

LIVING MARKETS

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5303370

 **TU Delft**

**GLOBAL
HOUSING**



CONTEXT



CONTEXT
NEIGHBOURHOOD



CONTEXT
MARKET AREA

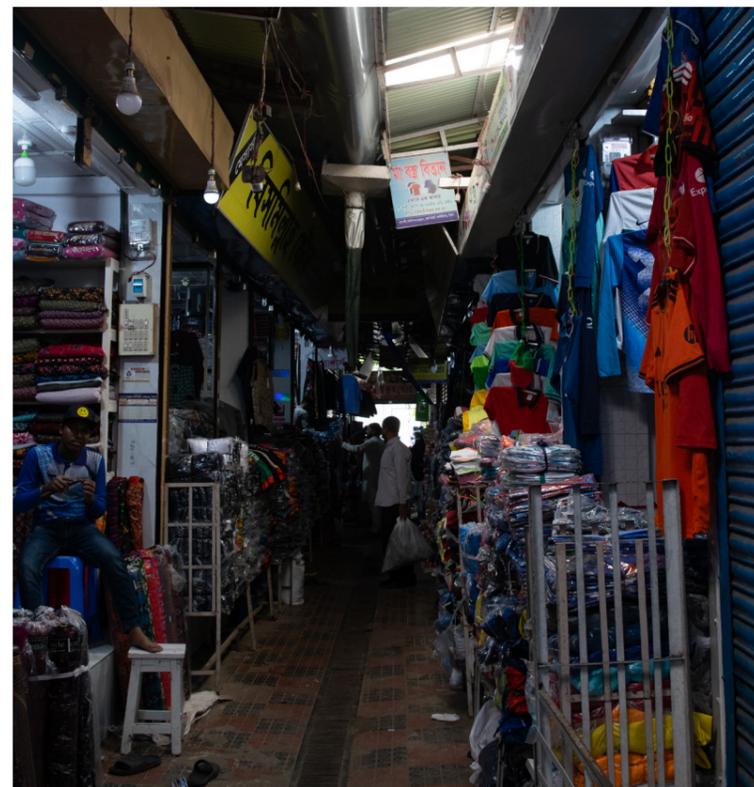
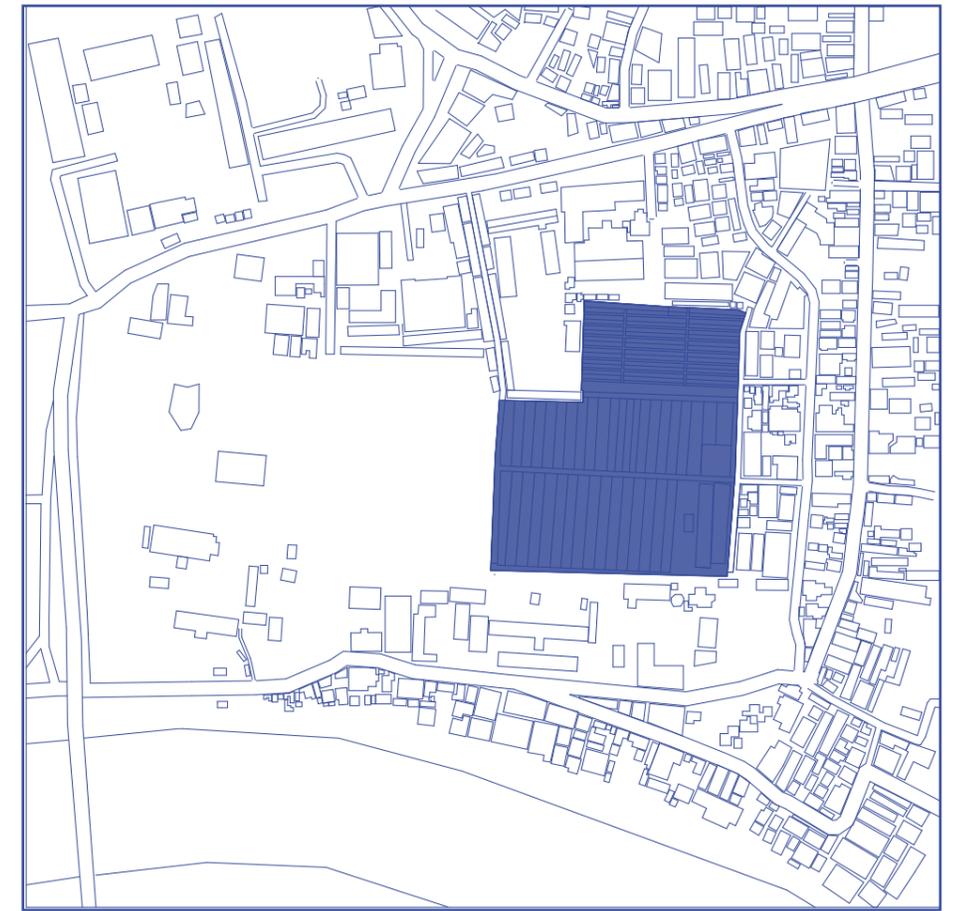


CONTEXT
HASAN MARKET



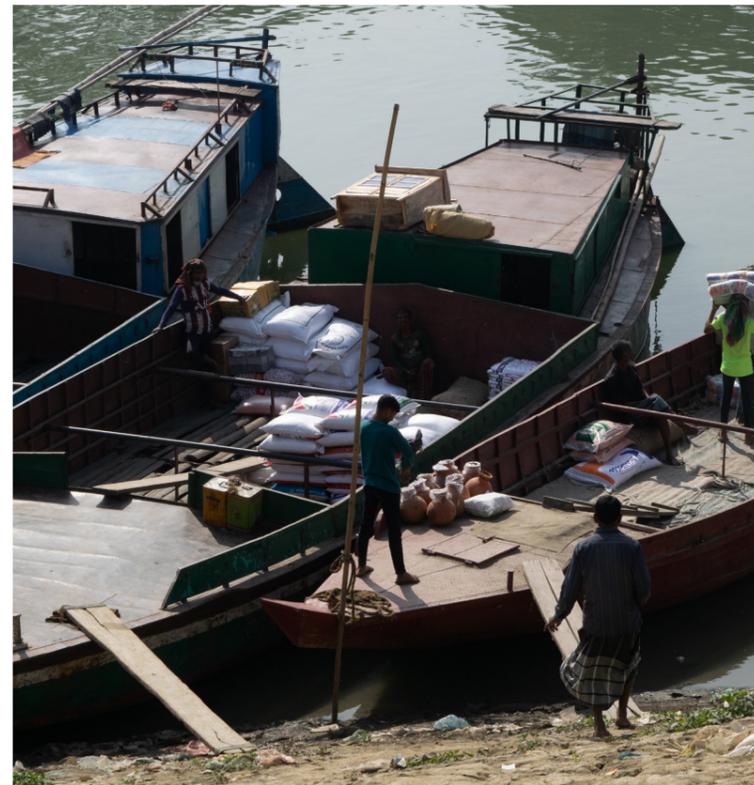
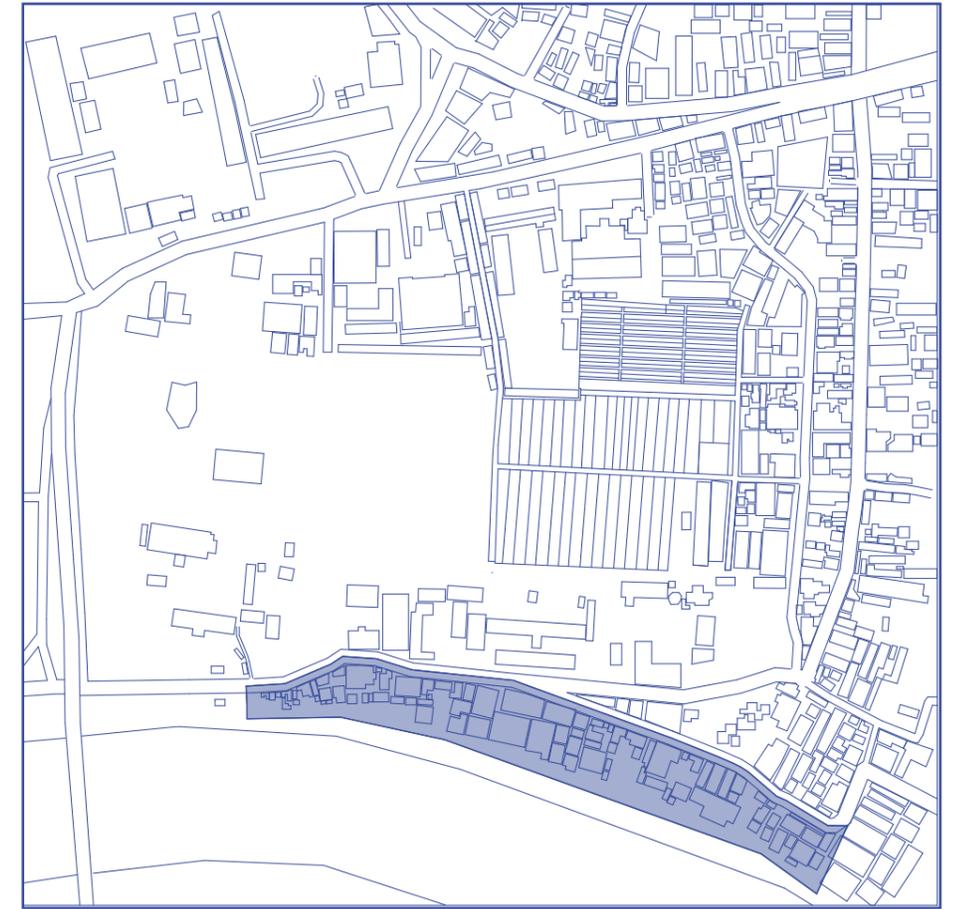
- Bordered by major roads
- Single-storied structures
- Primarily offers leather goods, clothes and toys

CONTEXT
CURRENT HAWKERS MARKET



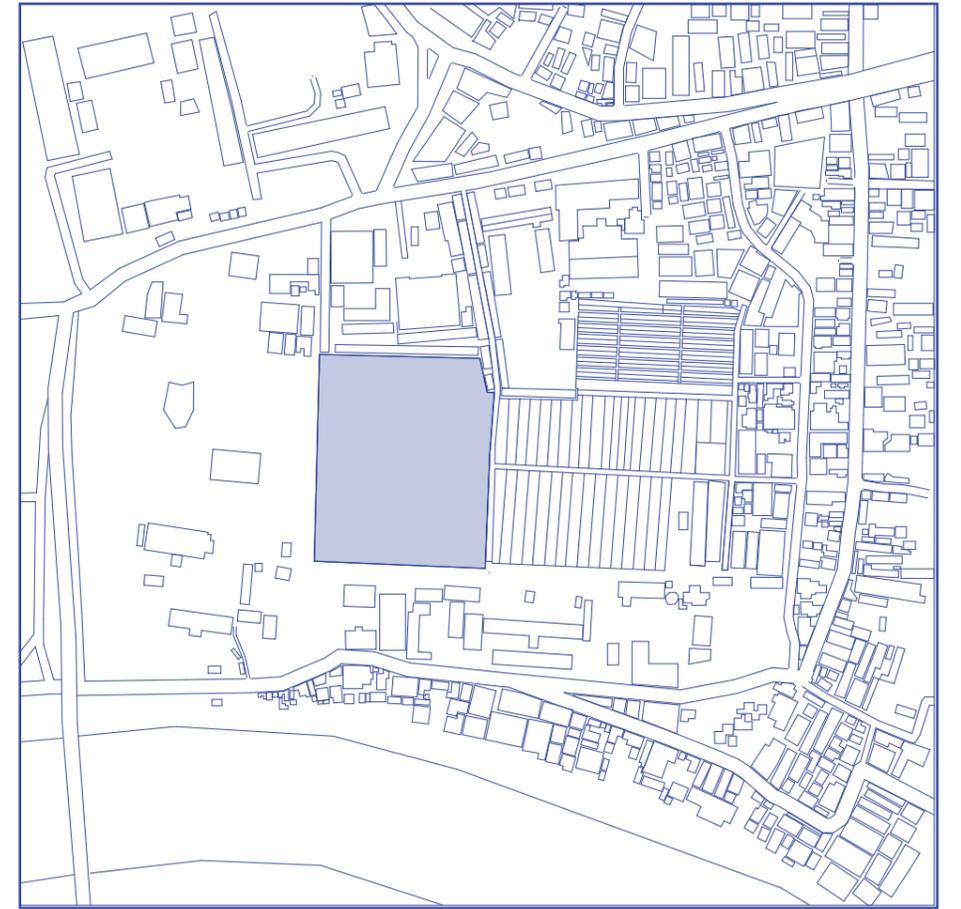
- Mix of major roads and narrow alleyways
- Multi-storied structures
- Primarily pharmaceuticals, clothes and toys

CONTEXT
KALEGHAT ROAD



- Receives supplies delivered by river
- Adjacent to major road
- Primarily offers bulk goods

CONTEXT
OLD HAWKERS MARKET



- Temporary stalls
- Primarily offers fresh products

CONTEXT
CHANGE

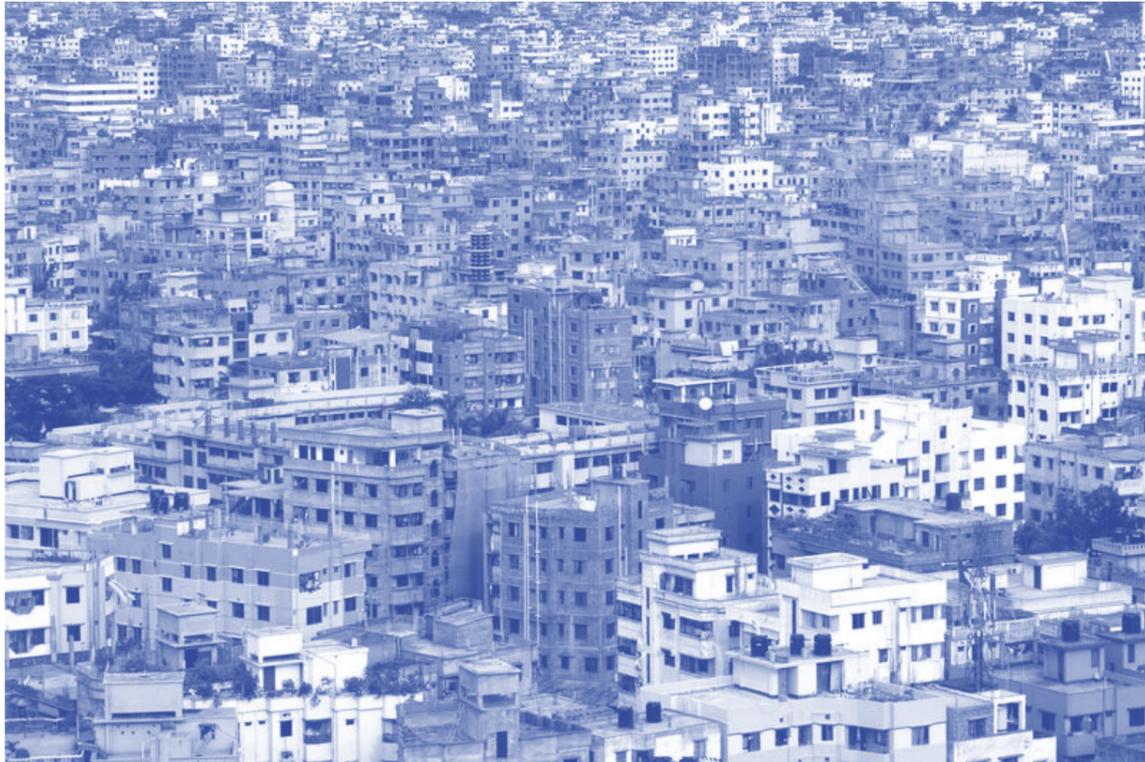


2016



2023

RESEARCH



RAPID URBAN GROWTH IN SYLHET

FAST-TRACK MODERN BUILDING IS DISPLACING SYLHET'S ADAPTABLE VERNACULAR HOMES

This urban growth leads to:

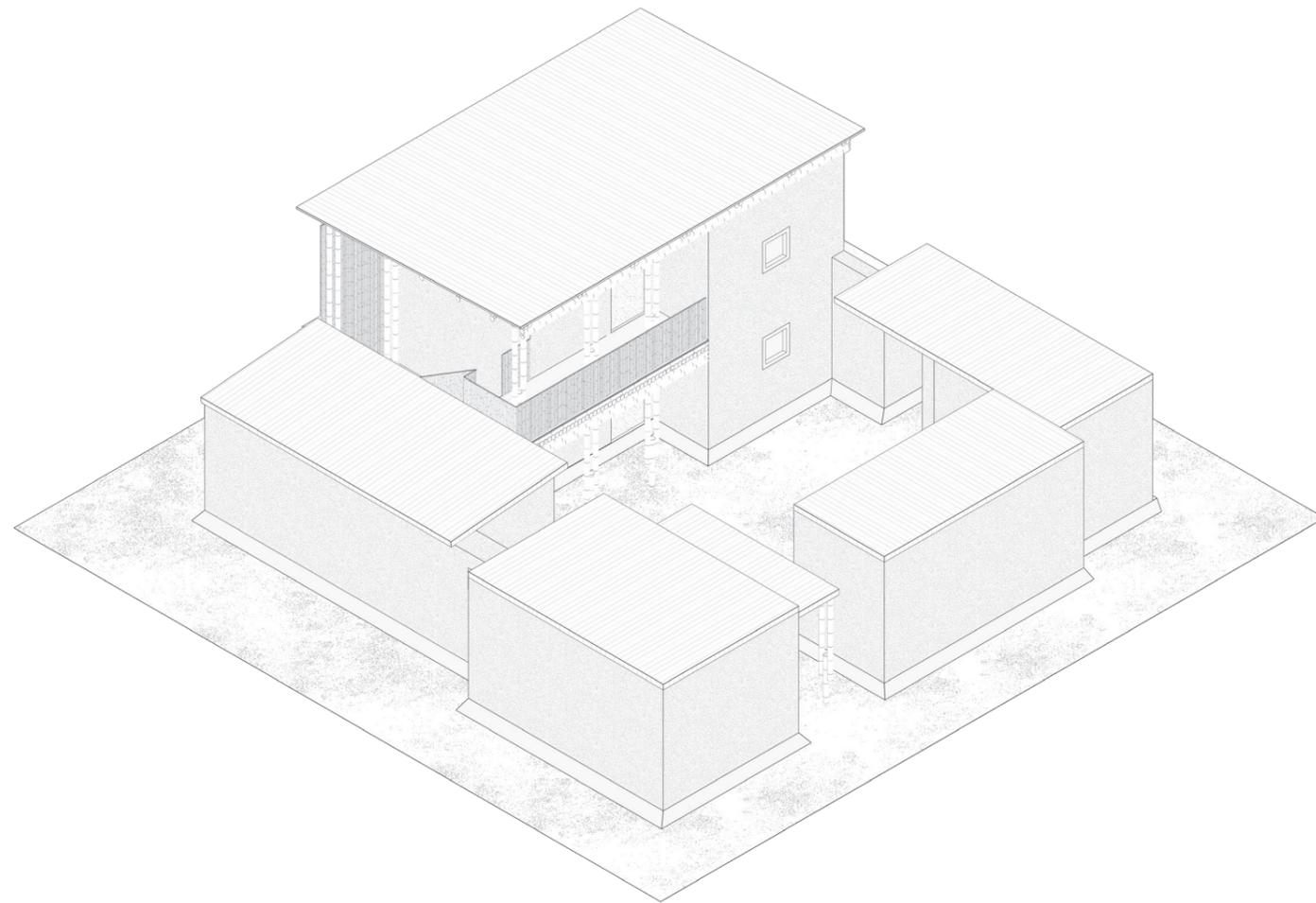
- Lost flexibility & incremental expansion
- Fading local craft and identity
- Thinner social ties in high-rises

RESEARCH QUESTION

How can **traditional adaptive housing features** be combined with **modern construction practices** to create **affordable, flexible,** and **culturally responsive** housing solutions for a rapidly urbanizing city like Sylhet?

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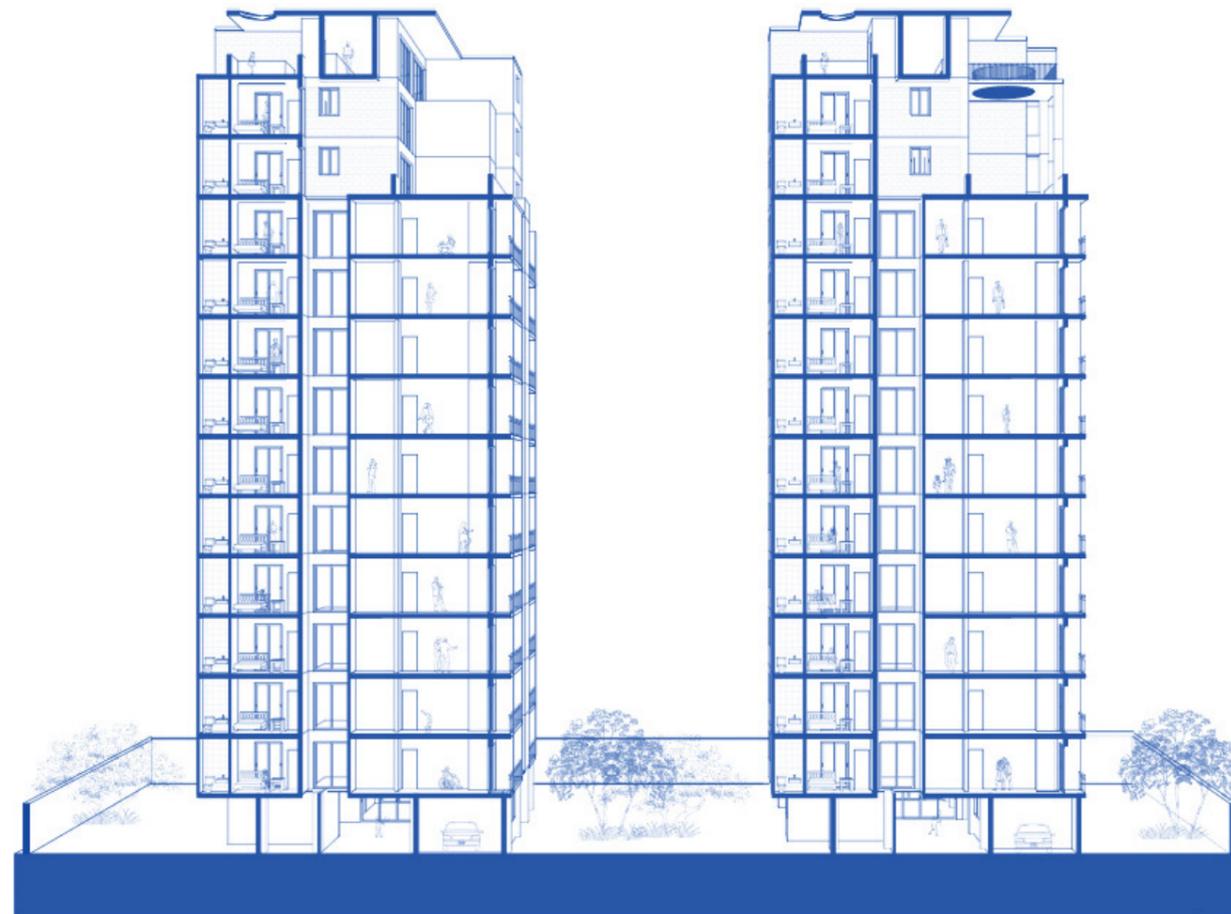


HOME-MADE Family House - Kashef Chowdhury

RESEARCH QUESTION

How can traditional adaptive housing features be combined with **modern construction practices** to create affordable, flexible, and culturally responsive housing solutions for a rapidly urbanizing city like Sylhet?

RESEARCH - Modern constructions



SOUTH 50/53 Apartmens - Shatotto

RESEARCH QUESTION

How can traditional adaptive housing features be combined with modern construction practices to create **affordable, flexible,** and **culturally responsive** housing solutions for a rapidly urbanizing city like Sylhet?



WHY THIS RESEARCH MATTERS

- Vernacular qualities are fading from contemporary buildings.
- Modern methods deliver housing faster and at lower upfront cost.
- Locally sourced materials are increasingly overlooked in new construction.

Key challenge: Fuse the social adaptability of vernacular design with the efficiency of modern construction to create housing that is affordable, flexible, and culturally resonant.

This approach is relevant far beyond Sylhet; many rapidly urbanising cities face the same tension between speed, cost and cultural continuity.



