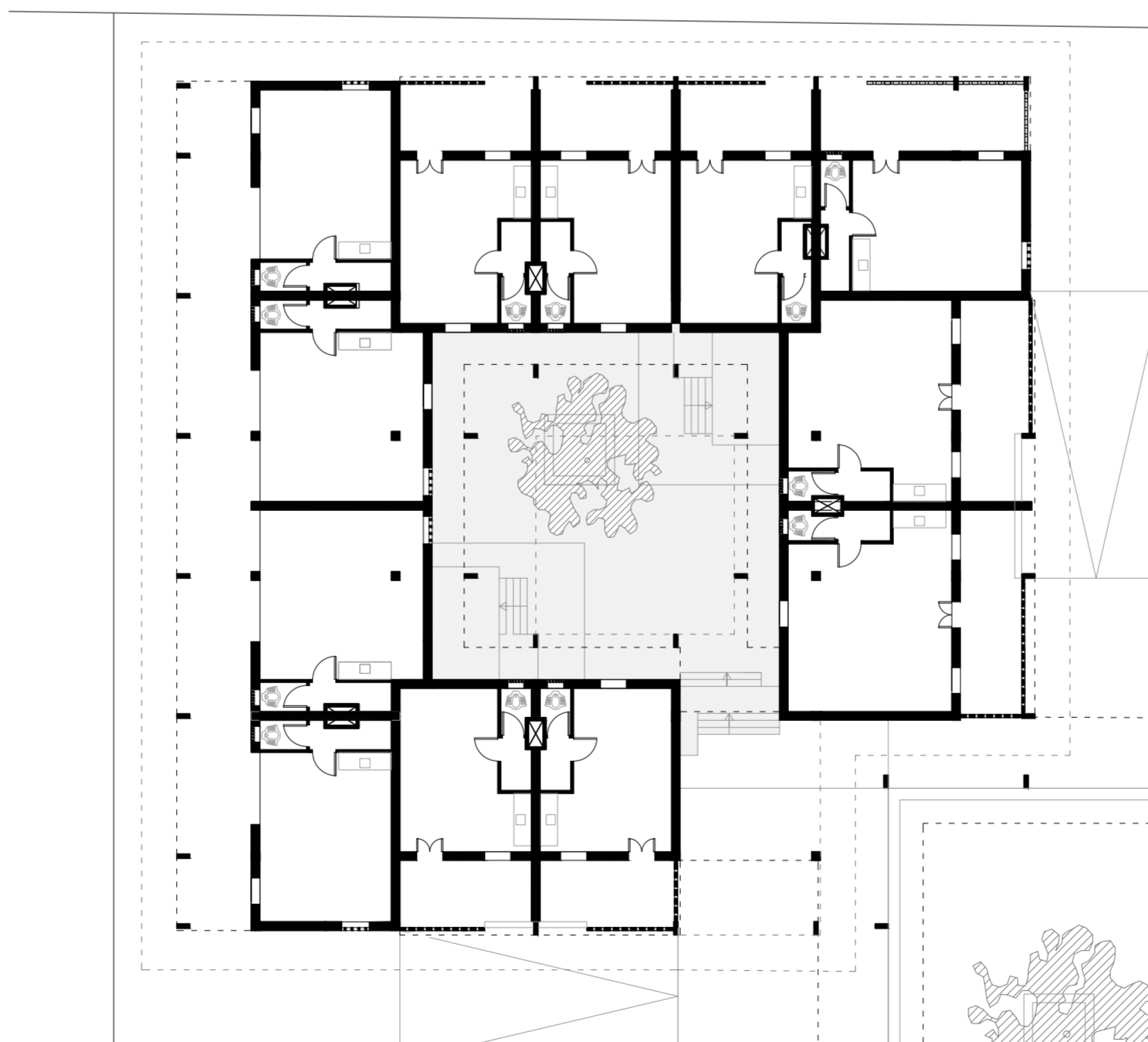


# PROJECT DOCUMENTATION

First Floor plan 1:200



Ground Floor plan 1:200