AN INCLUSIVE HOUSING FUTURE

- Unite rapid, modern construction with vernacular social flexibility
- Revive local materials & craft in contemporary systems
- Embed “right-size living” options for every income level

CONCEPT

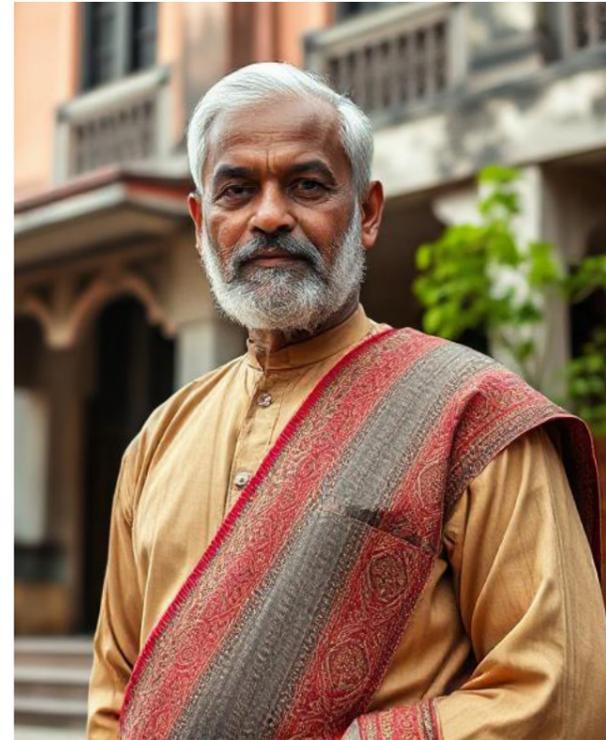
CONCEPT
TARGET GROUPS



Low income



Mid income



High income



Vendors/Customers

CONCEPT
LOW INCOME



Informal, labor-intensive jobs

- Street vendors, market porters, waste pickers
- Ride-hail bicyclists
- Part-time cleaners and security guards

Household profile

- 4 - 6 people members
- One main earner plus irregular secondary earners

Typical living condition

- Densely packed settlements
- Shared kitchen and toilets

CONCEPT
MID INCOME



Stable and salaried jobs

- Teachers, mid-level office staff, nurses, police officers
- Small-business owners

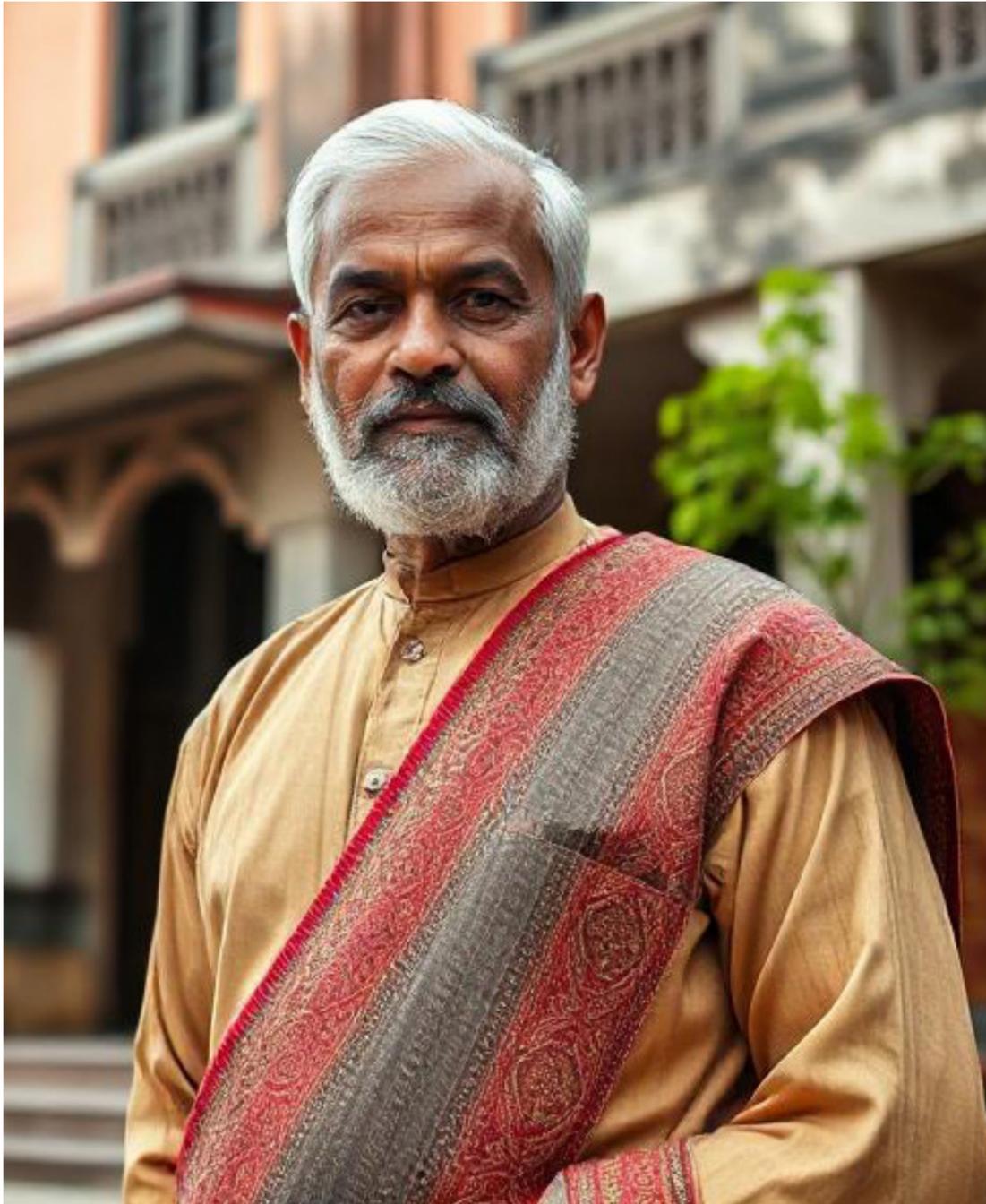
Household profile

- 3 - 5 people members
- Nuclear family

Typical living condition

- Mid rise condo flats or gated townhouse clusters
- Reliable utilities
- More durable housing

CONCEPT
HIGH INCOME



Executive & entrepreneurial positions

- Real-estate developers, export-import traders
- High-profile professionals (surgeons, lawyers)

Household profile

- 4 - 5 people members
- Staff for housekeeping

Typical living condition

- Luxury condos or gated estates
- Secure parking



Job/business model

- 5 - 20 m² store or business
- Slim-margin, high turnover

Typical customers

- Lower-middle-income neighbours

Operating/shopping conditions

- Alley-front units
- Limited refrigeration
- Peak crowds after work

CROSS SUBSIDIZATION



Vendors

- Pay rent for their stall

High income

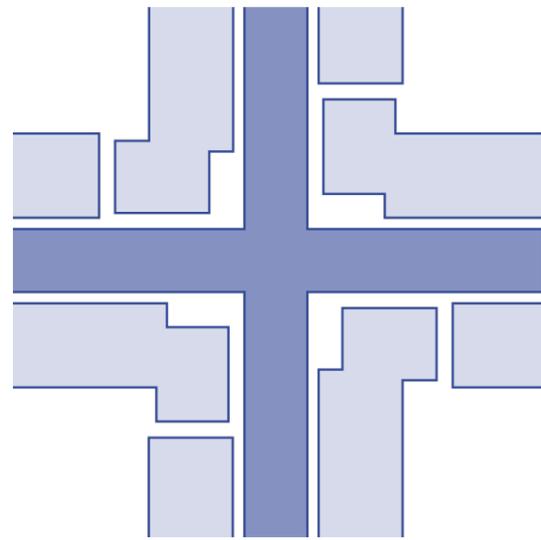
- Pay higher prices for land, services or housing units

This money is used to subsidize affordable housing for low income families

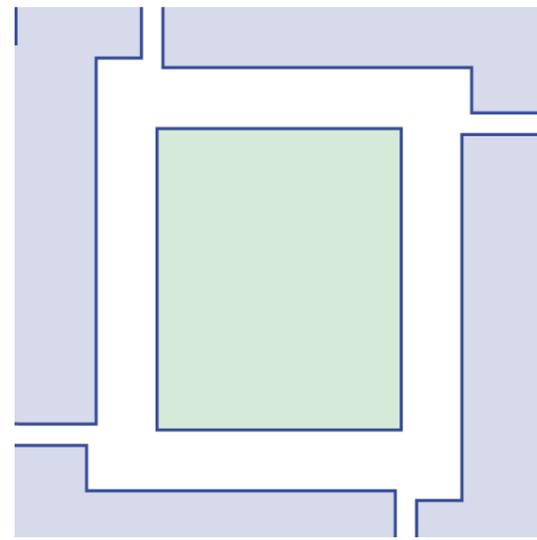
Benefits

- Ensures mixed-income communities
- Reduces urban inequality

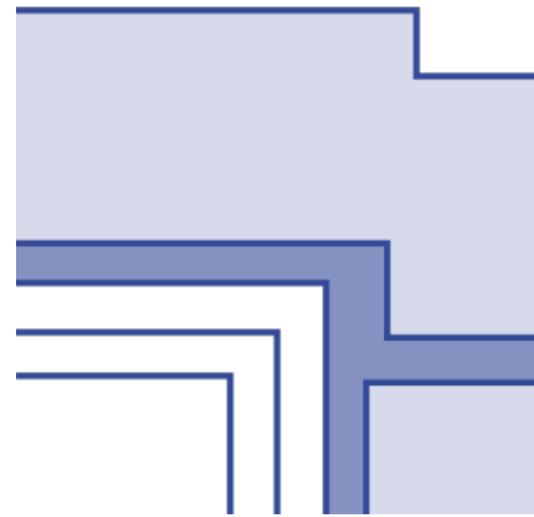
CONCEPT
HIERARCHY OF SPACES



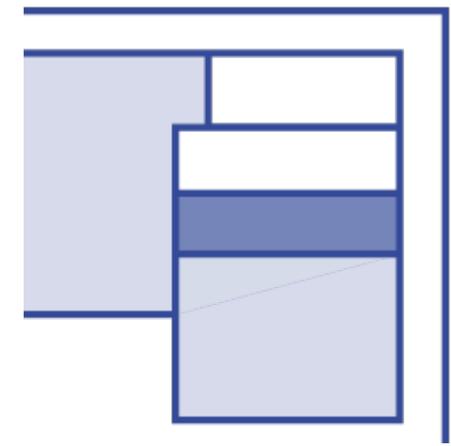
Spine
Public



Courtyard
Semi-public



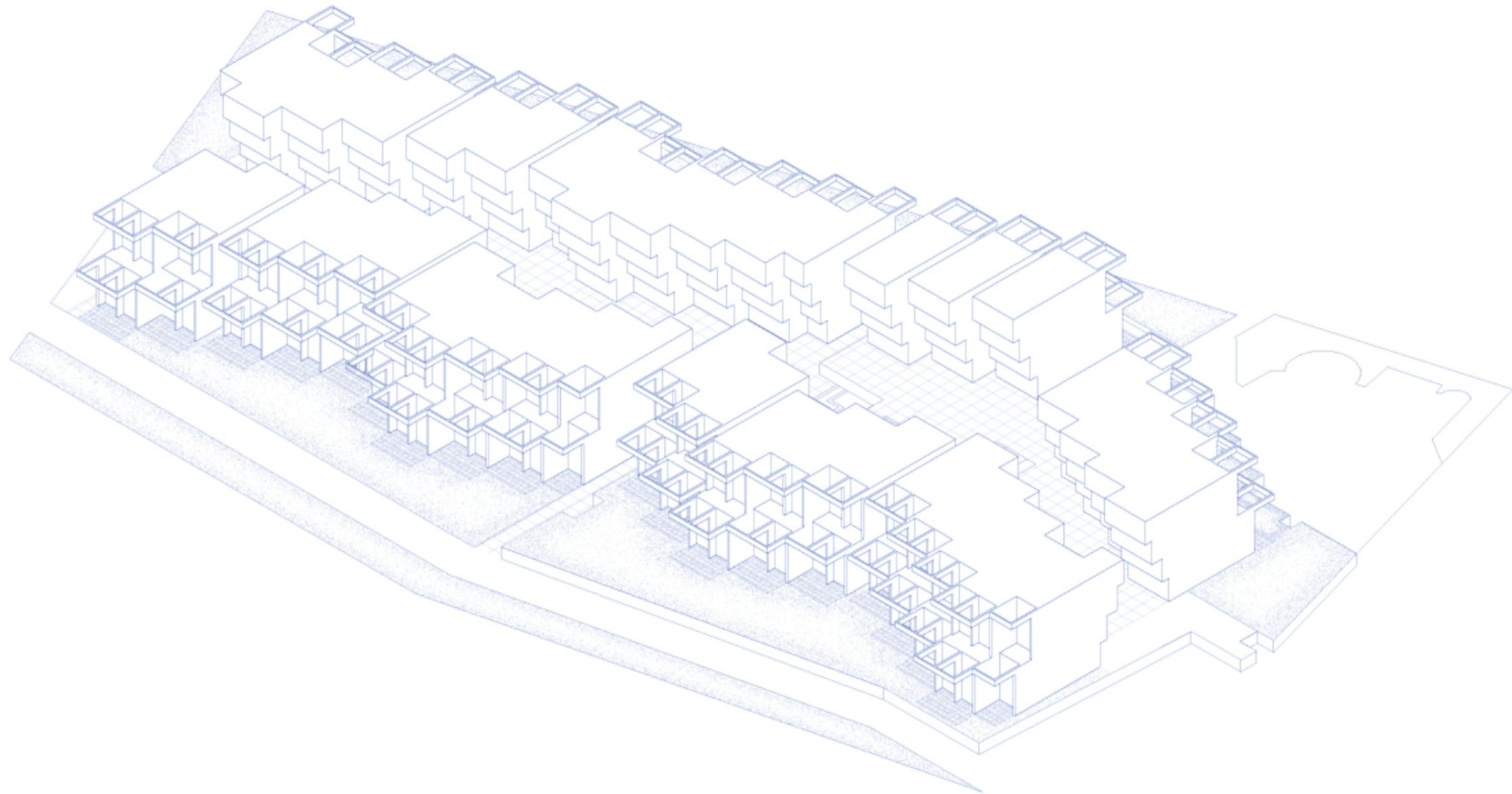
Gallery
Semi-private



Veranda
Private

CONCEPT

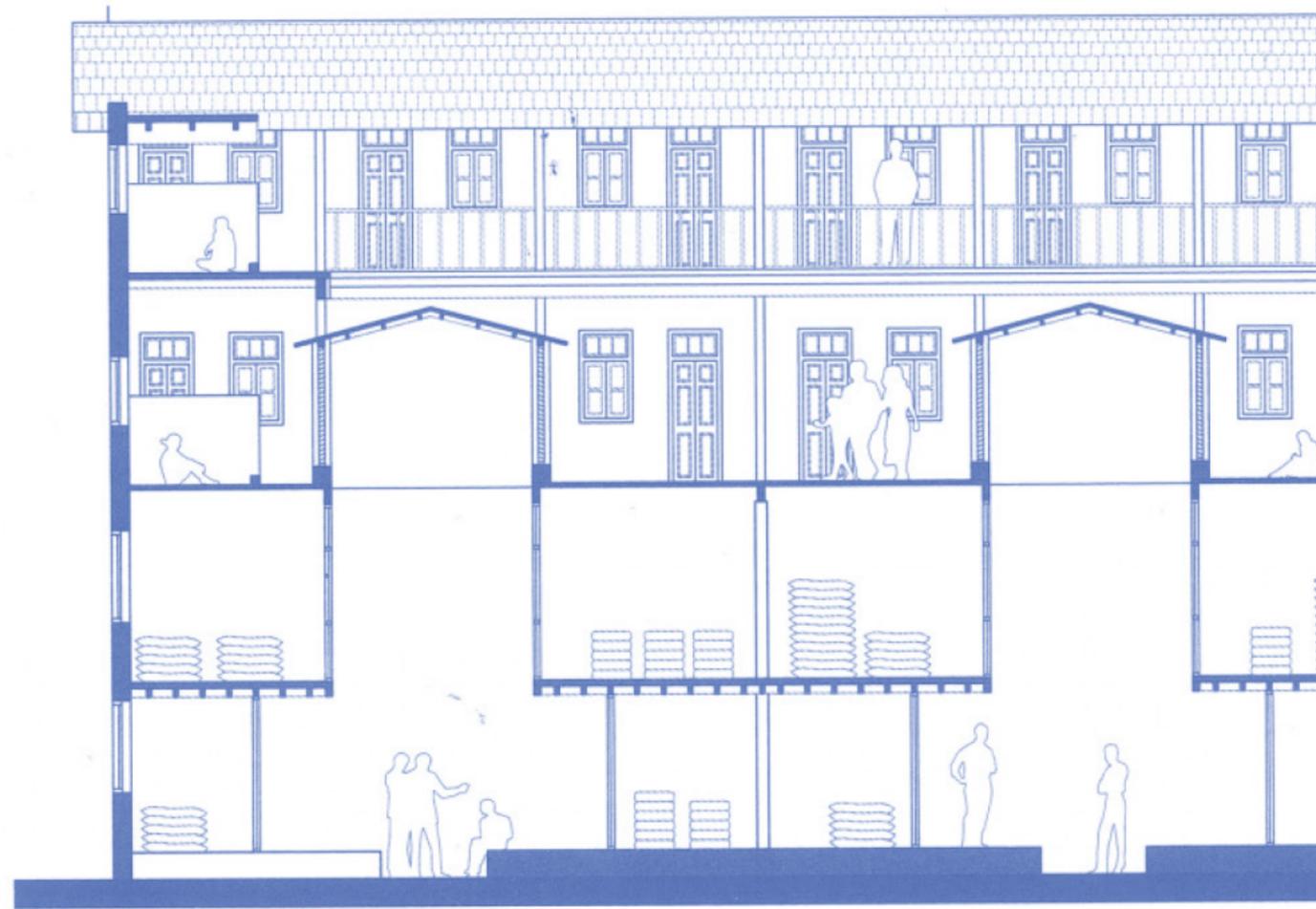
HIERARCHY OF SPACES - Spine



Tara Apartments - Charles Correa

CONCEPT

HIERARCHY OF SPACES - Spine

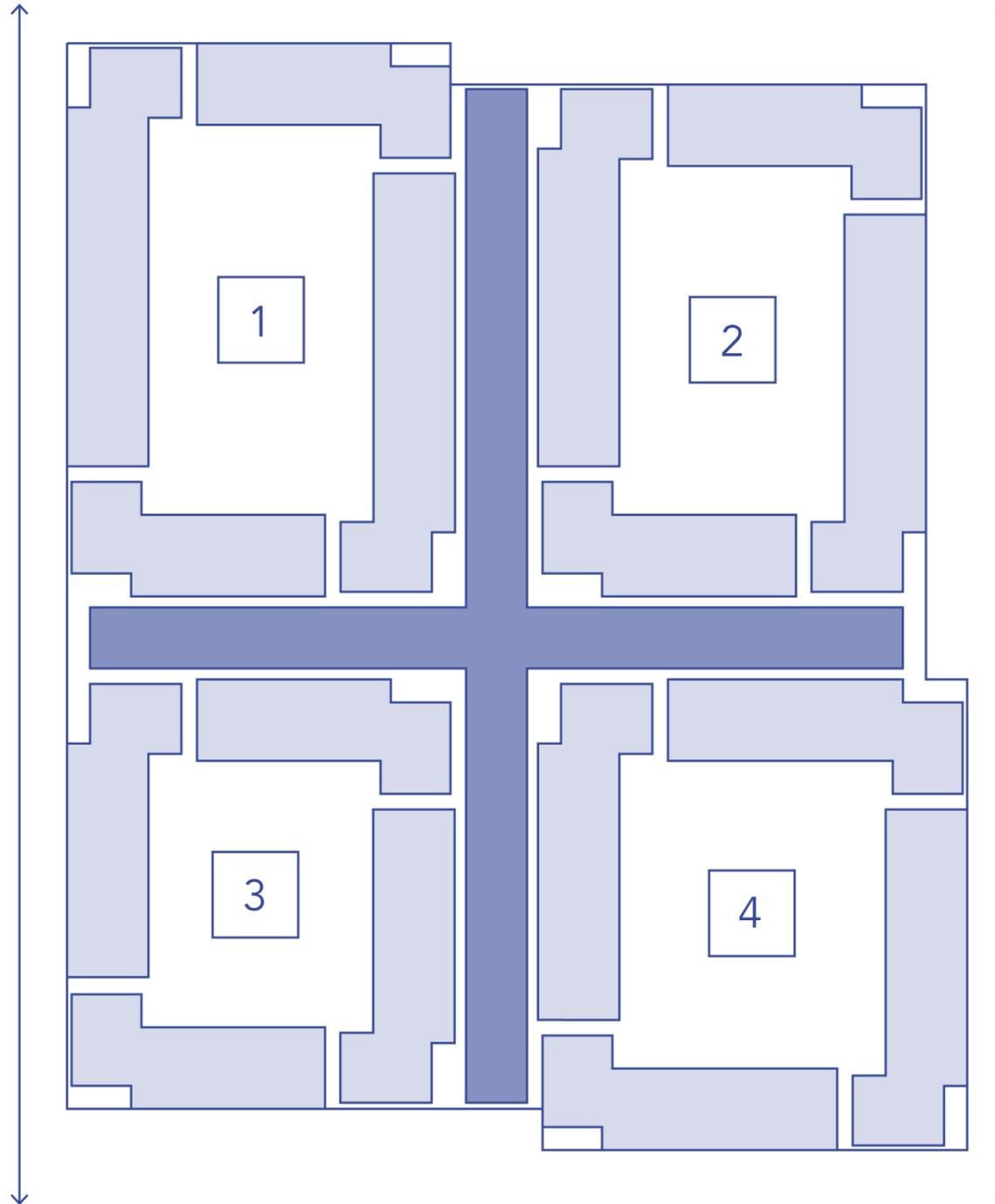


Swadeshi Market - Vishwanath Kashinath

HIERARCHY OF SPACES - Spine

The spine is an elevated 'second ground floor' for the residents

Around the clusters, two vehicle roads are situated for cars and emergency

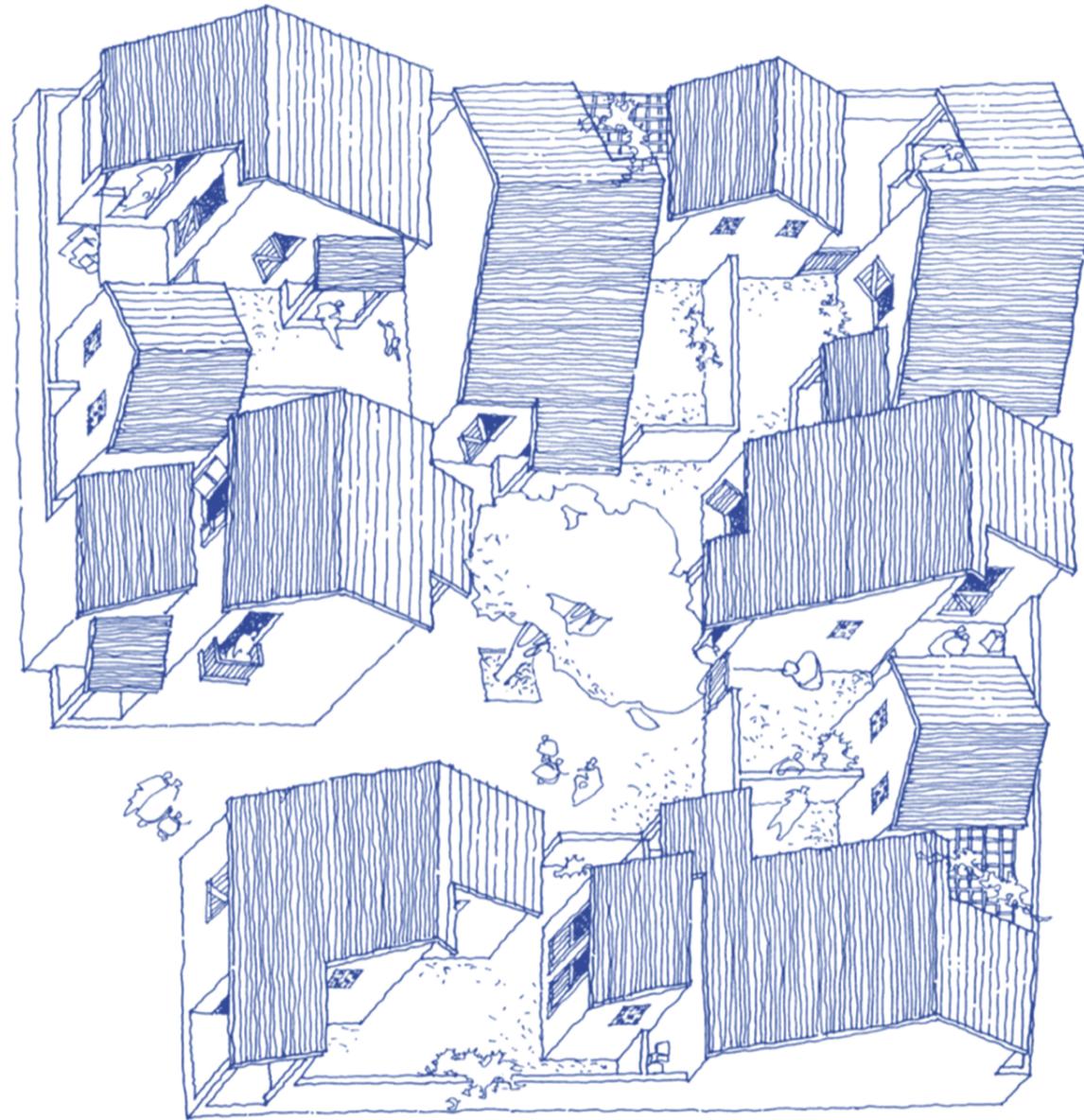


The clusters are replicated four times to create the masterplan of the hawkers market

7m wide streets are crossing through the clusters to function as shopping streets

CONCEPT

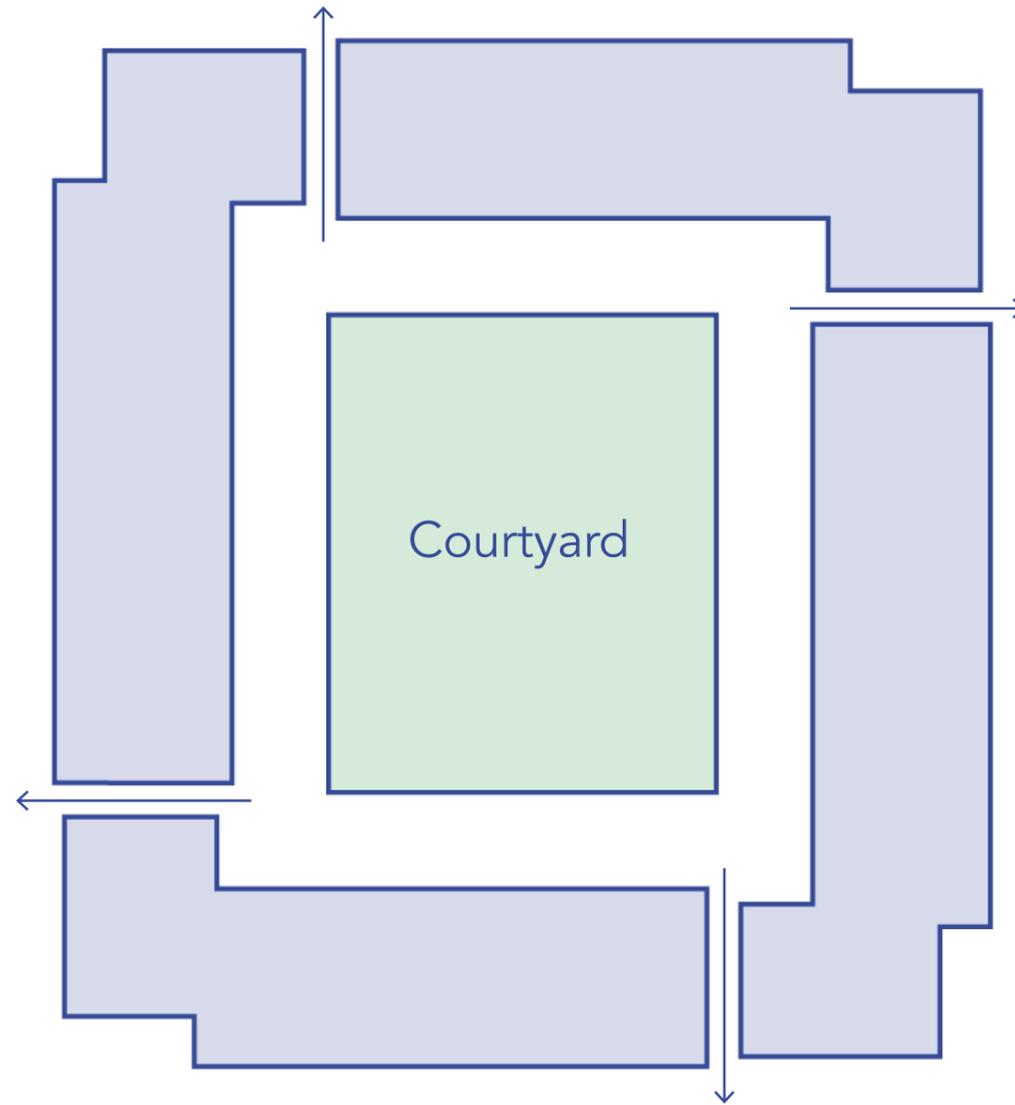
HIERARCHY OF SPACES - Courtyard



Belapur Housing - Charles Correa

HIERARCHY OF SPACES - Courtyard

Four blocks are detached to allow circulation and ventilation

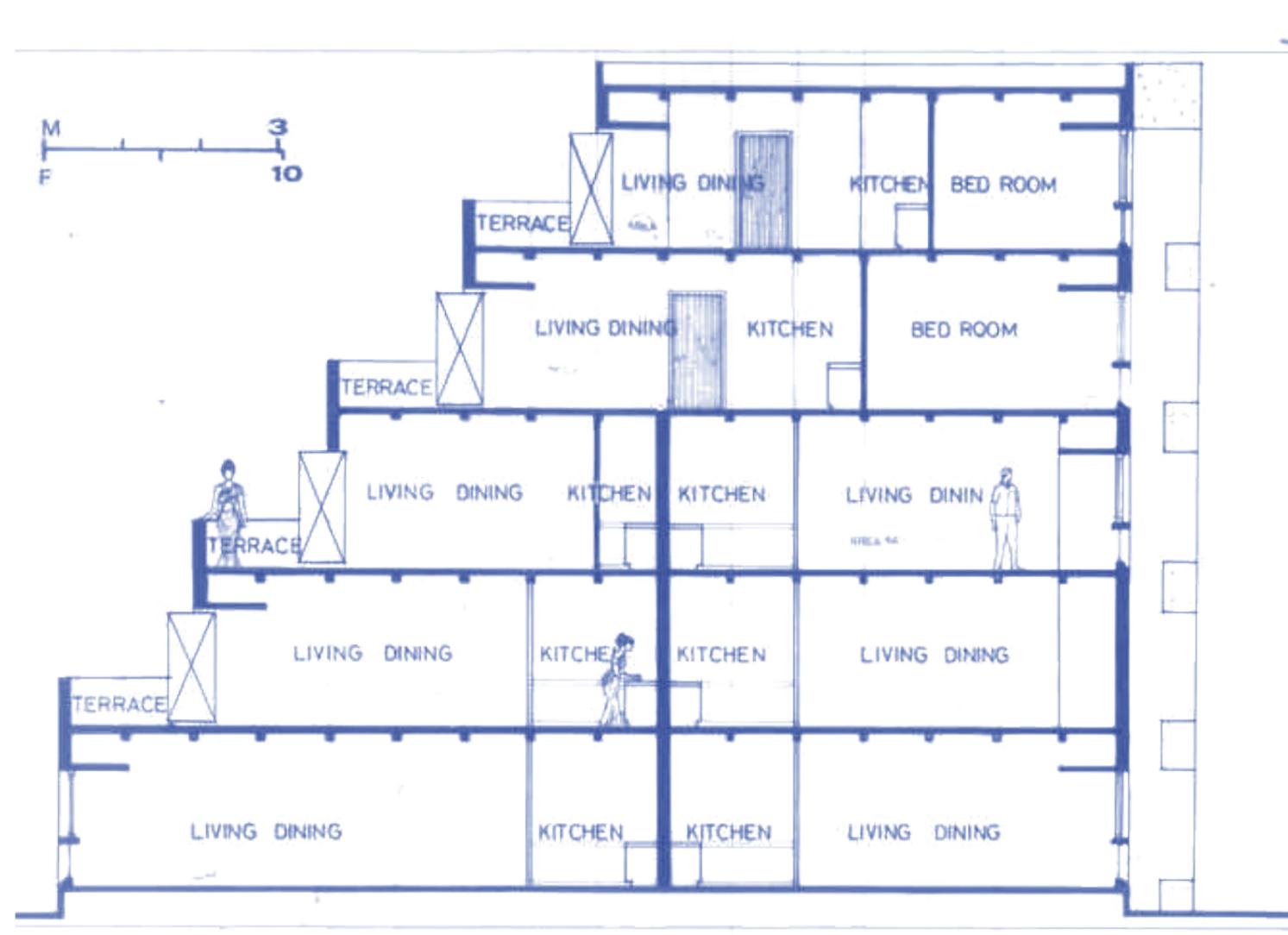


Courtyard give residents a sense of intimacy and belonging

All four blocks have their own core with elevator and staircase

CONCEPT

HIERARCHY OF SPACES - Gallery/veranda

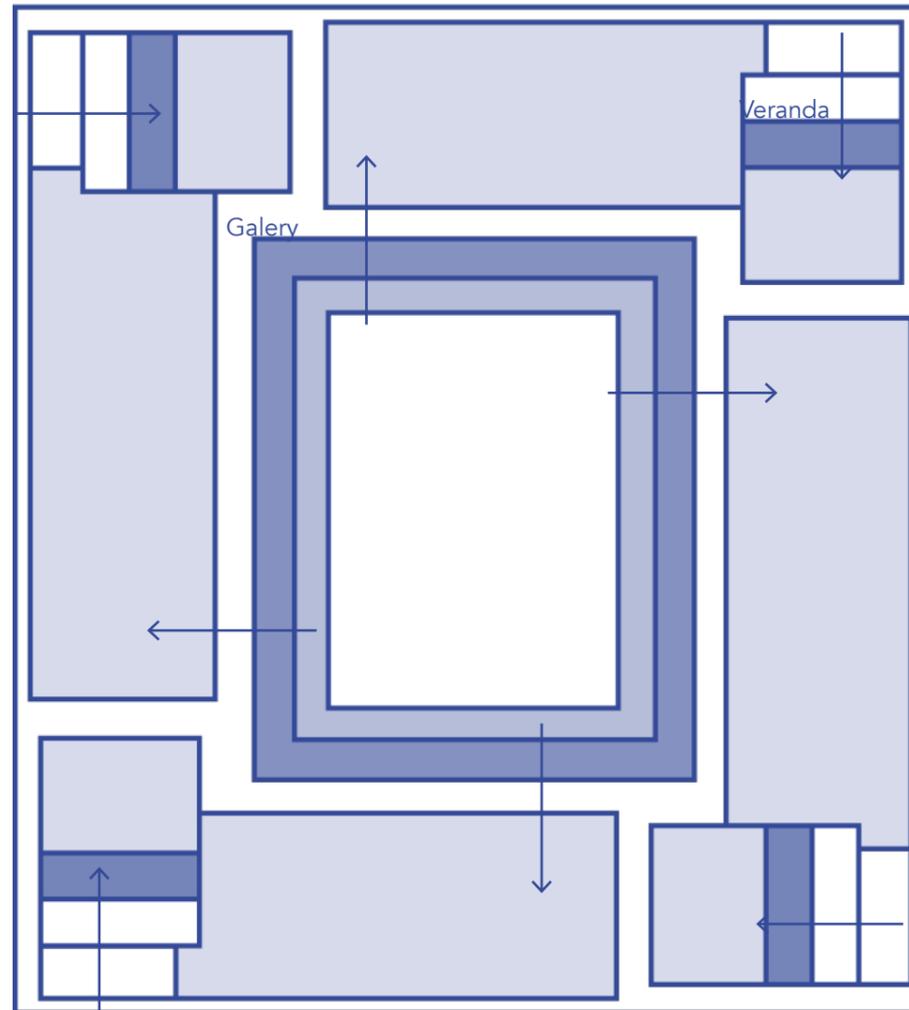


LIC Colony - Charles Correa

HIERARCHY OF SPACES - Gallery/veranda

Setback creating different housing units

Setbacks creating access galleries around the courtyard and private verandas on the cluster periphery

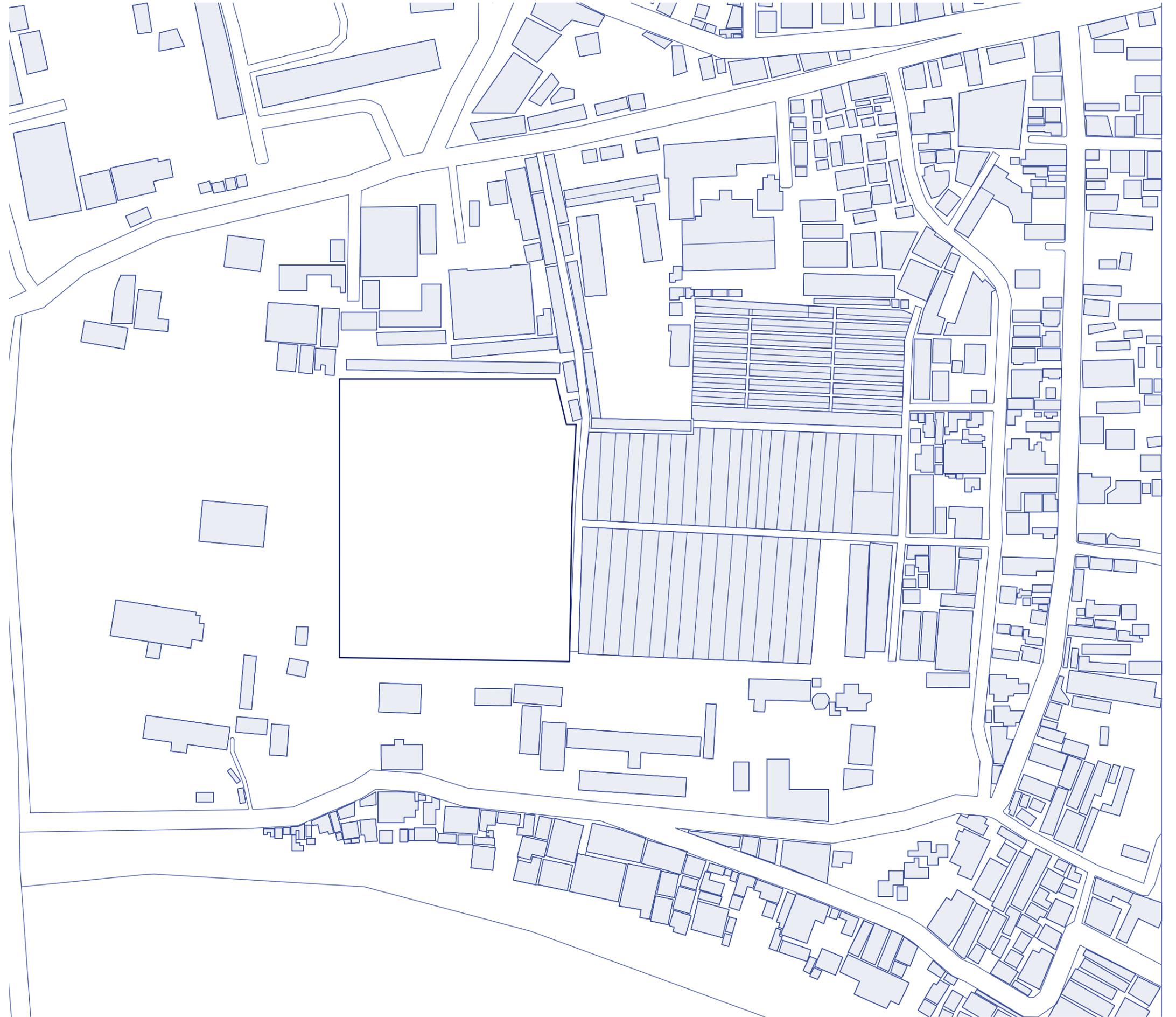


Green roofs added for protection against sun and rain

Accessible roofs create an extra place to use

MANAGEMENT

MANAGEMENT
CURRENT



MANAGEMENT
PHASE 1

GSI - 0,64

FSI - 2,6

Housing units - 306

Units/ha - 180

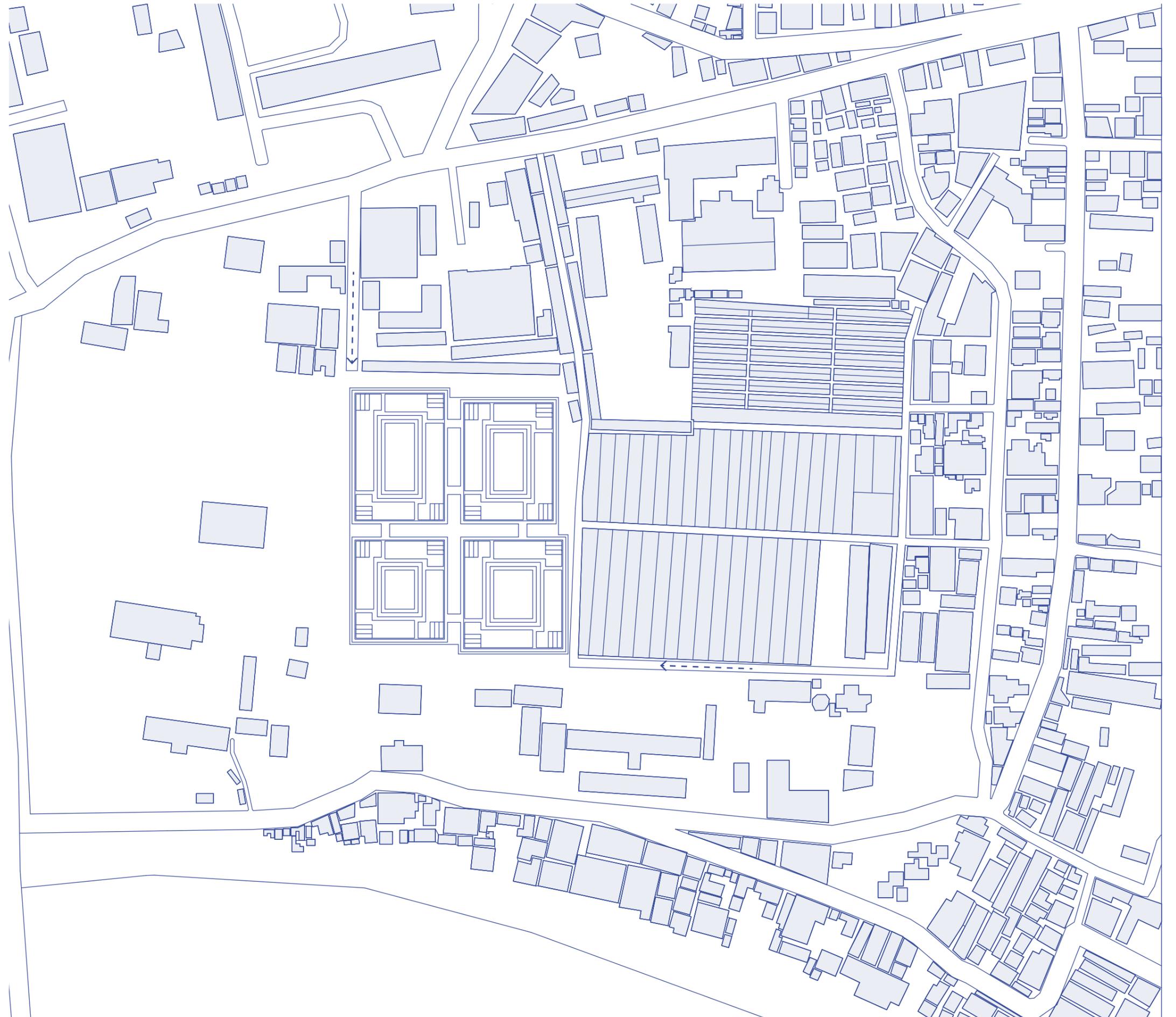
Low income (54%)

Mid income (31%)

High income (15%)

Parking spaces - 120

Commercial area - 1180 m²



MANAGEMENT
PHASE 2

GSI - 0,60

FSI - 2,4

Housing units - 324

Units/ha - 170

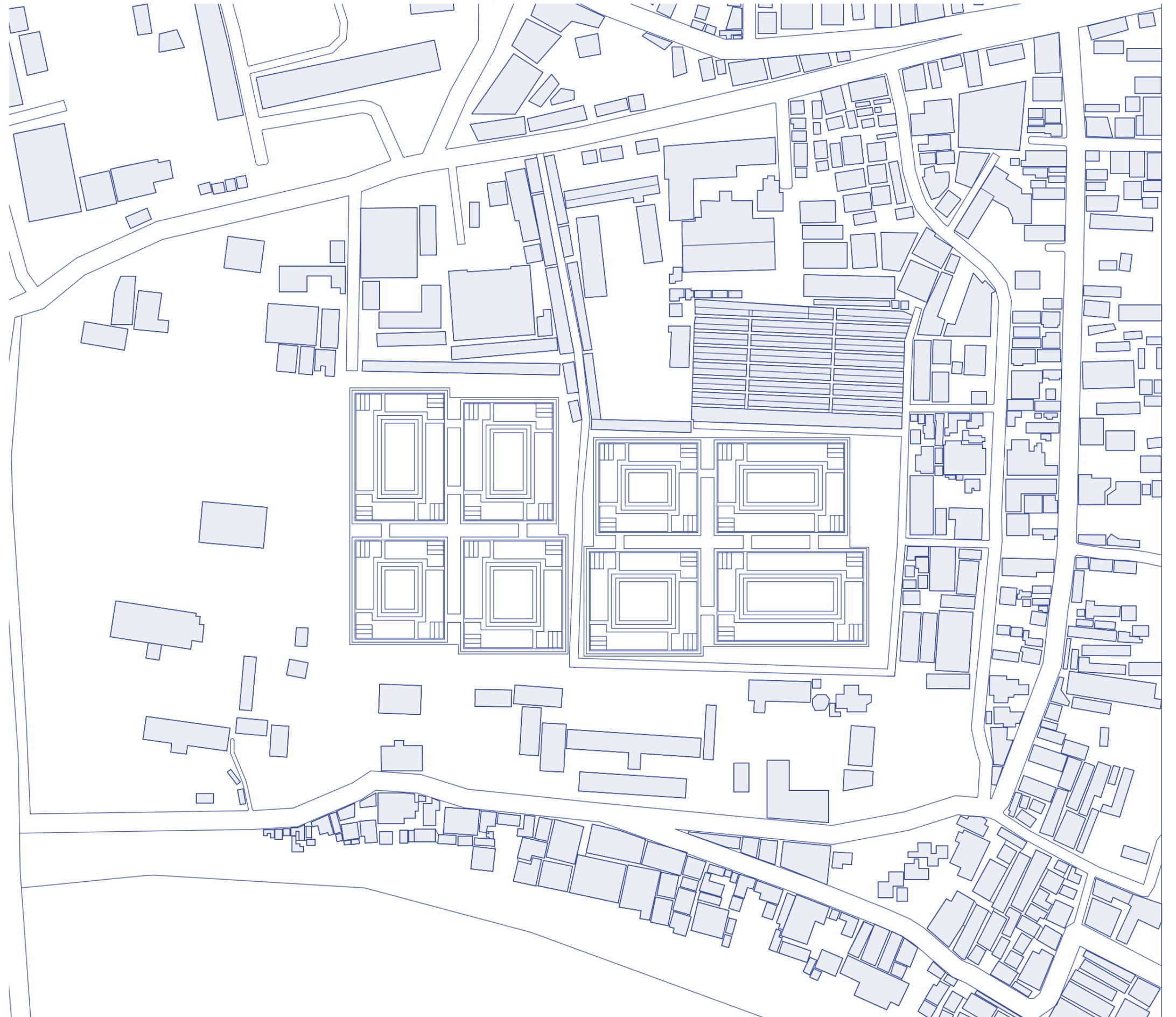
Low income (ca. 55%)

Mid income (ca. 30%)

High income (ca. 15%)

Parking spaces - 130

Commercial area - 1220 m²



MANAGEMENT

TOTAL

GSI - 0,62

FSI - 2,5

Housing units - 630

Units/ha - 175

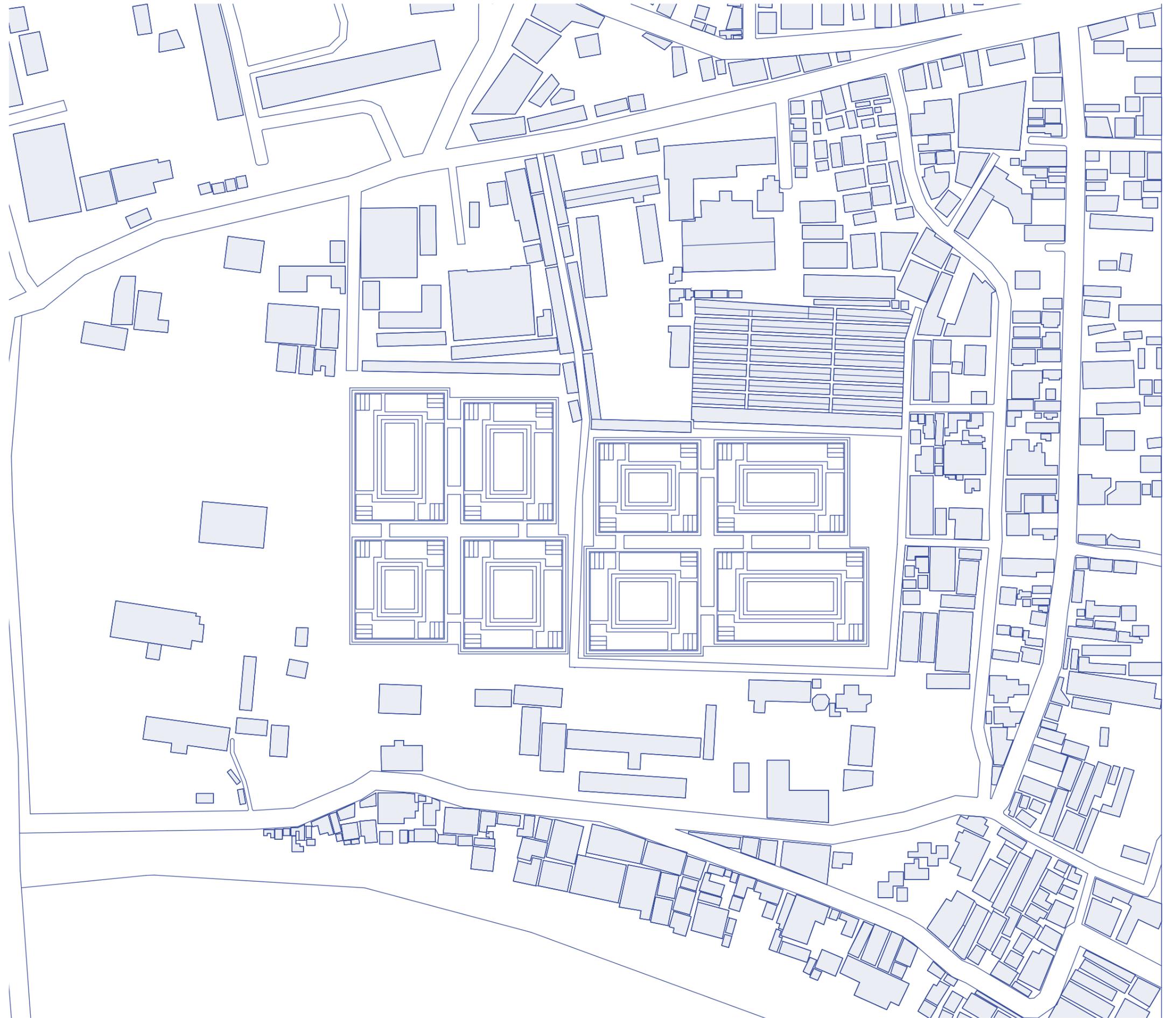
Low income (ca. 55%)