# PROJECT DOCUMENTATION

Cluster Elevation 1:100

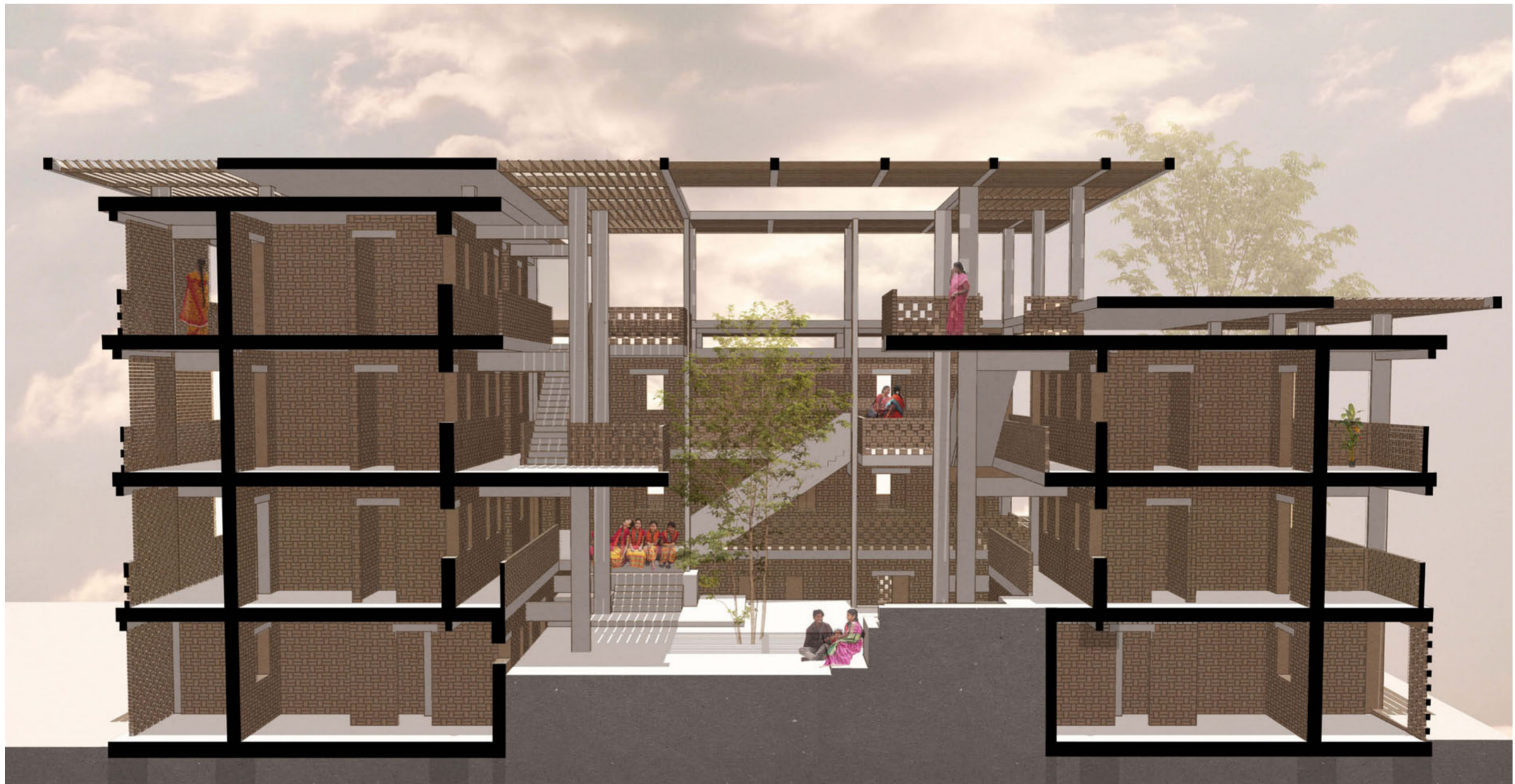






# PROJECT DOCUMENTATION

Cluster Cross Section 1:100

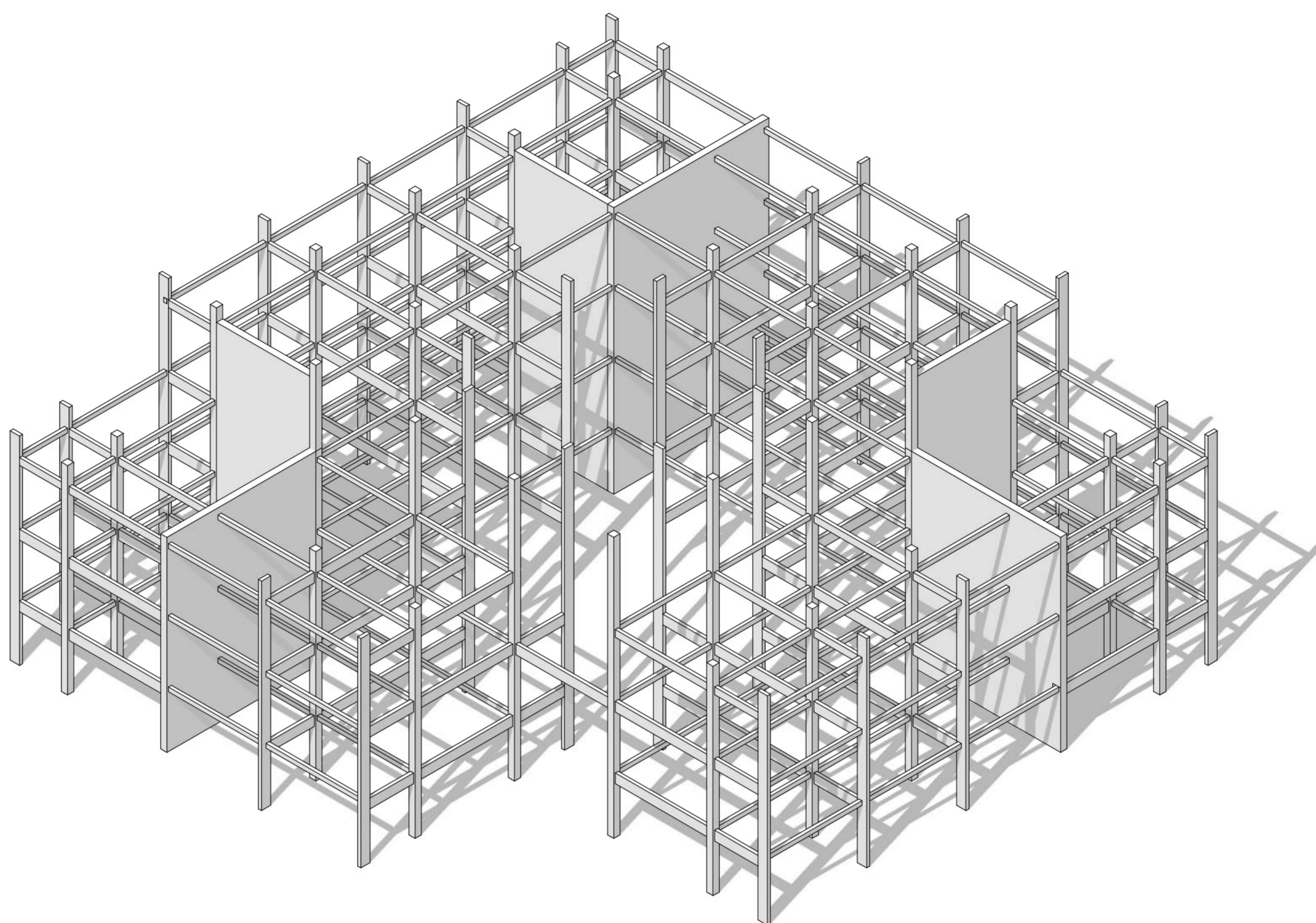






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Wire Frame 1:200