Mid income (ca. 30%)

High income (ca. 15%)

Parking spaces - 250

Commercial area - 2400 m²



MANAGEMENT
STAKEHOLDERS



Revenue

Total revenue =
2.960.000 + 8.850.000 =
11.810.000 BDT
96.000 USD

Total revenue dwellings =
2.960.000 BDT

Total revenue shops =
8.850.000 BDT

Expenses

Total costs
24.000 BDT x 44.200 m² =
1.060.800.000 BDT
8.700.000 USD

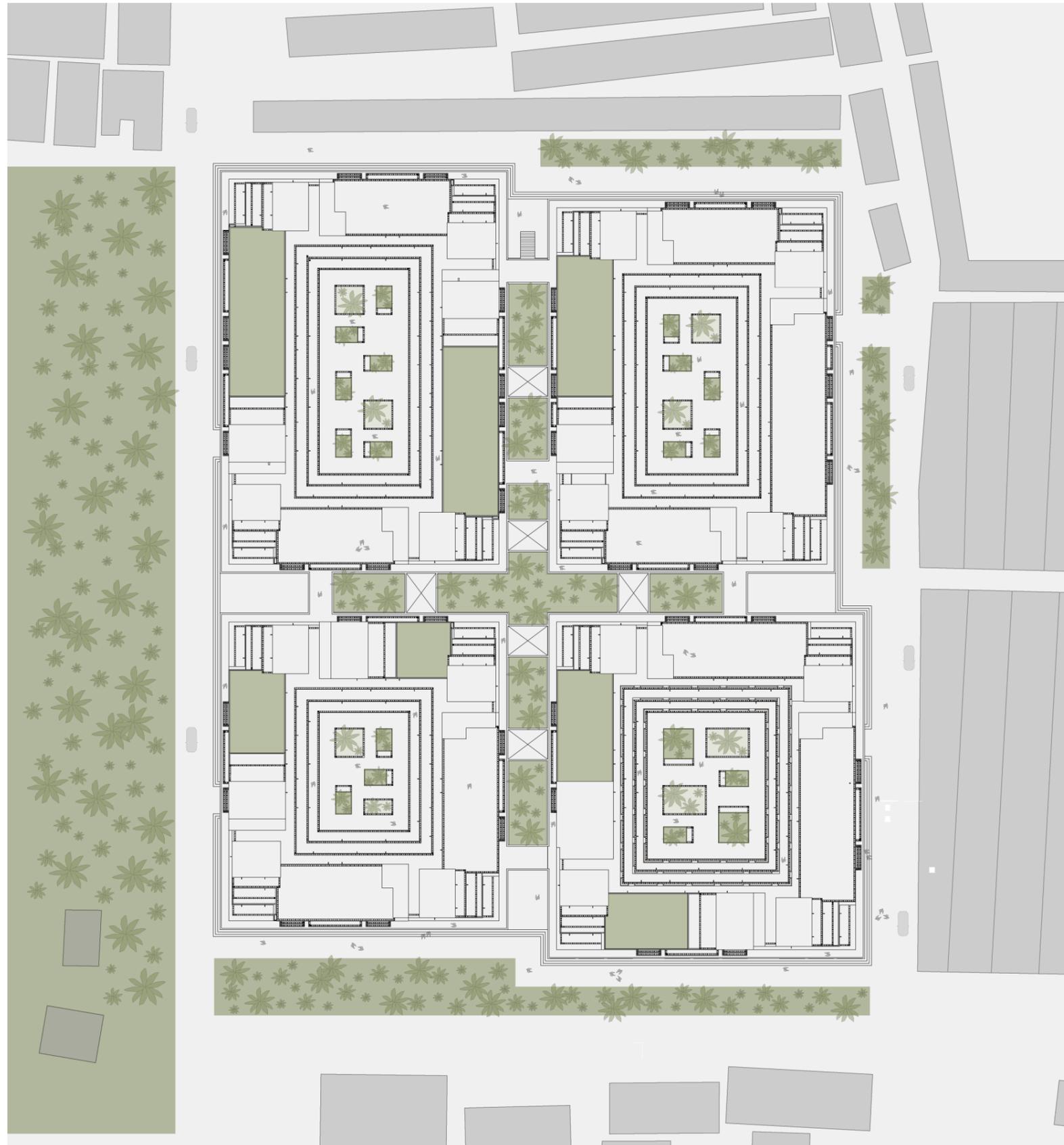
Payback

1.060.800.000 /
11.810.000 =
89,8 months
7,5 years

URBAN

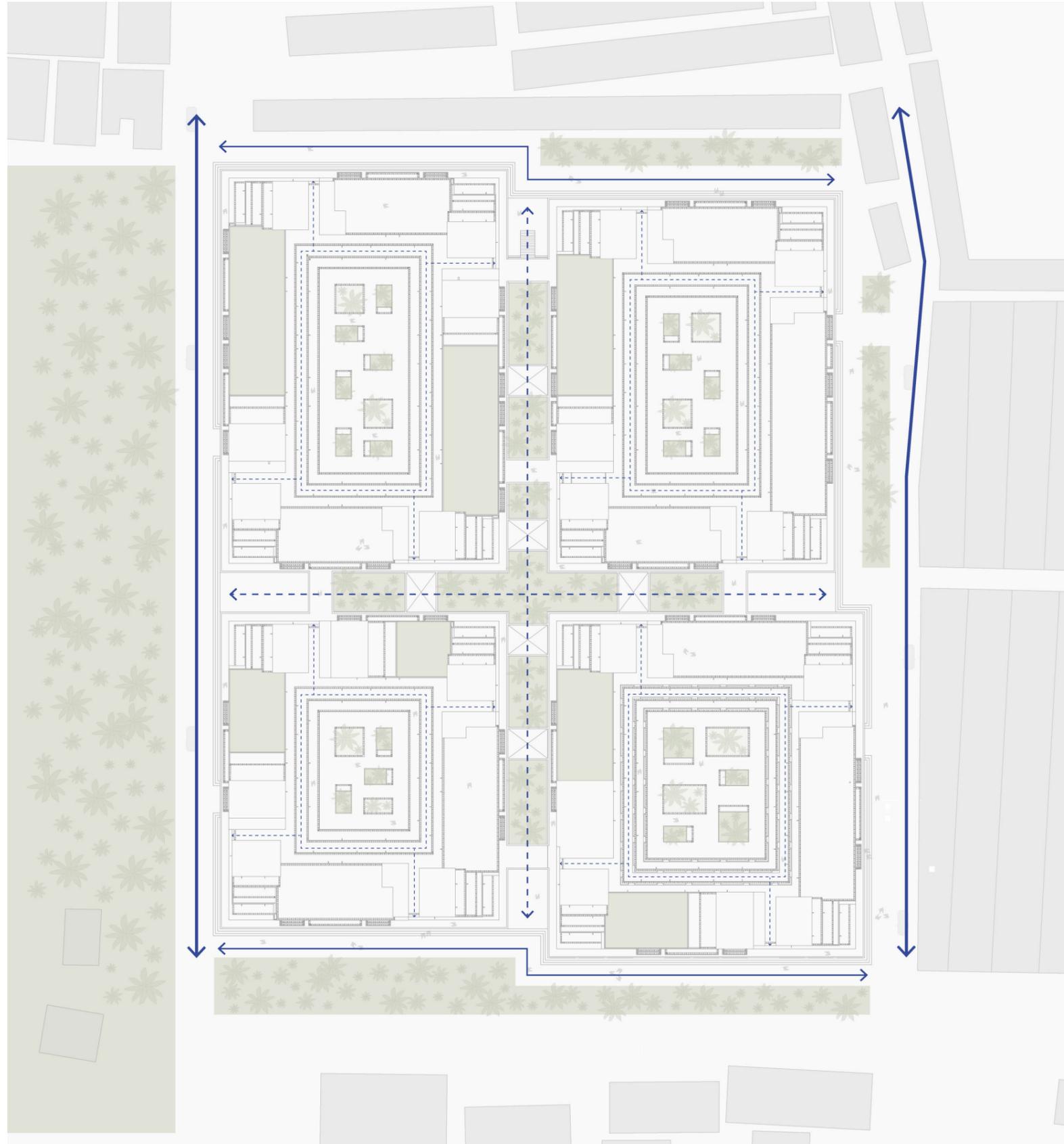
URBAN
MASTERPLAN

1:1000



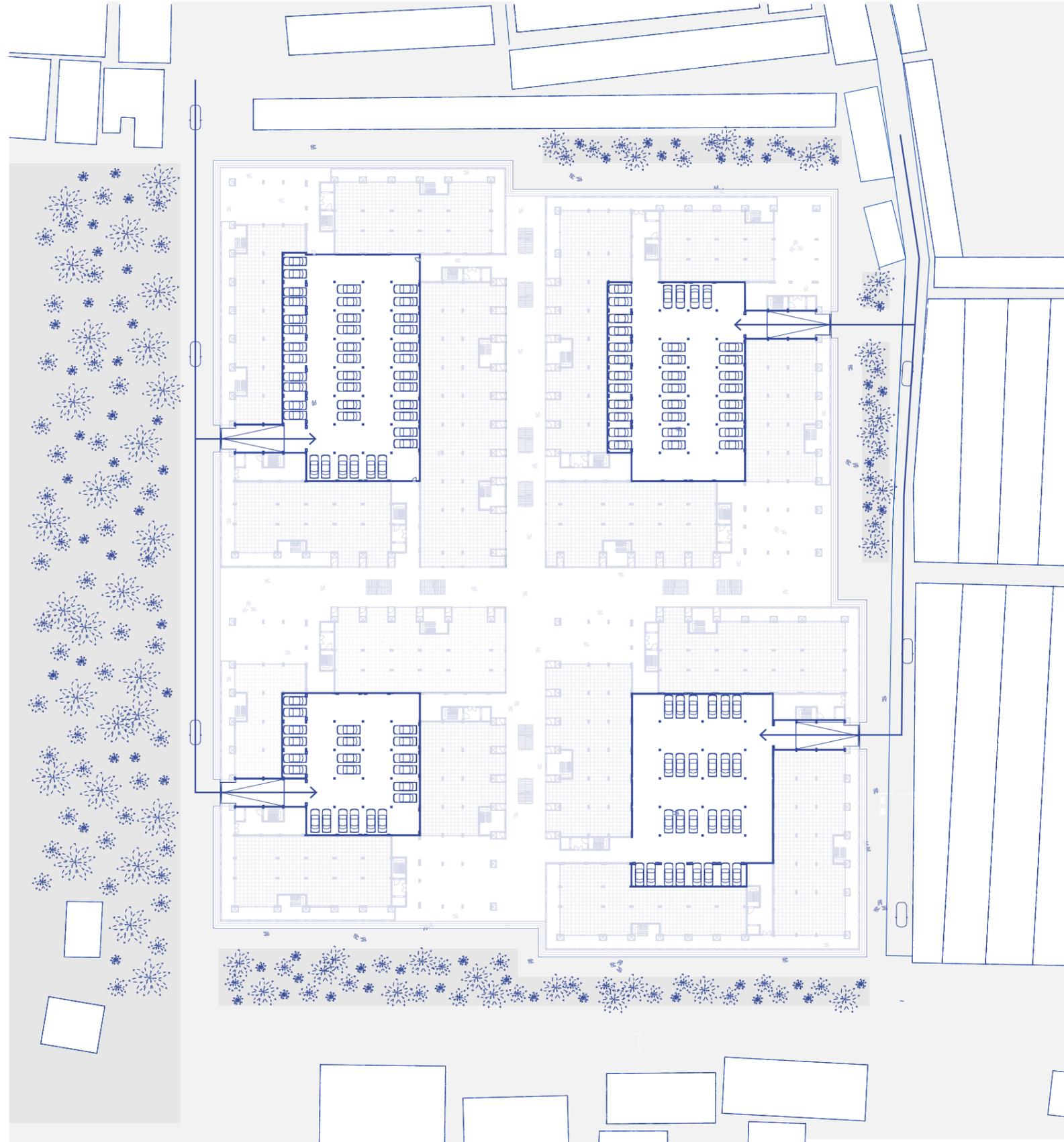
URBAN
CIRCULATION PLAN

1:1000



URBAN
PARKING PLAN

1:1000



URBAN
GROUND FLOOR PLAN

1:1000



URBAN

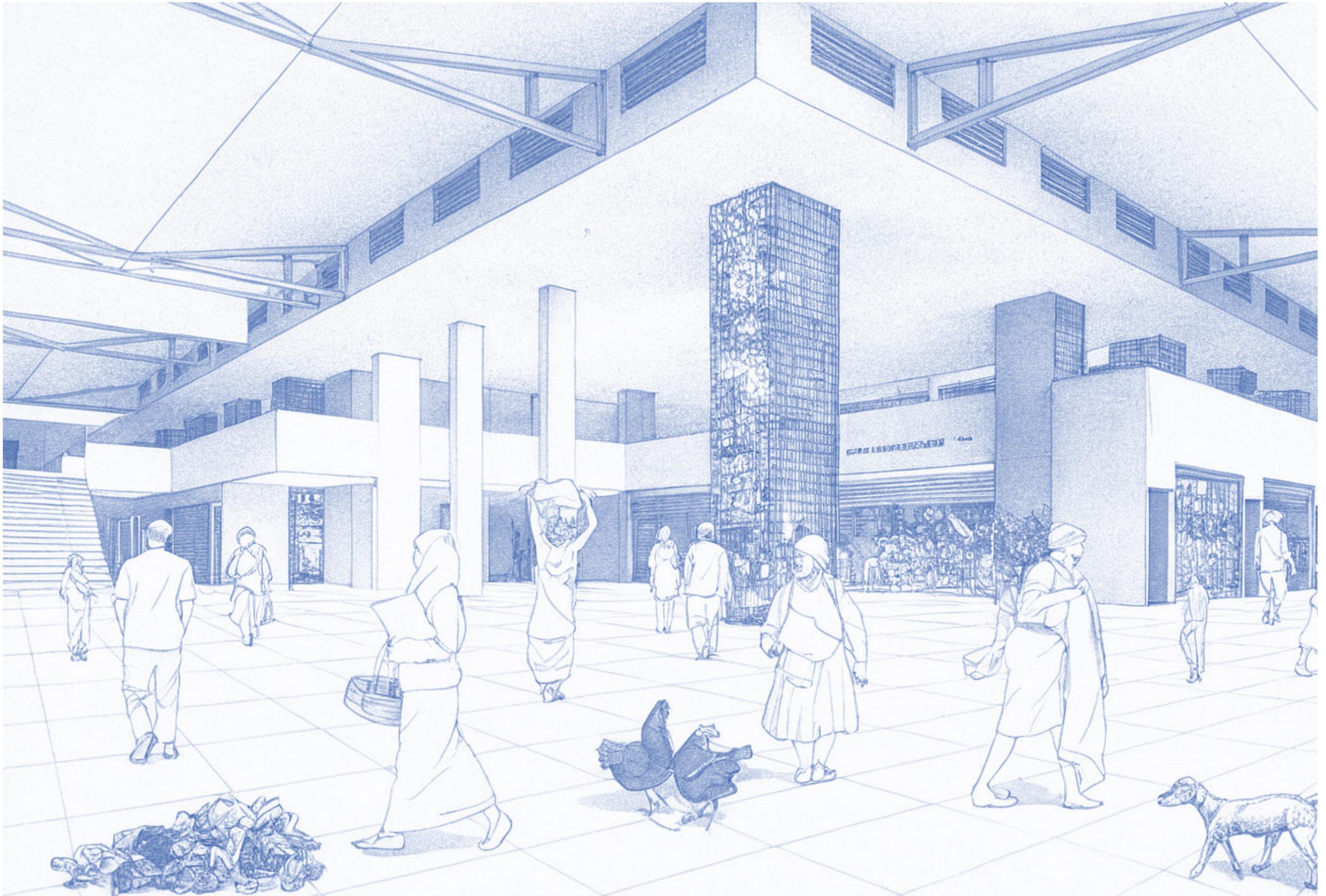
GROUND FLOOR PLAN - Cut outs

1:1000



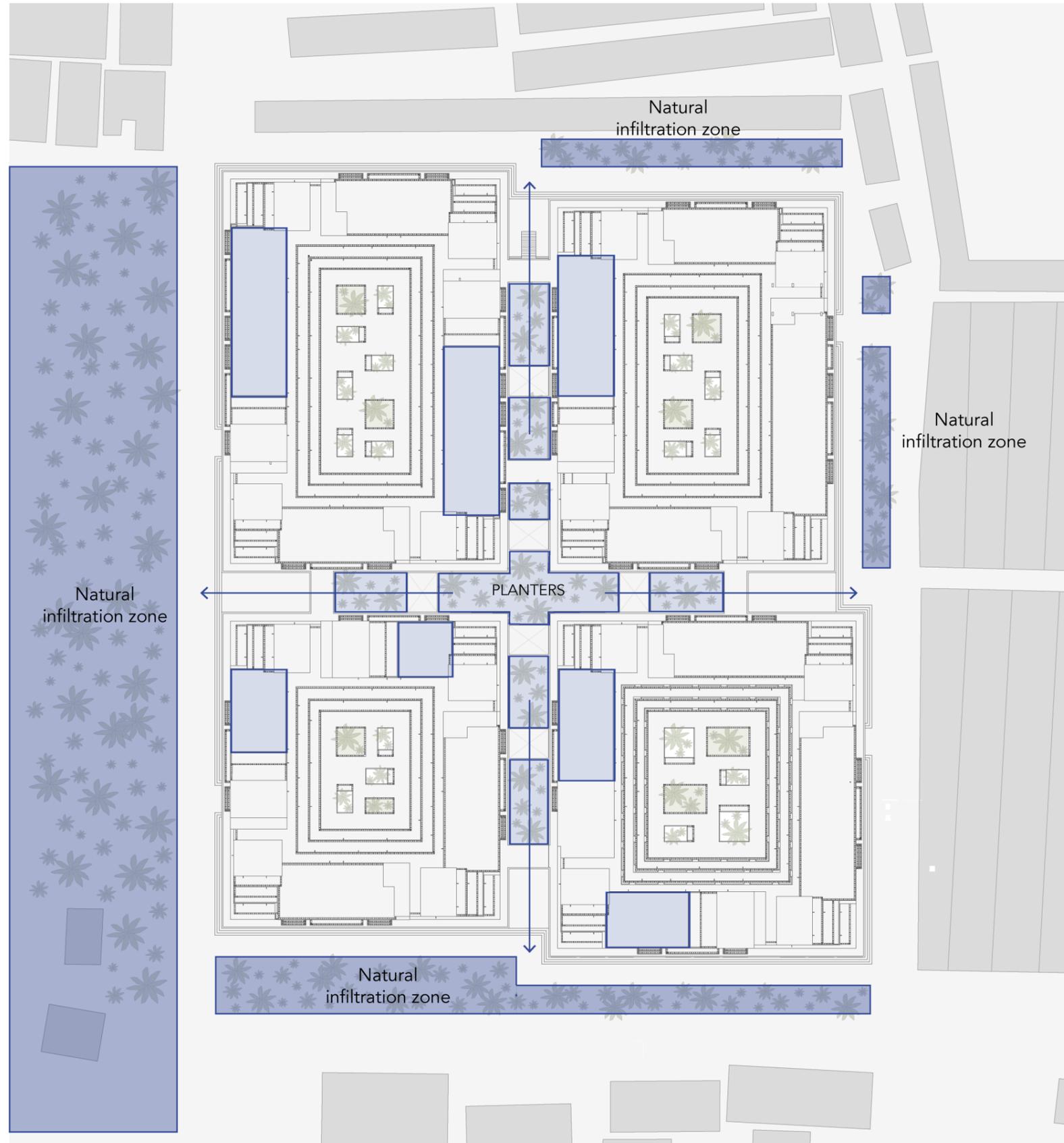
URBAN

GROUND FLOOR PLAN - Cut out



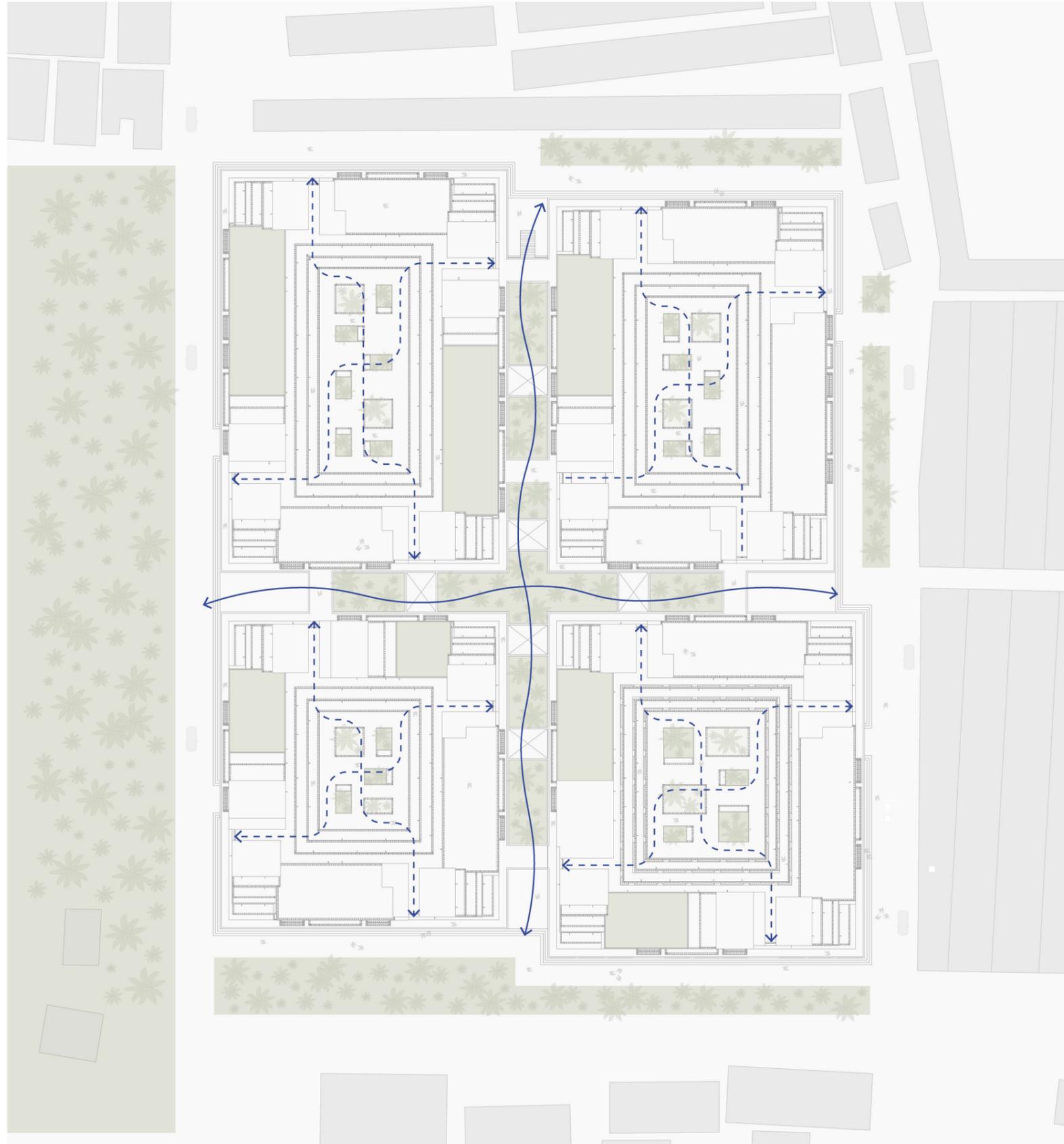
WATERMANAGEMENT PLAN

1:1000



URBAN
VENTILATION PLAN

1:1000



URBAN
ELEVATIONS

1:400



North



South

URBAN
ELEVATIONS

1:400



East



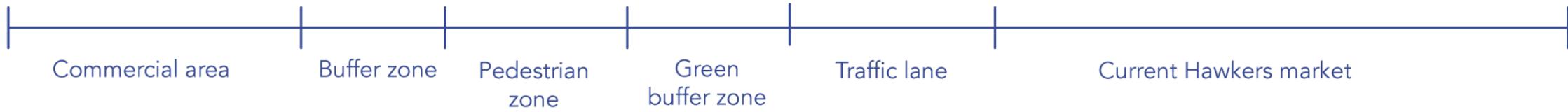
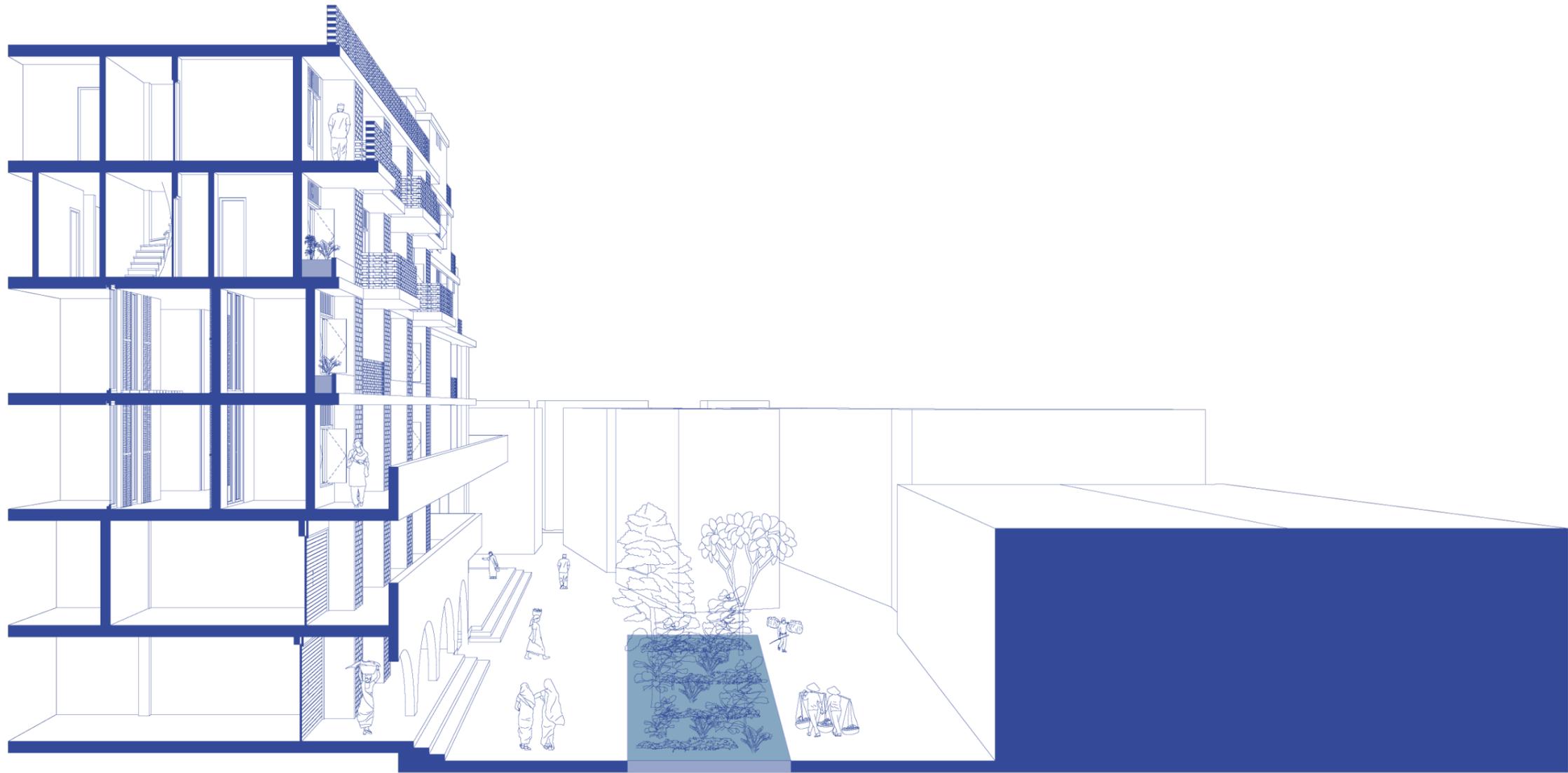
West

URBAN
OUTDOOR STREET



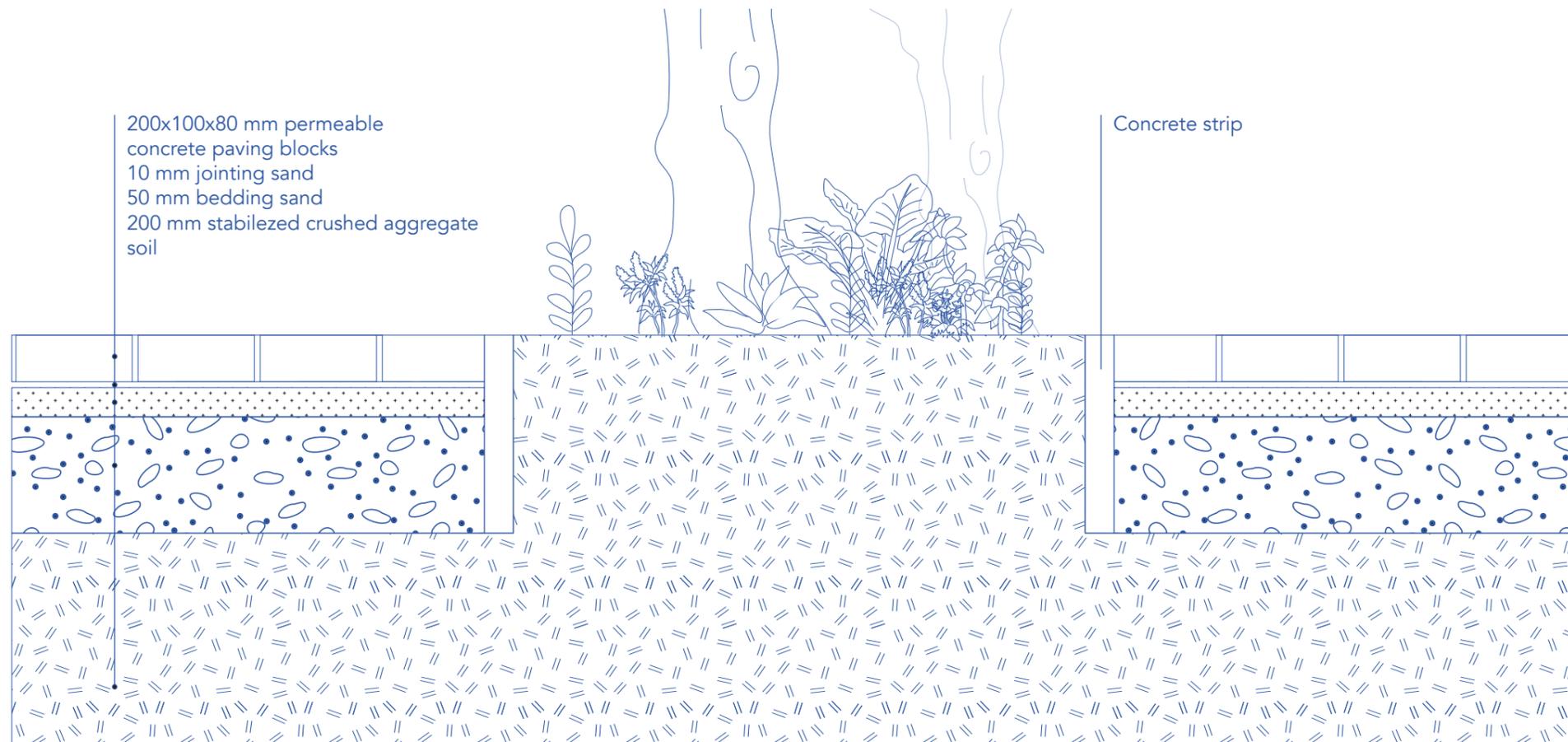
URBAN
STREET PROFILE

1:200



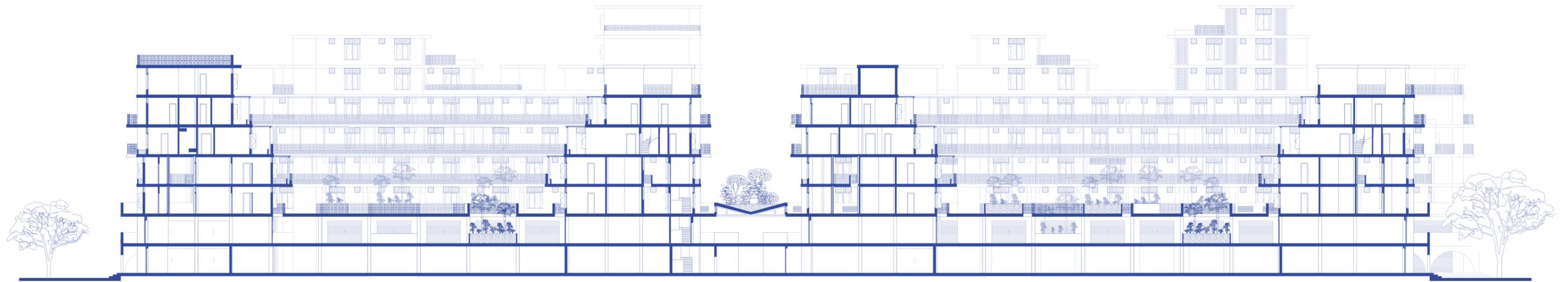
URBAN
STREET DETAIL

1:10

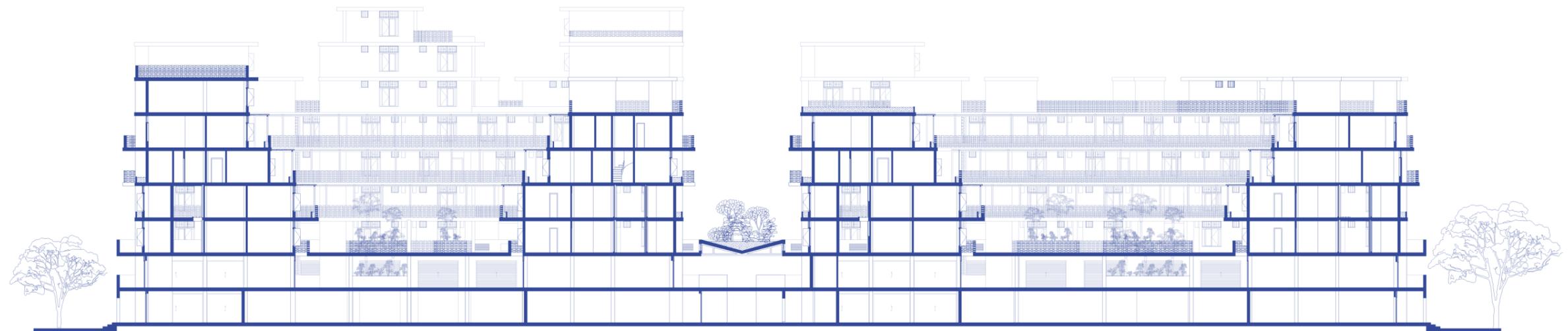


URBAN
SECTIONS

1:400



North - South

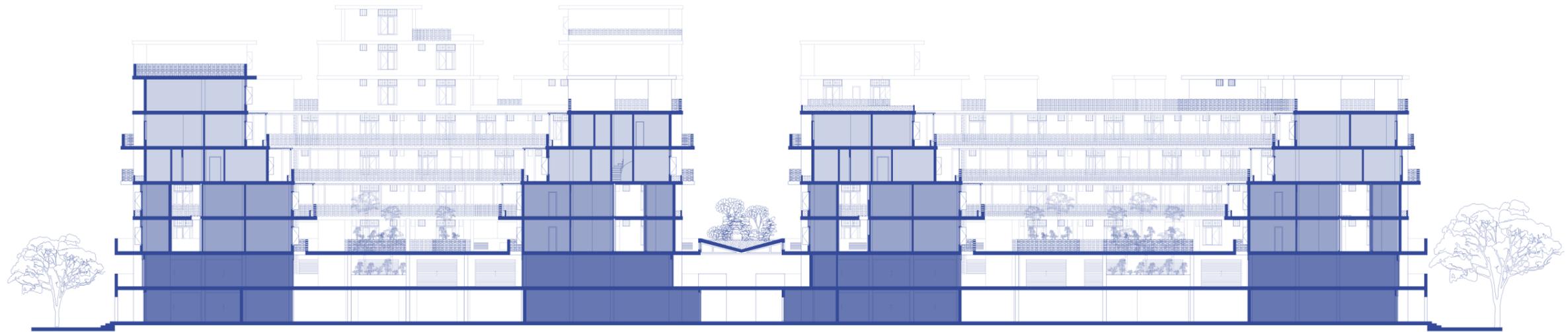


East - West

URBAN

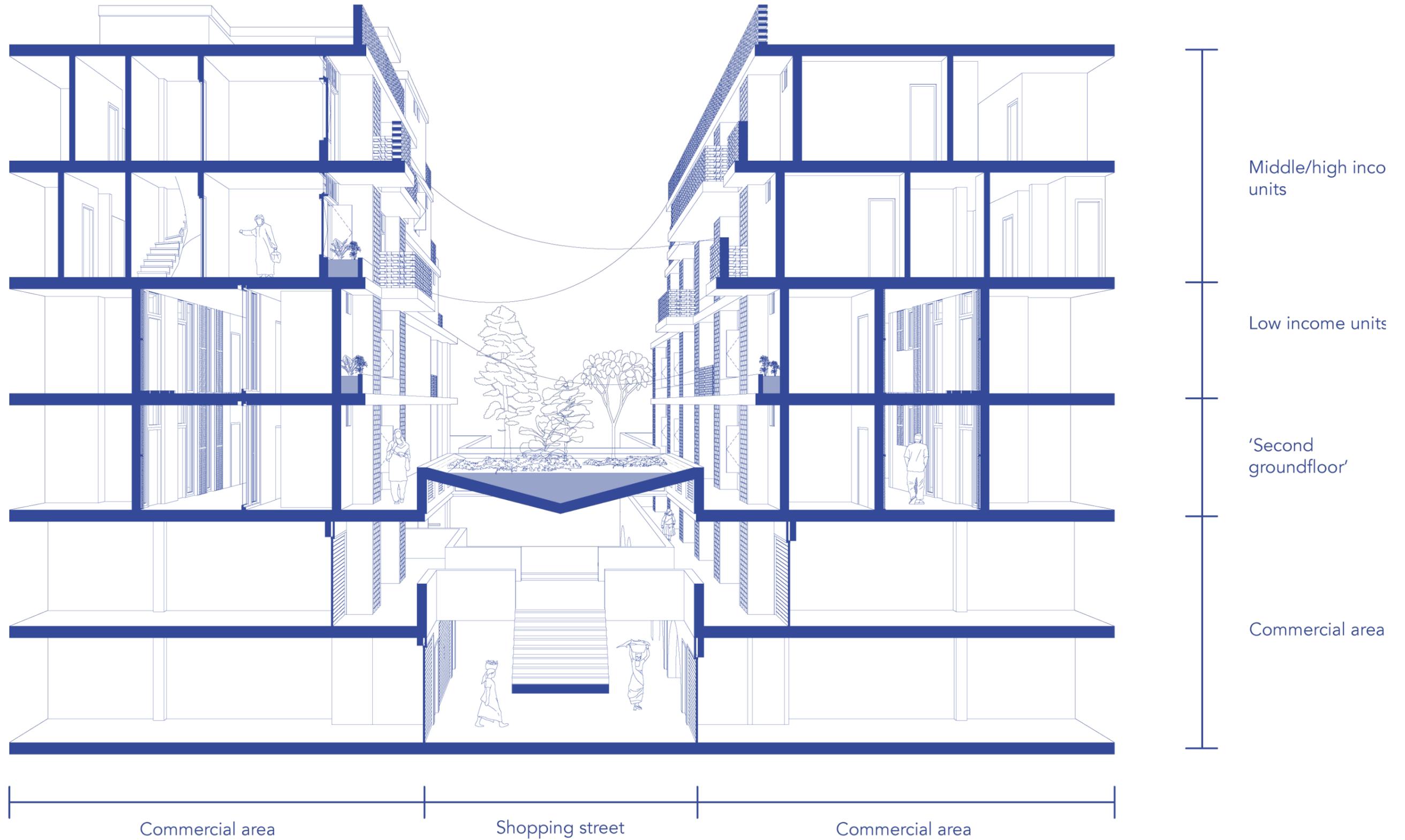
SECTION - Functional separation

1:400



URBAN
STREET PROFILE

1:200



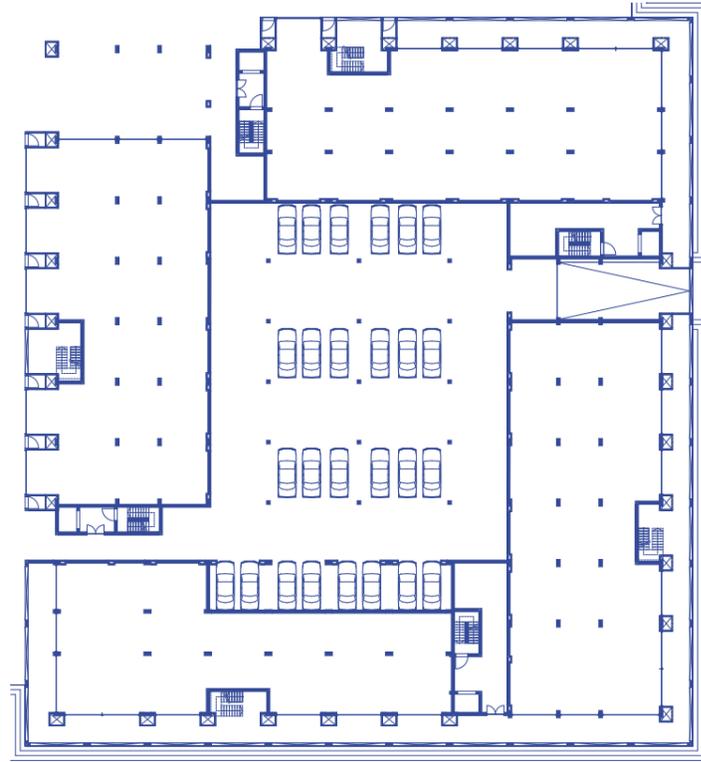
INDOOR SHOPPING STREET



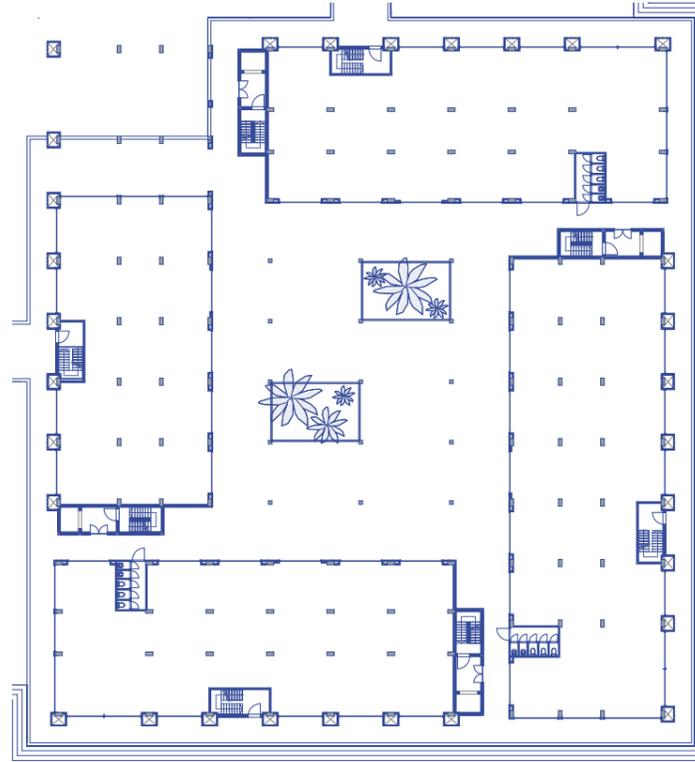
BUILDING

BUILDING
FLOOR PLANS

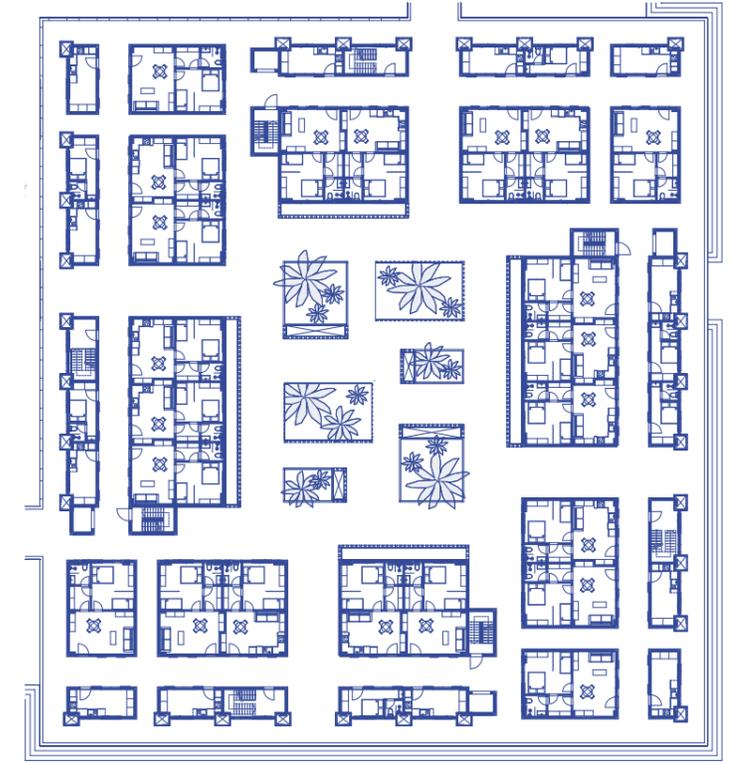
1:200 (SCALED)