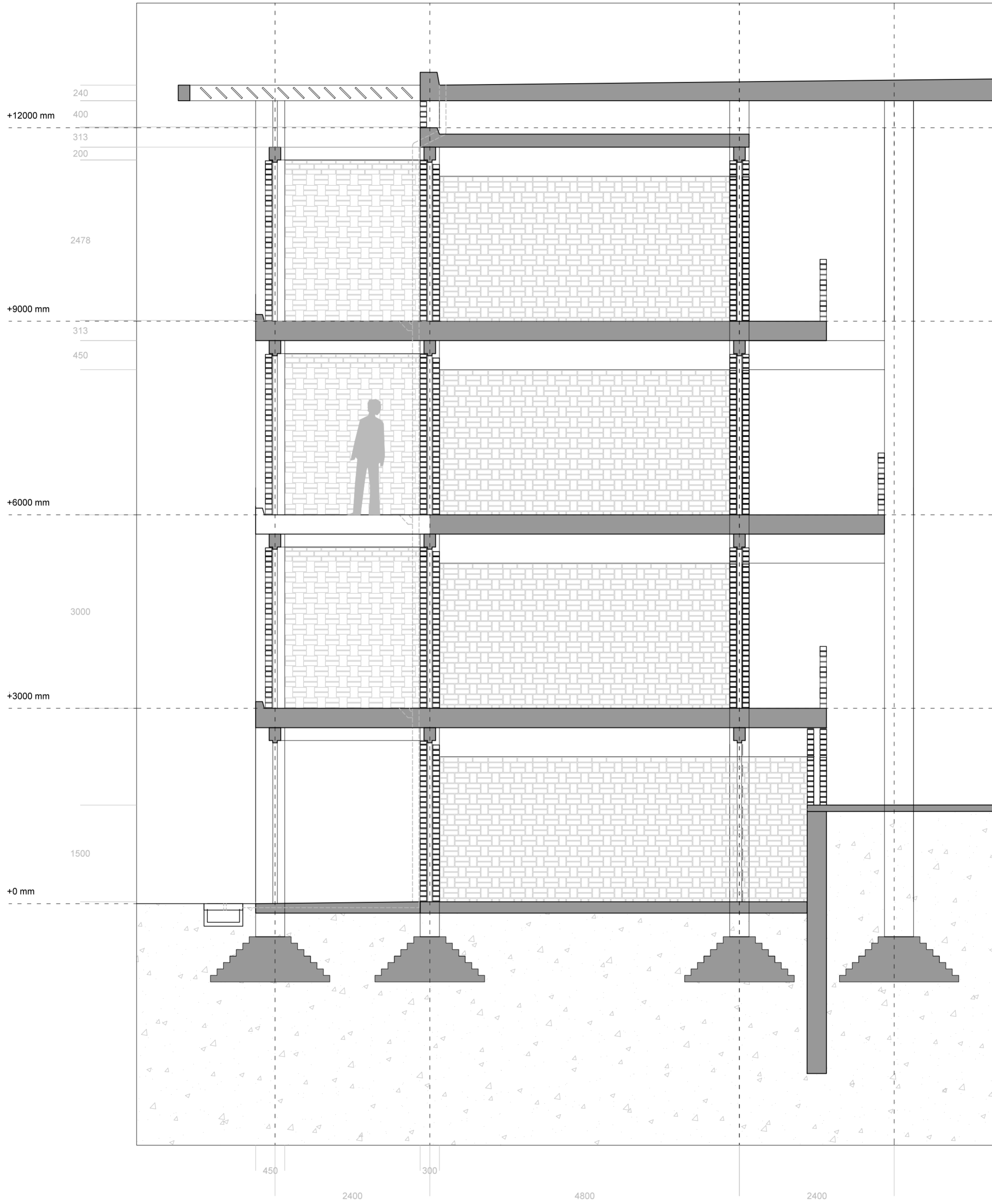






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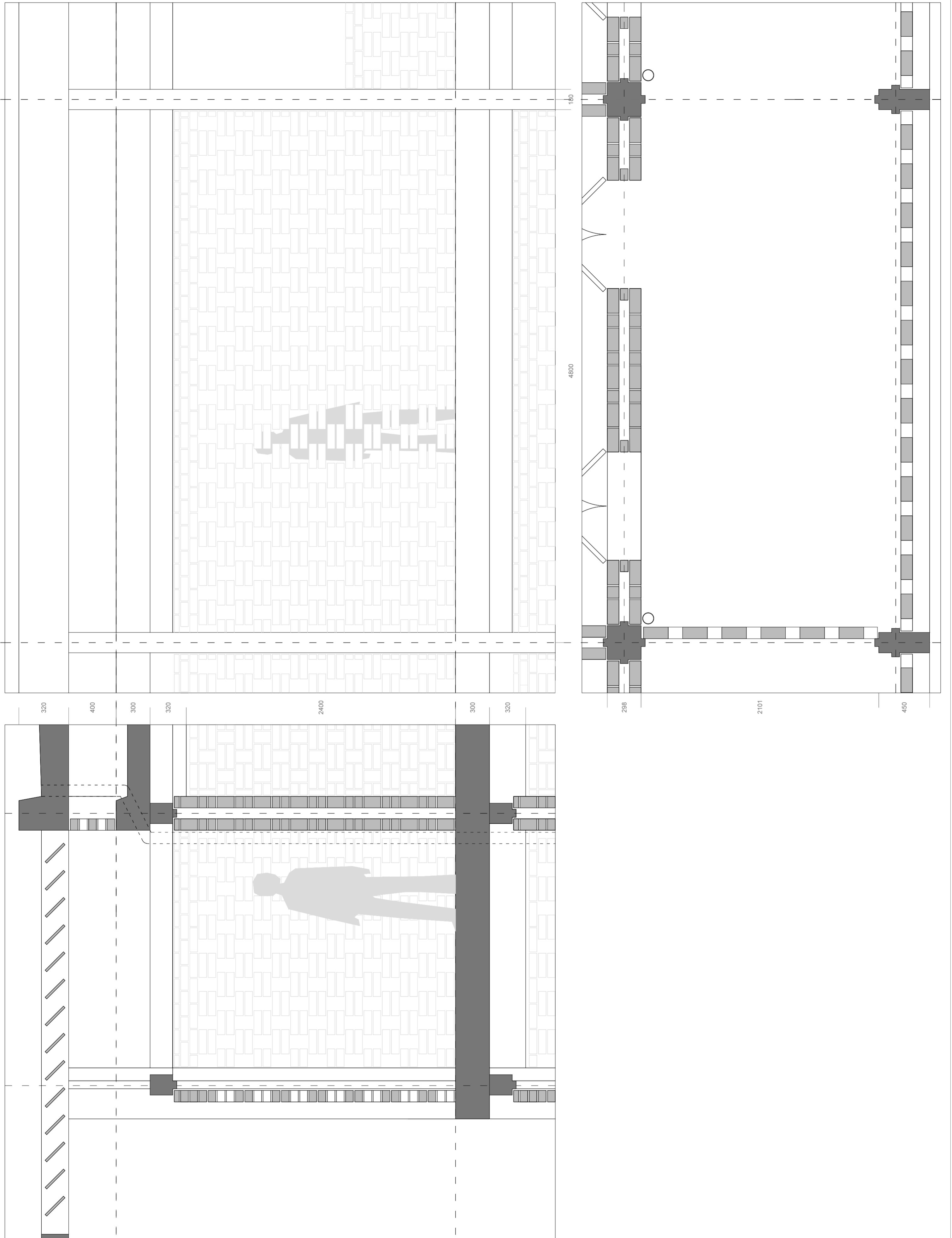
Section of the Facade 1:50







# PROJECT DOCUMENTATION







# PROJECT DOCUMENTATION

Neighbourhood Square Impression