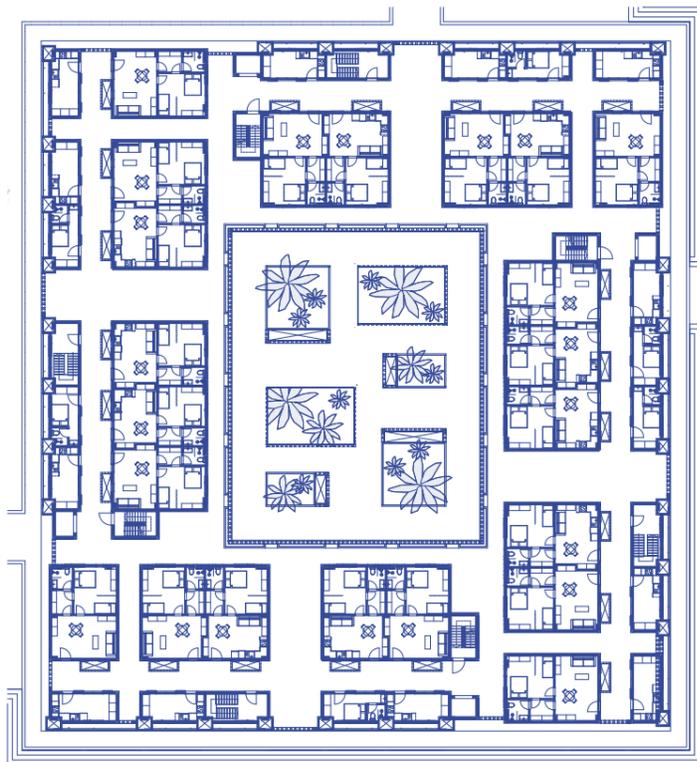
Ground floor



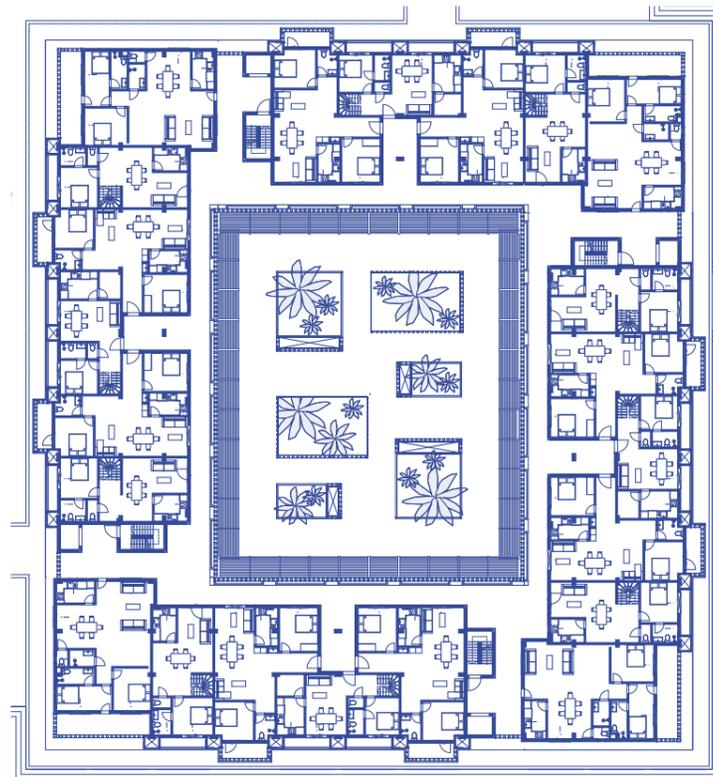
1st floor



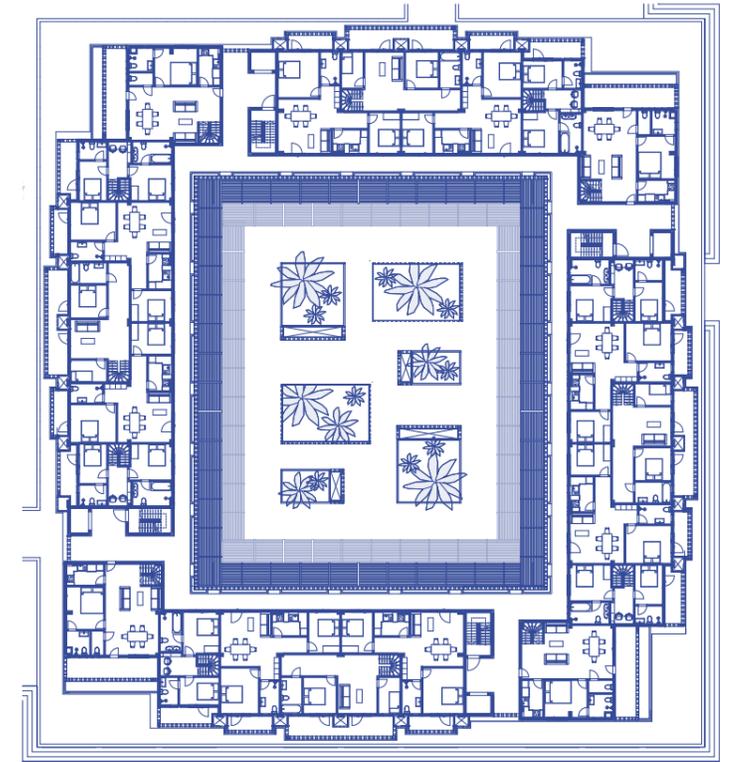
2nd floor



3rd floor



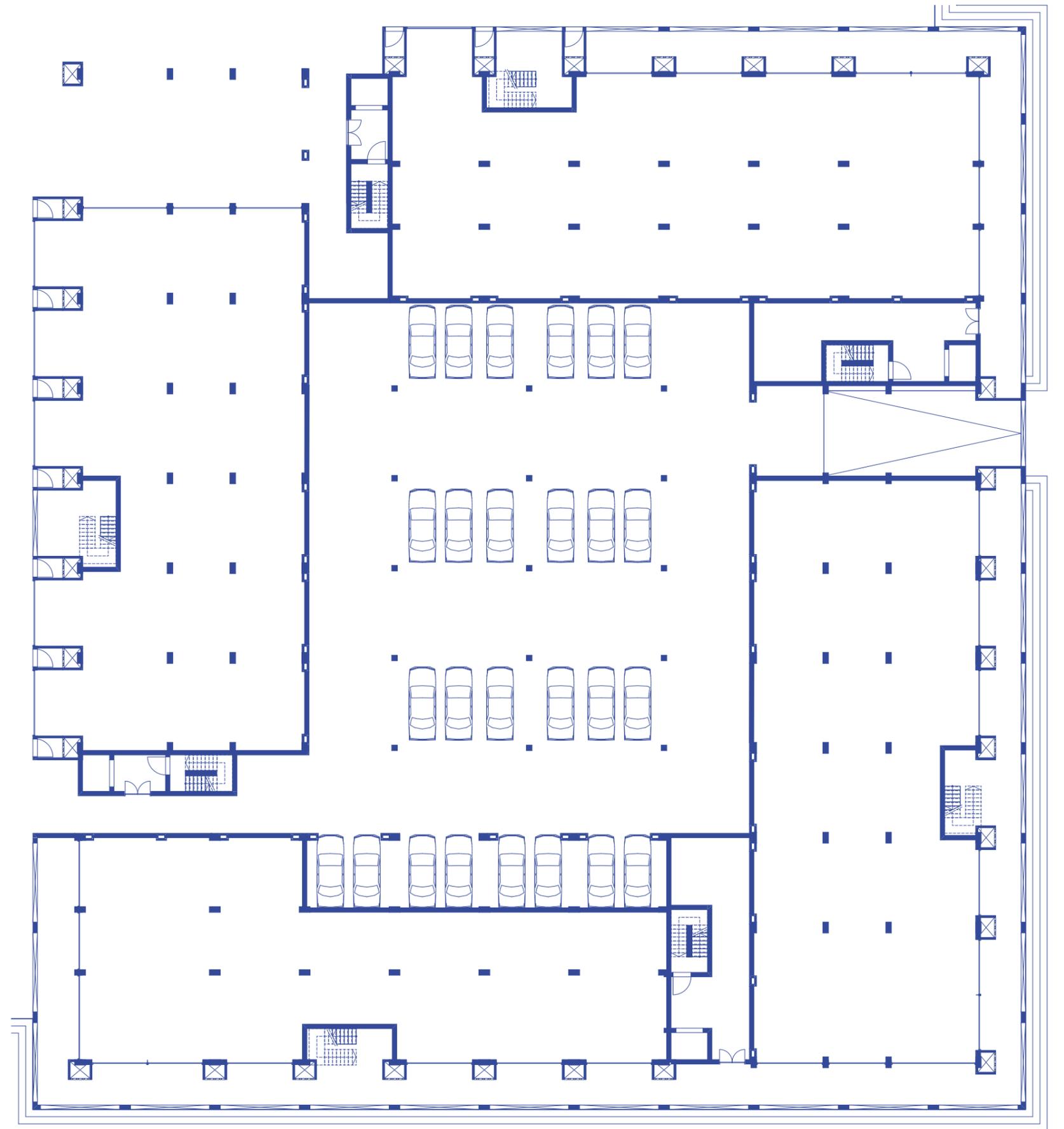
4th floor



5th floor

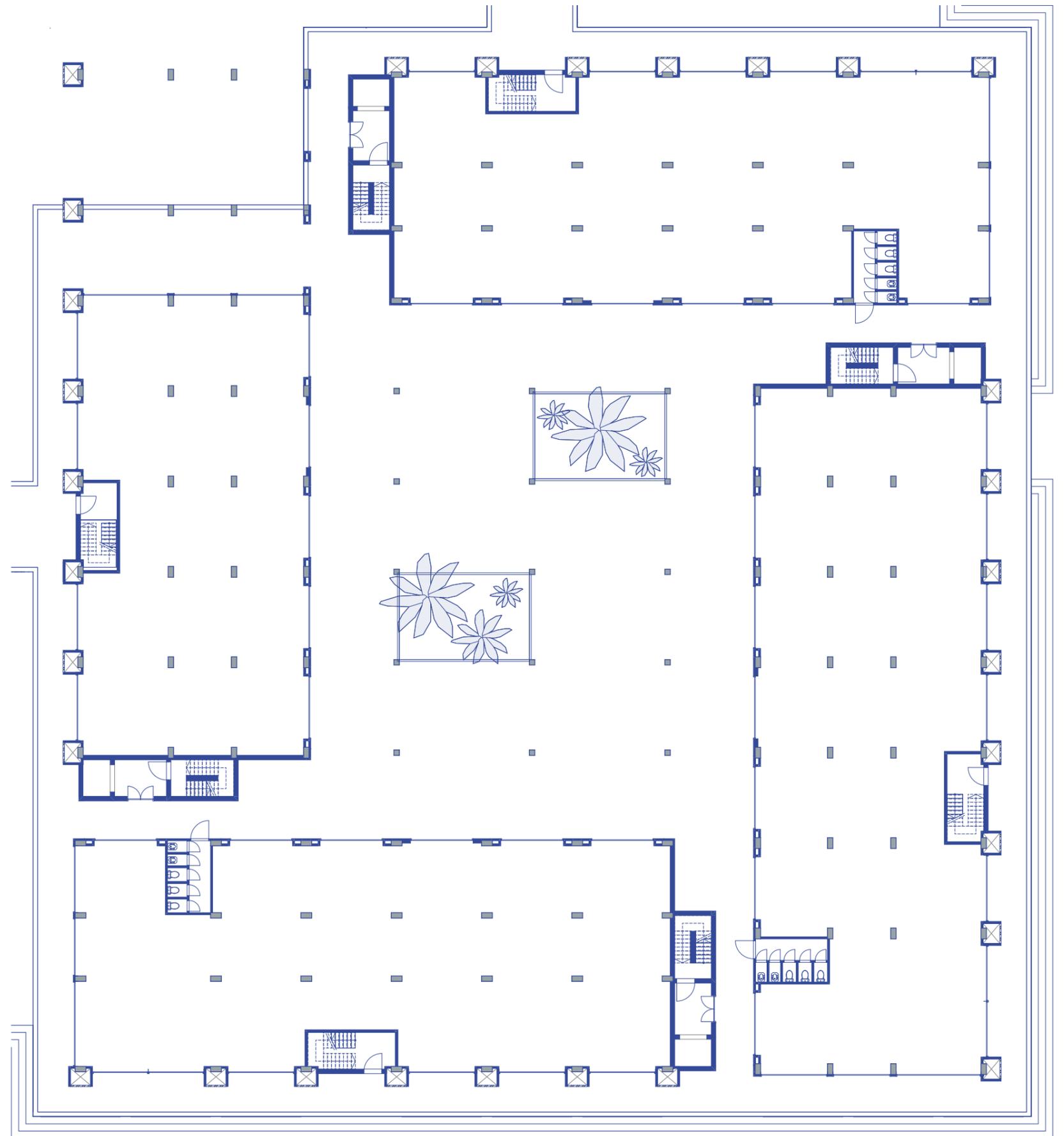
BUILDING
GROUND FLOOR

1:200

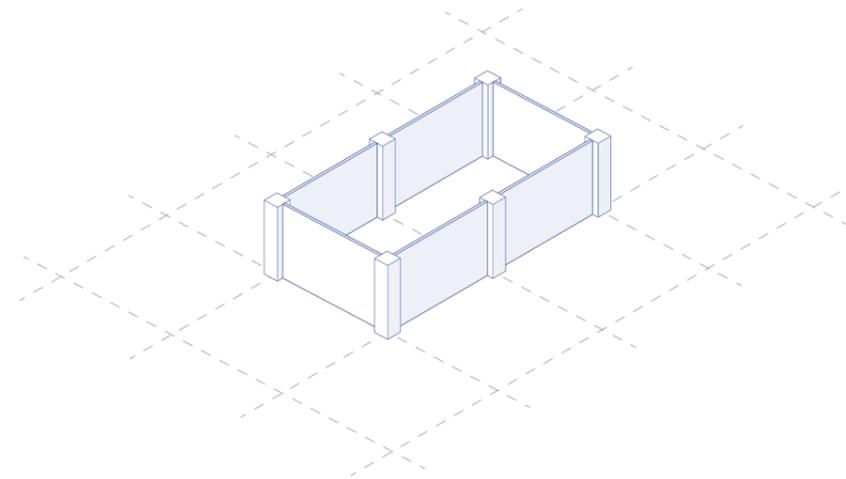
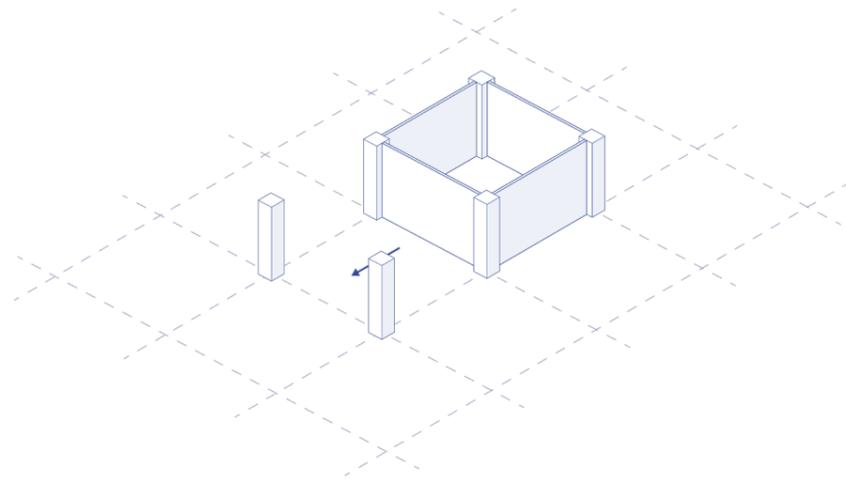
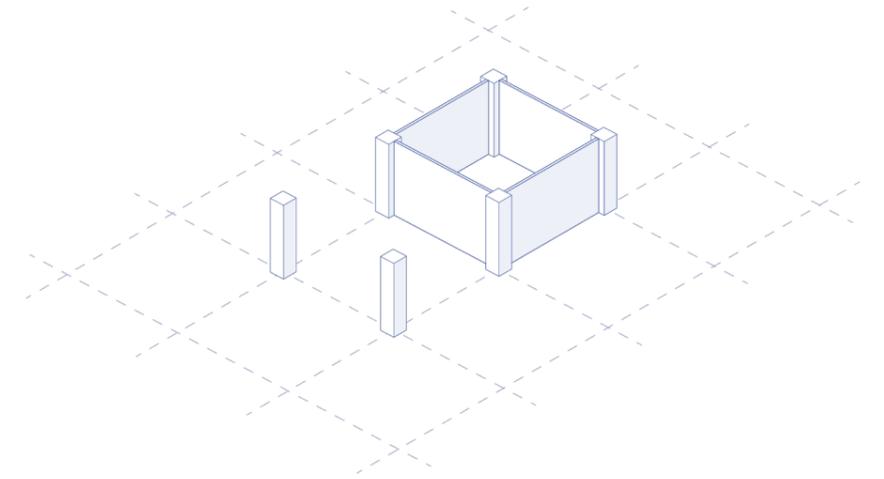
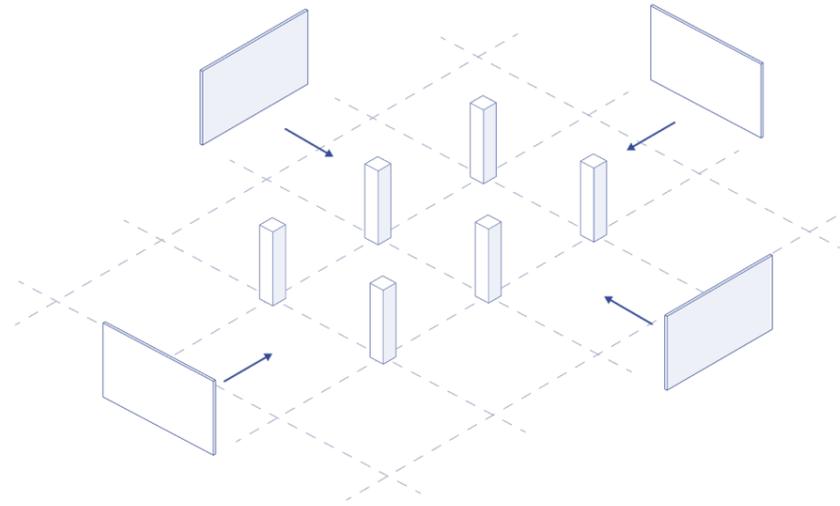
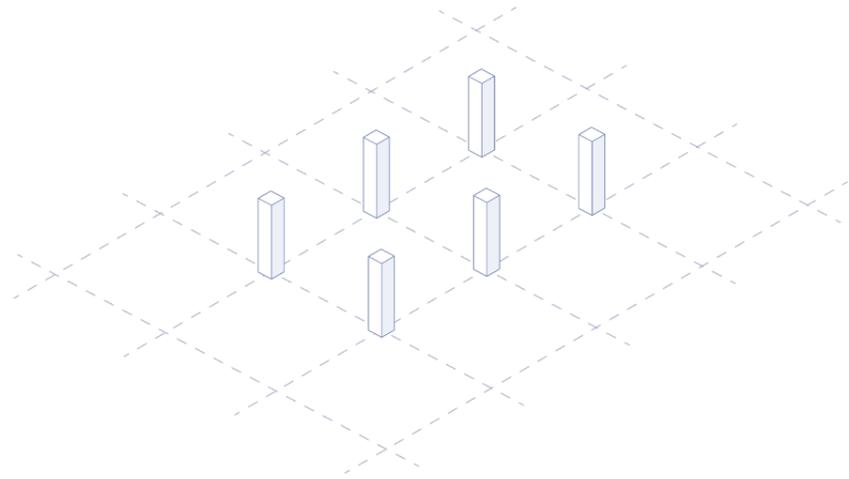


BUILDING
1ST FLOOR

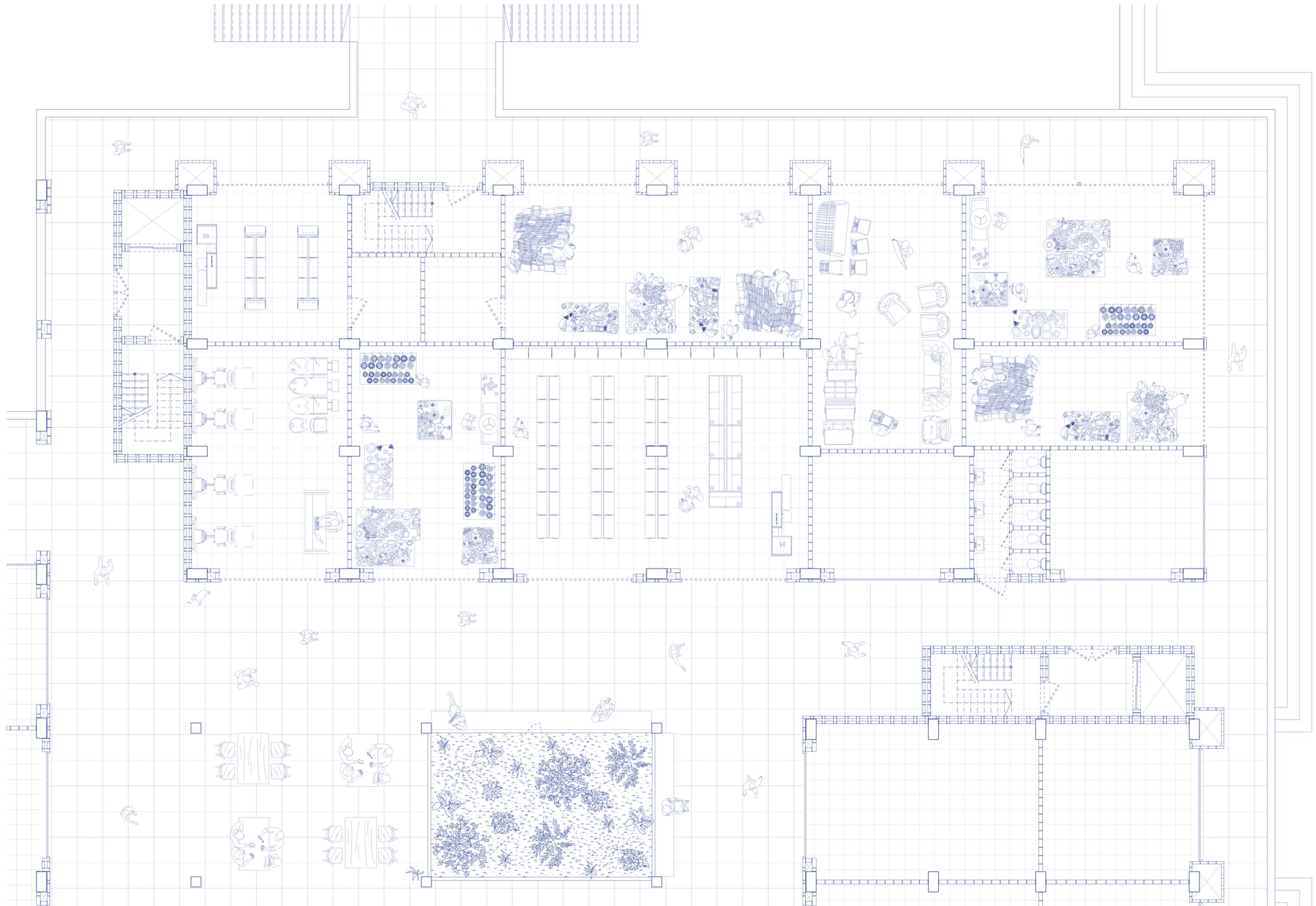
1:200



1ST FLOOR - Habraken

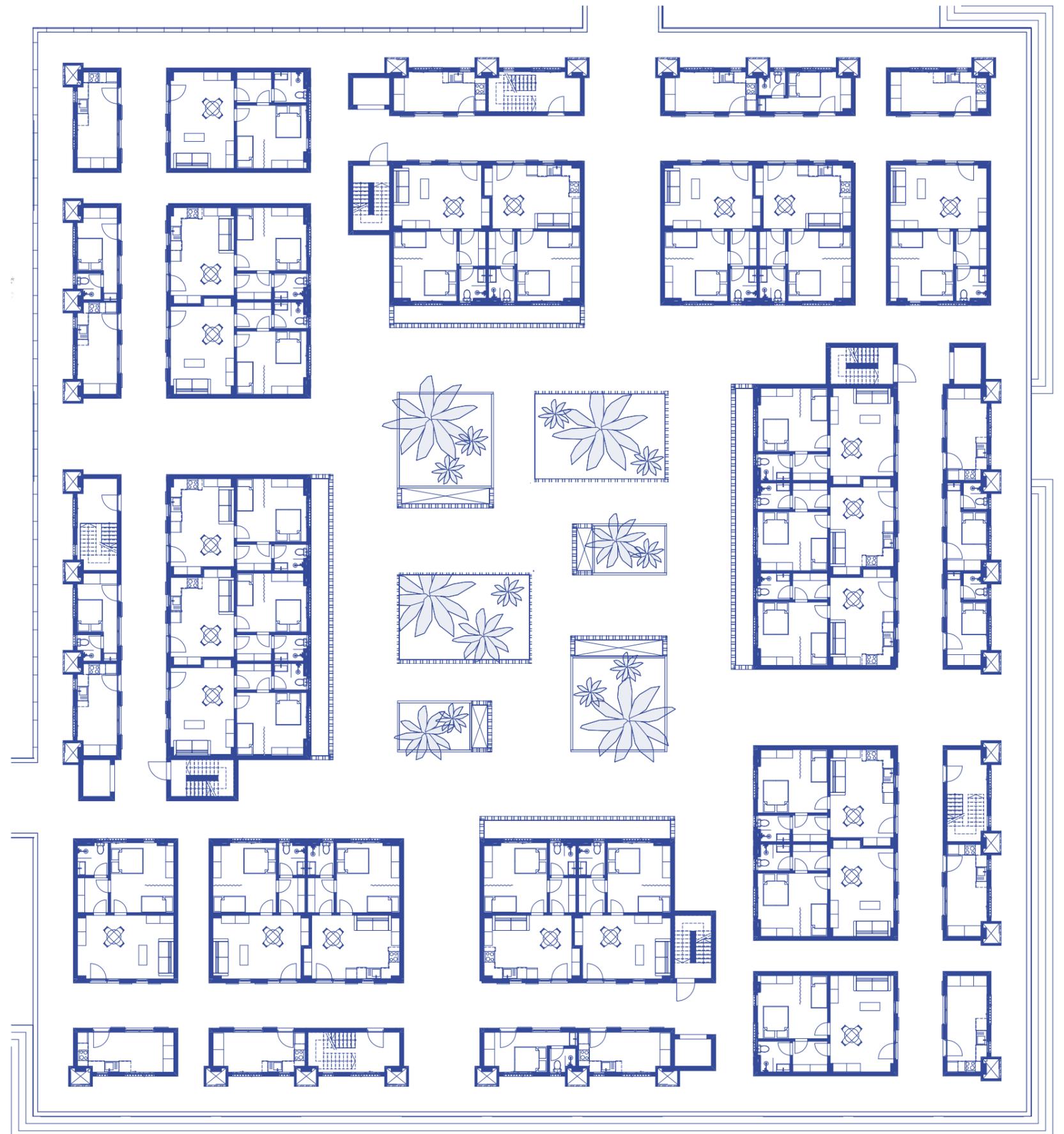


BUILDING
1ST FLOOR - Zoom in
1:50



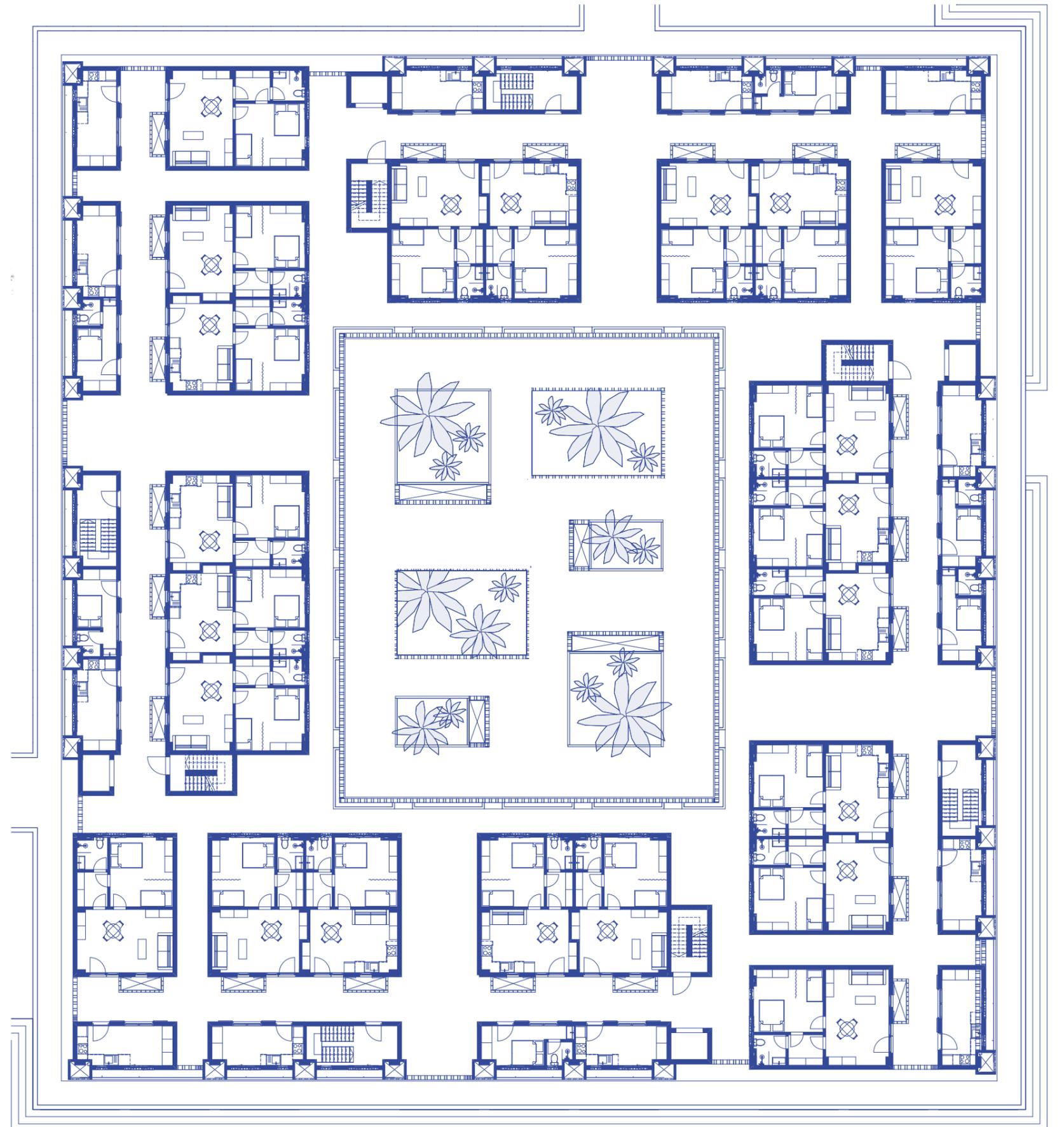
BUILDING
2ND FLOOR

1:200



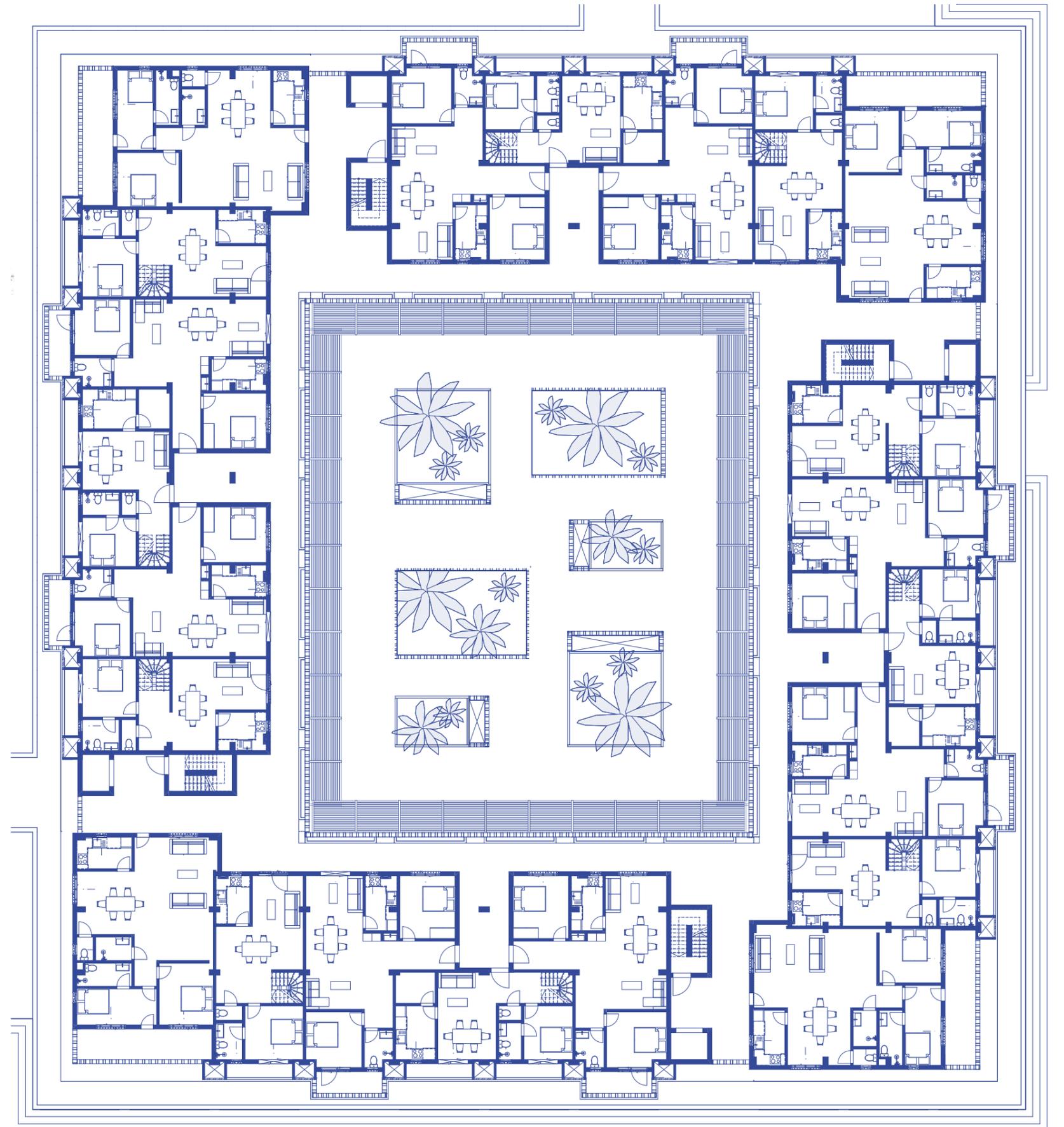
BUILDING
3RD FLOOR

1:200



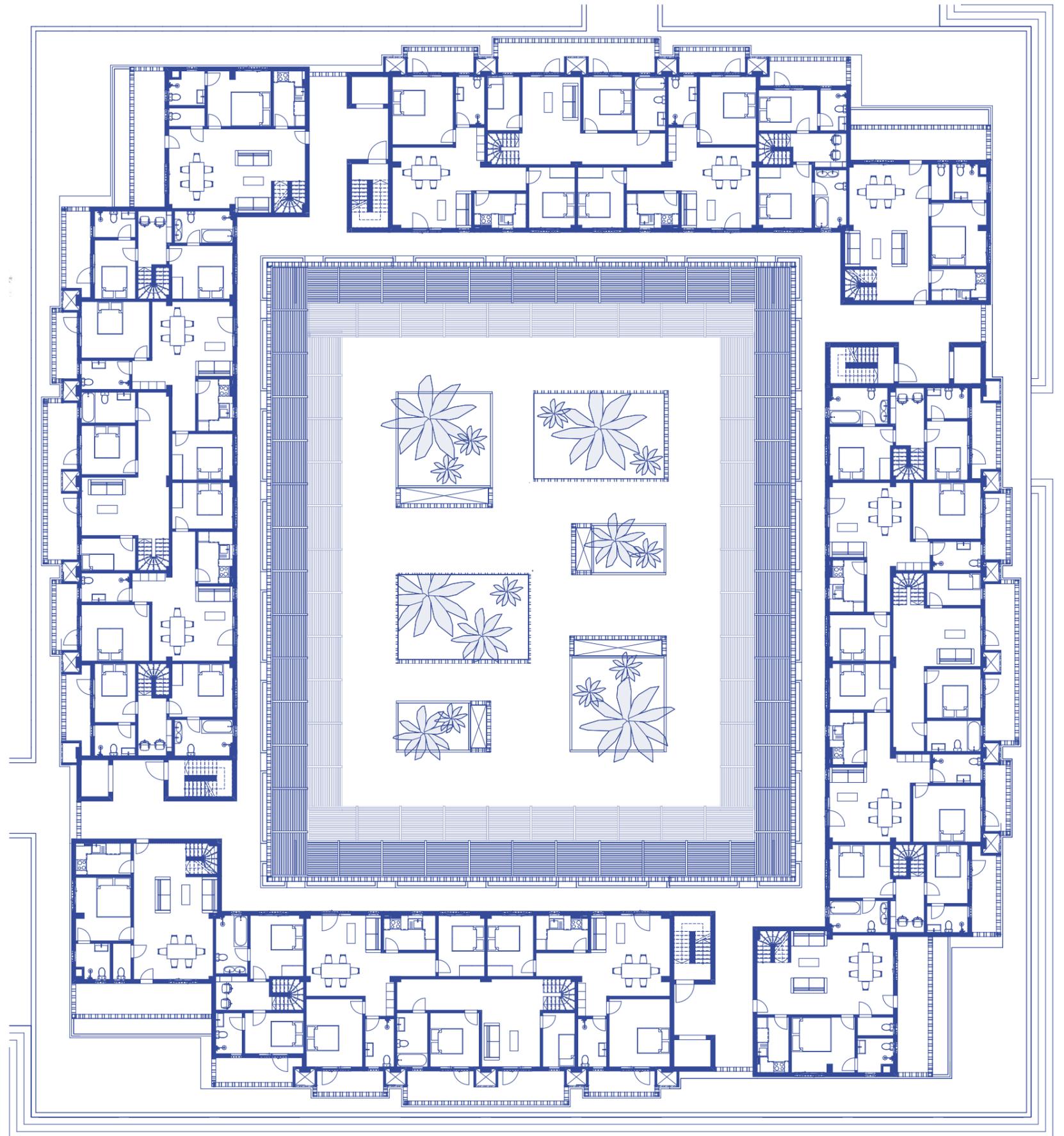
BUILDING
4TH FLOOR

1:200



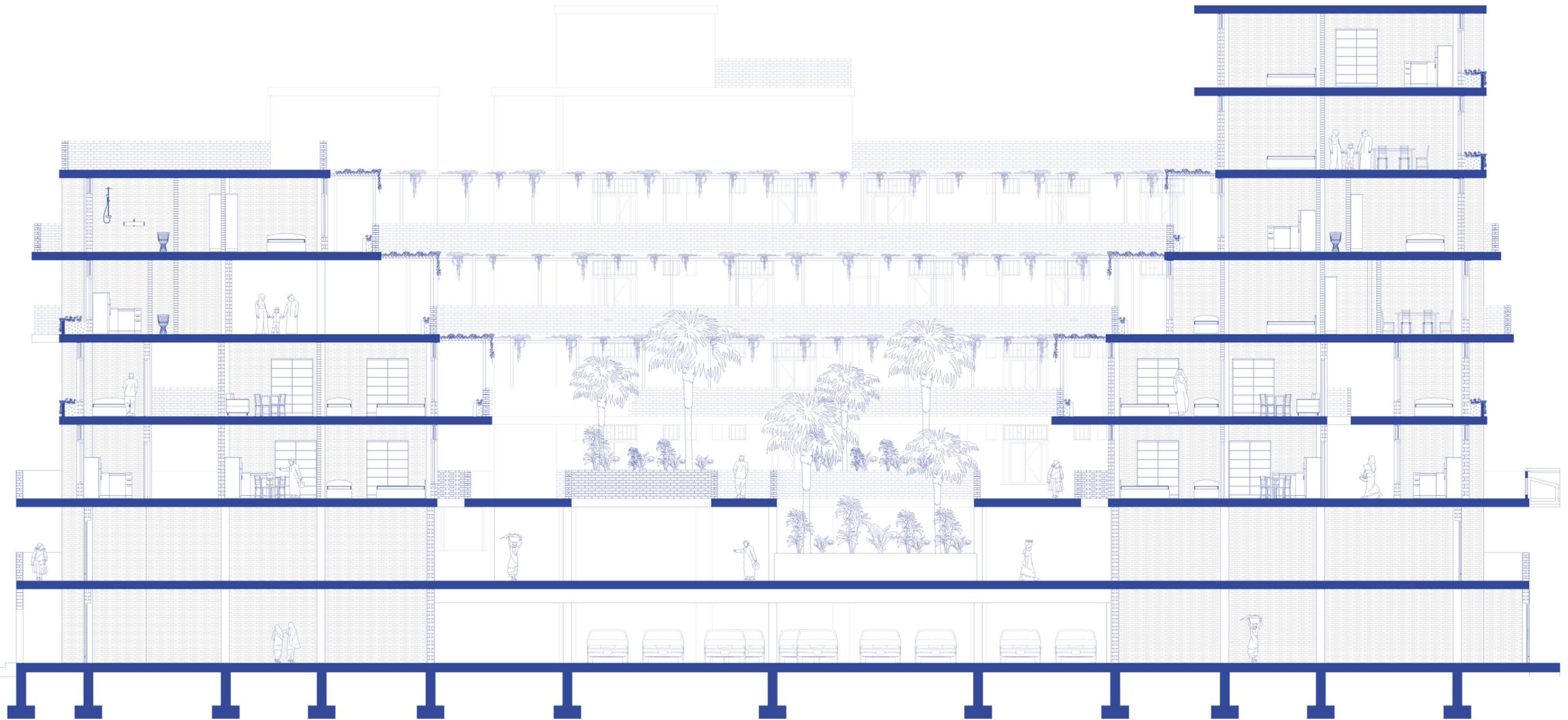
BUILDING
5TH FLOOR

1:200



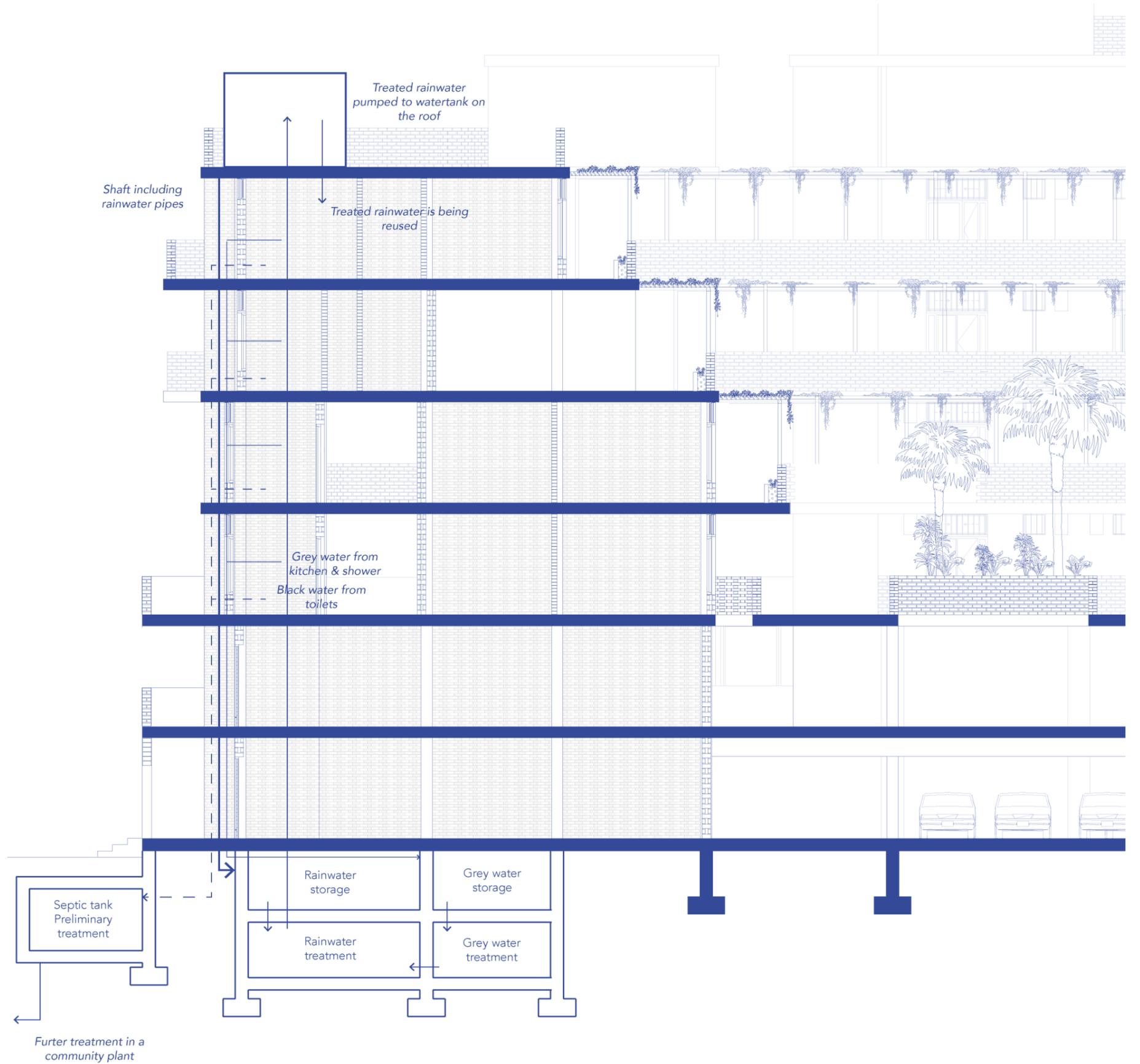
BUILDING
SECTION

1:200



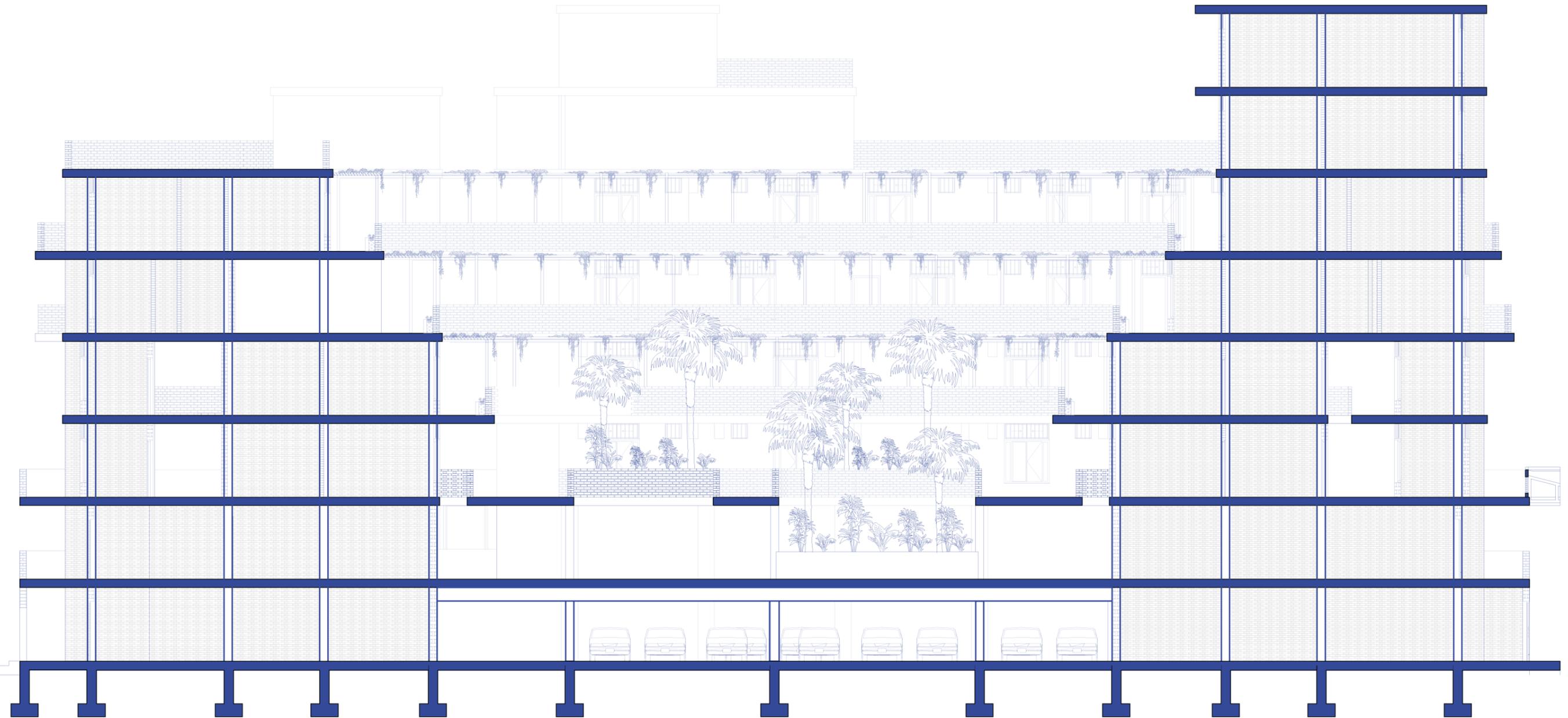
BUILDING
SECTION - Water management

1:200 (SCALED)



BUILDING
SECTION - Construction

1:200



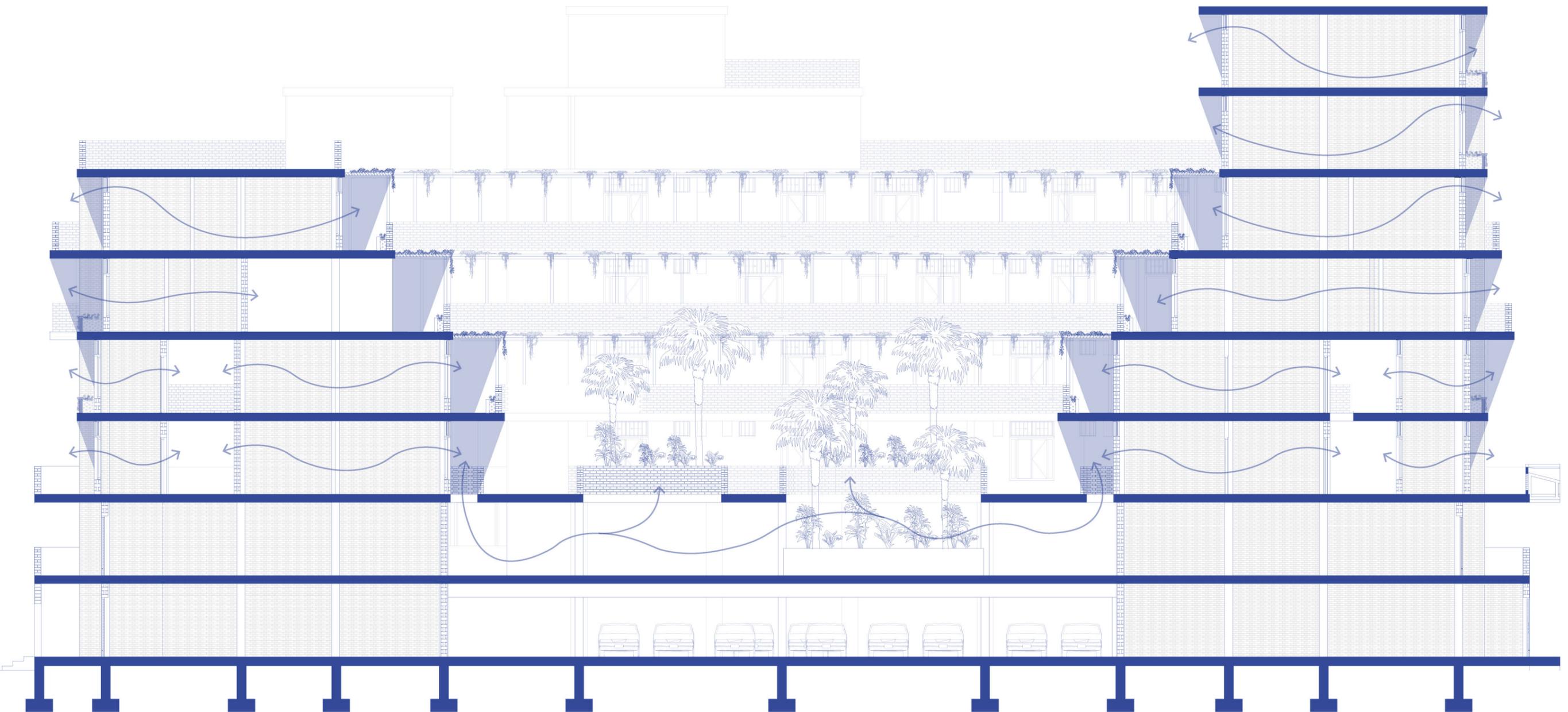
- Reinforced cast-in-place concrete floors (300mm)

- Flat slab construction (Except for parking garage)

- 300 mm x 600 mm concrete columns

BUILDING
SECTION - Ventilation/shading

1:200



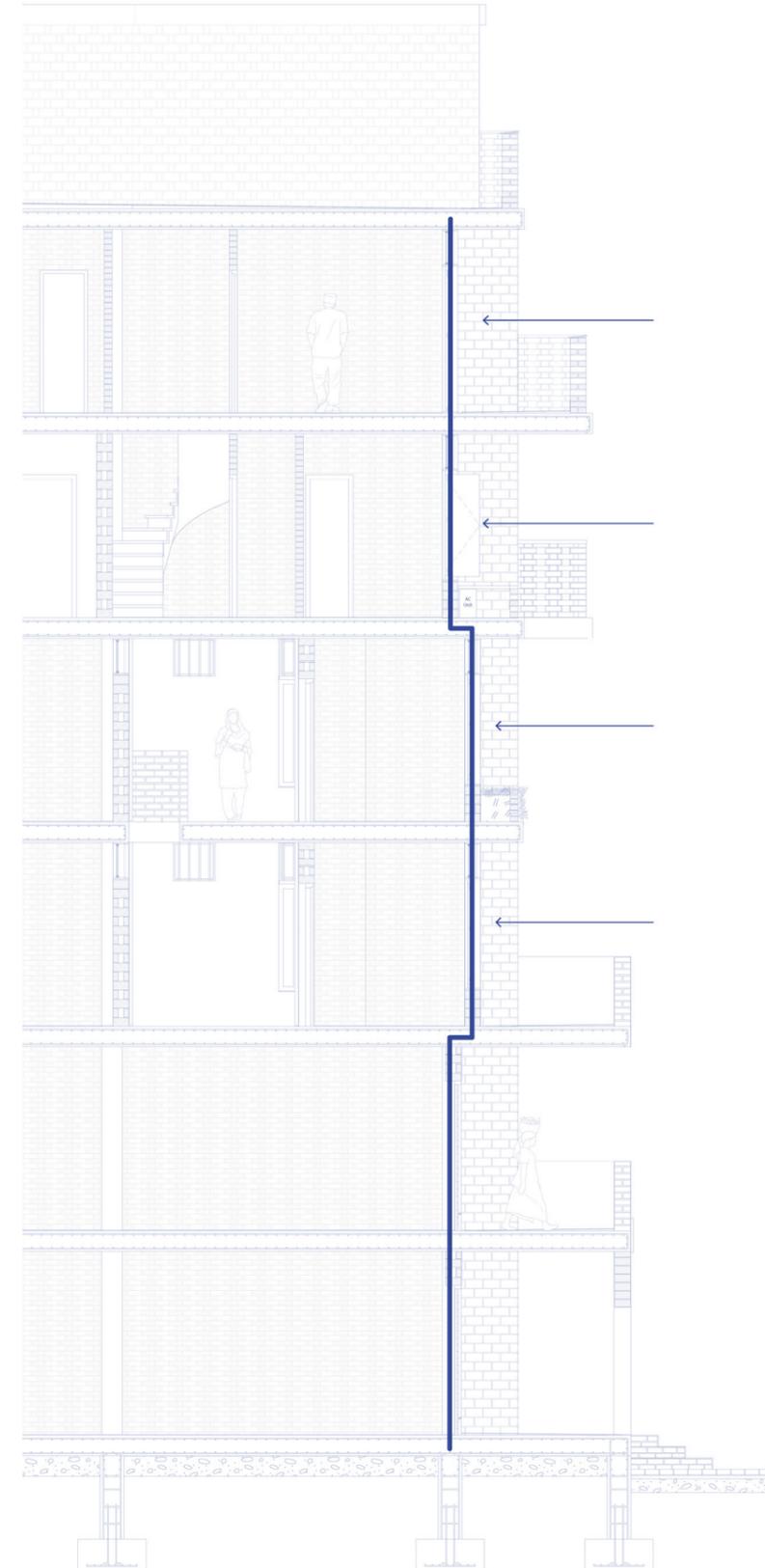
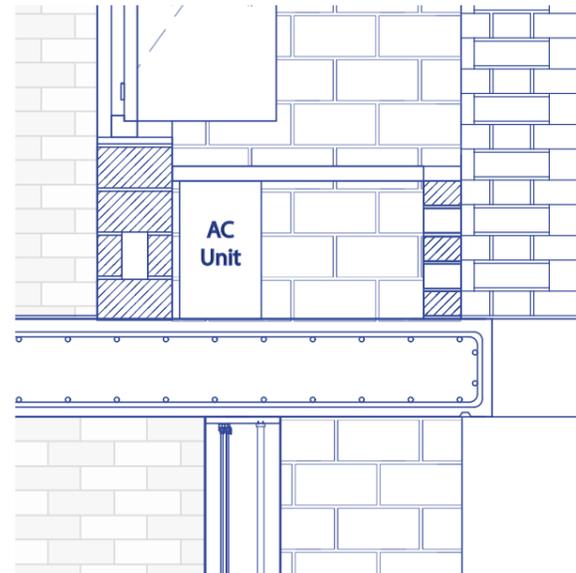
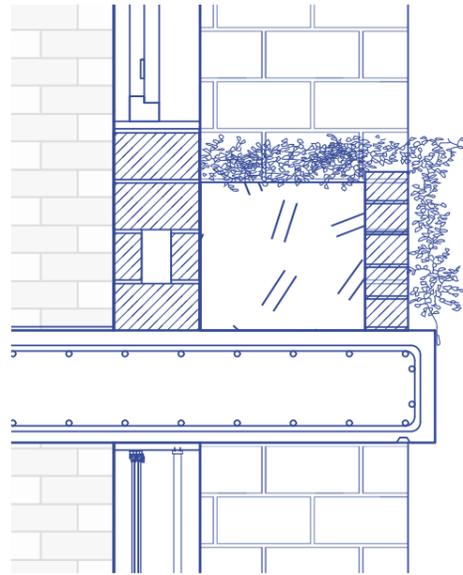
• Cross ventilation

• Pergola's for shading

• Stepped facade

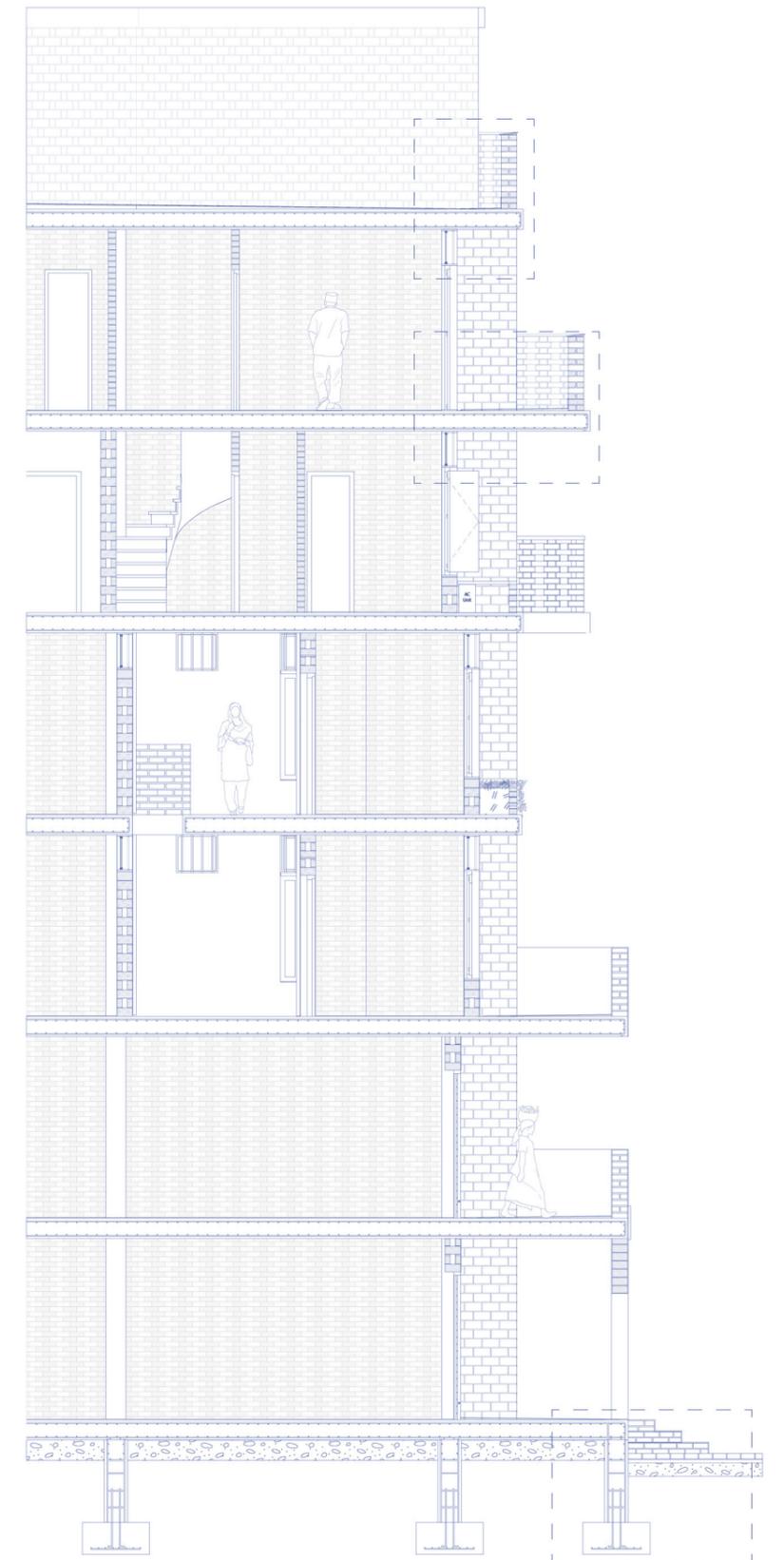
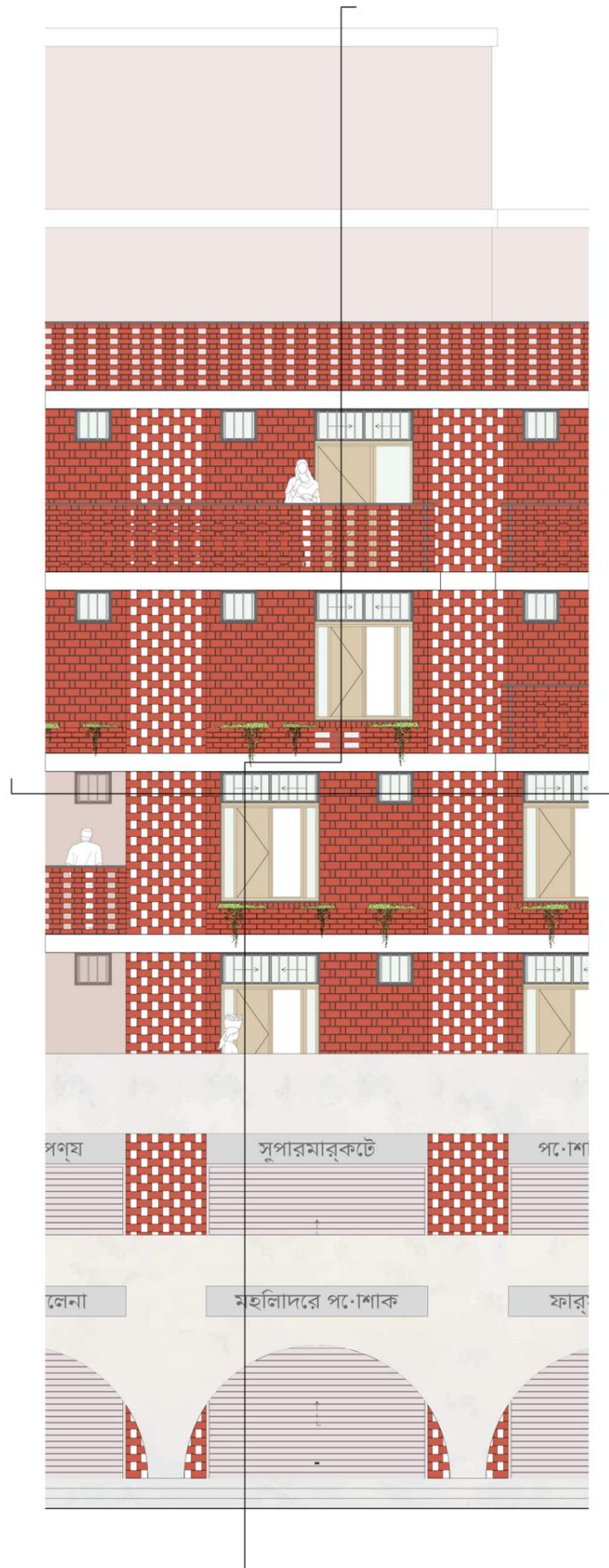
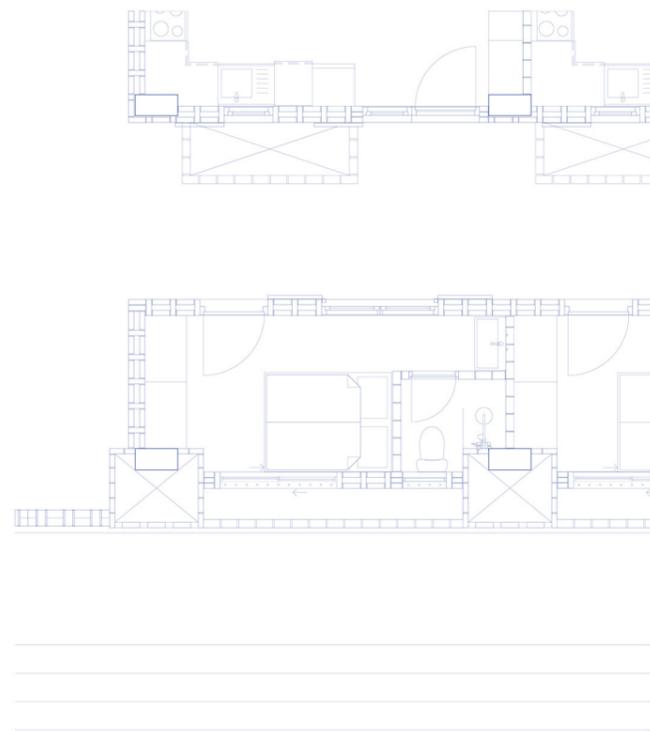
SECTION - Stepped facade

1:200



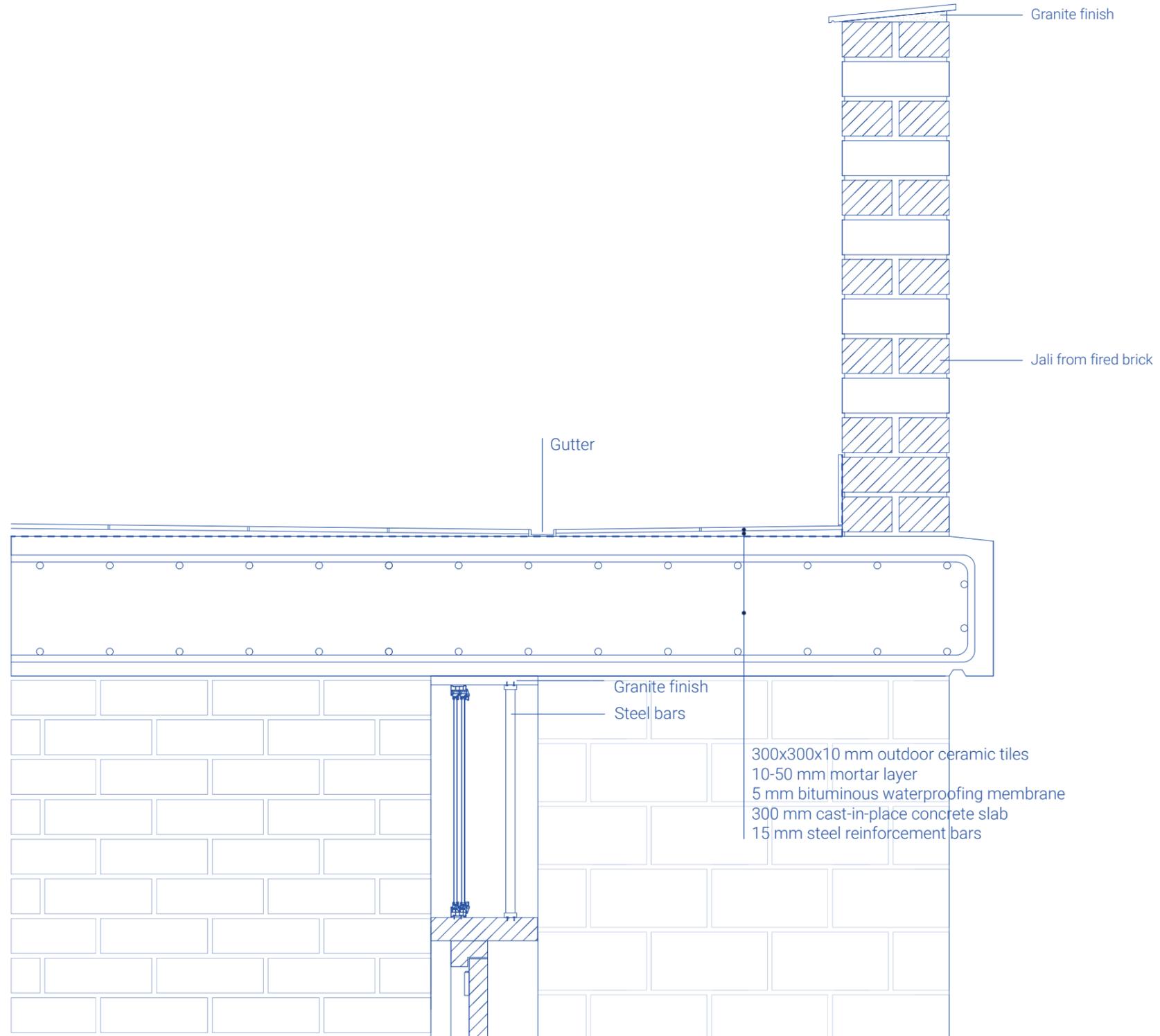
BUILDING
FACADE SECTION

1:20 (SCALED)



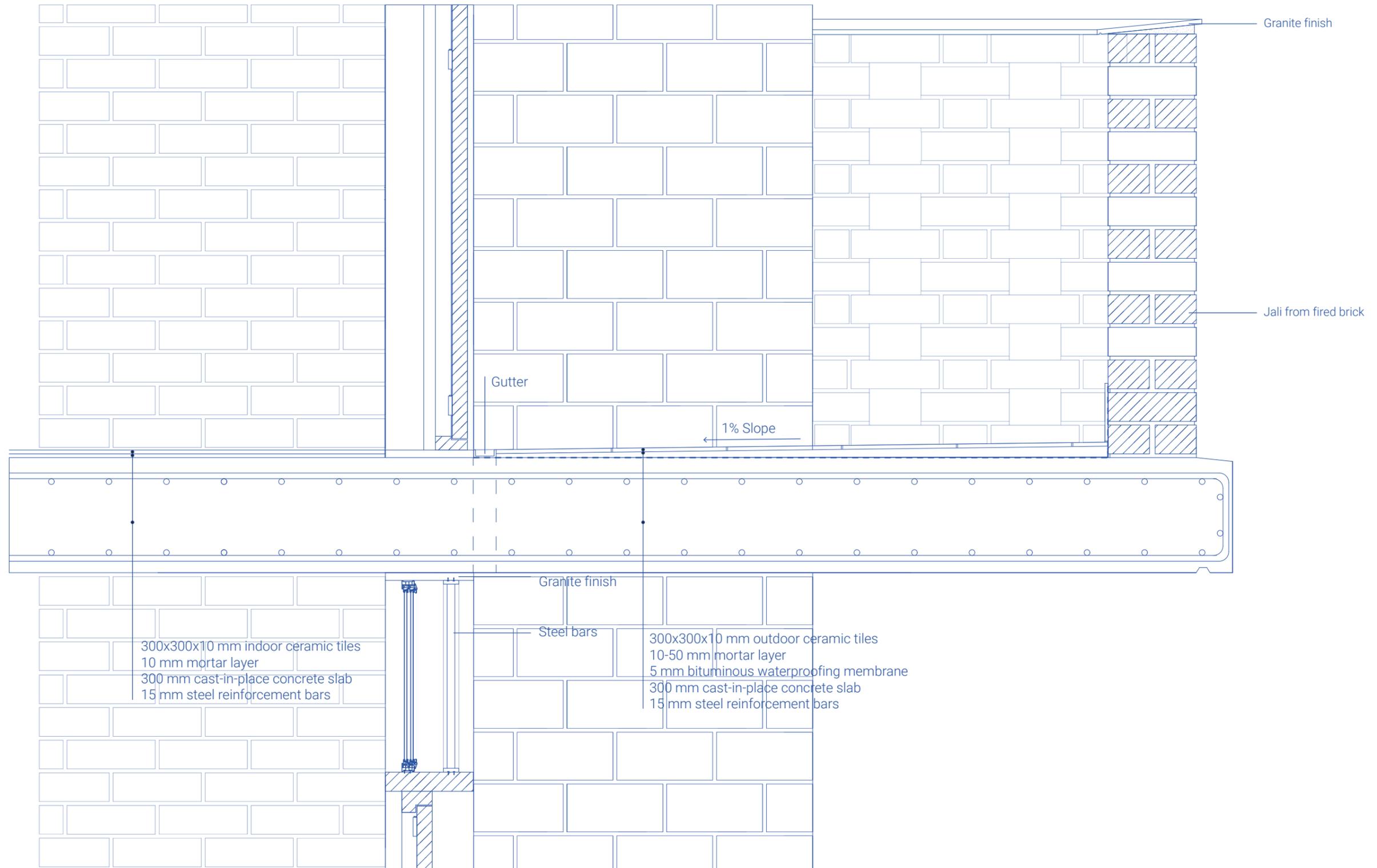
BUILDING
ROOF EDGE DETAIL

1:10



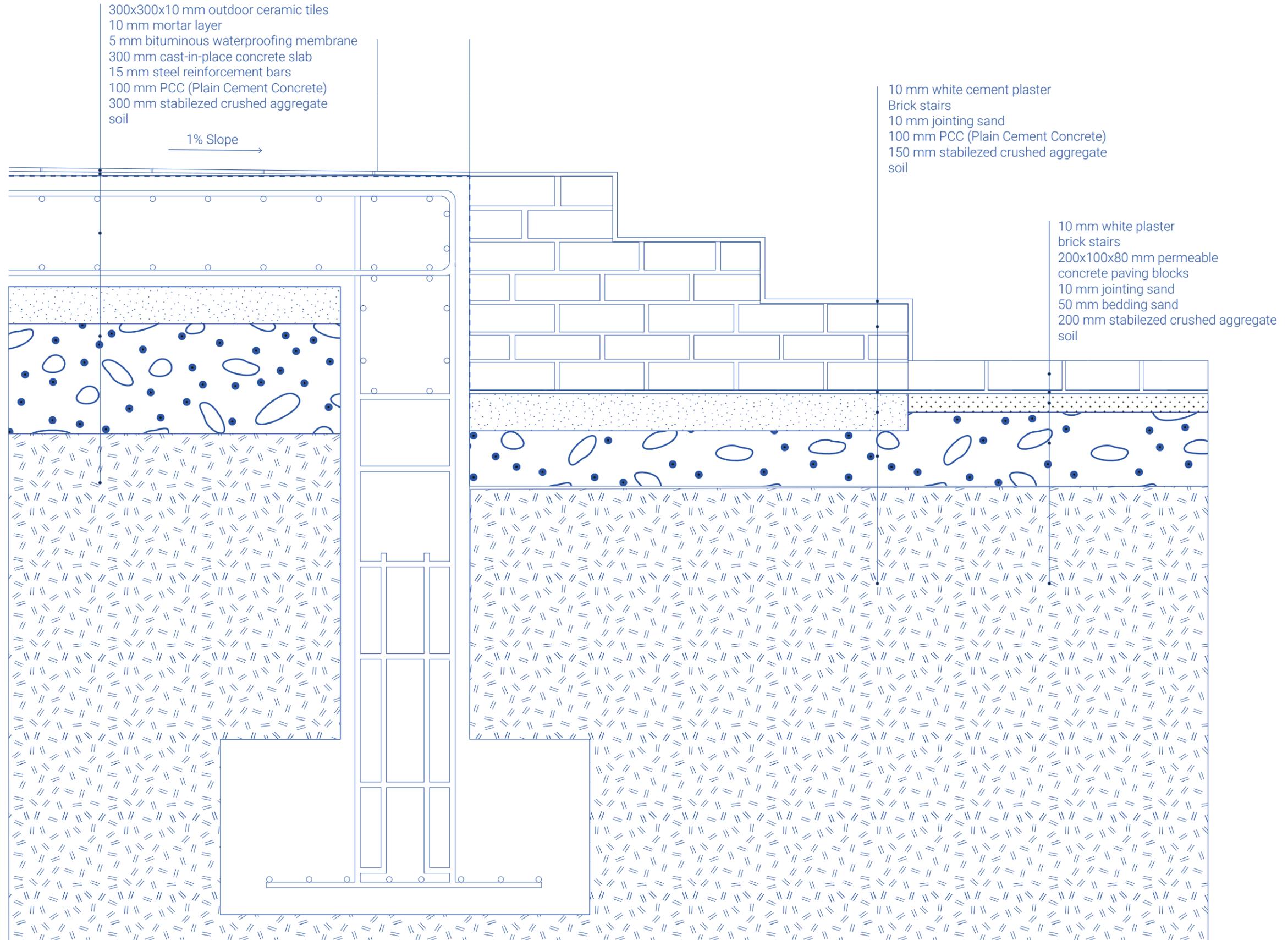
BUILDING
BALCONY DETAIL

1:10



FOUNDATION DETAIL

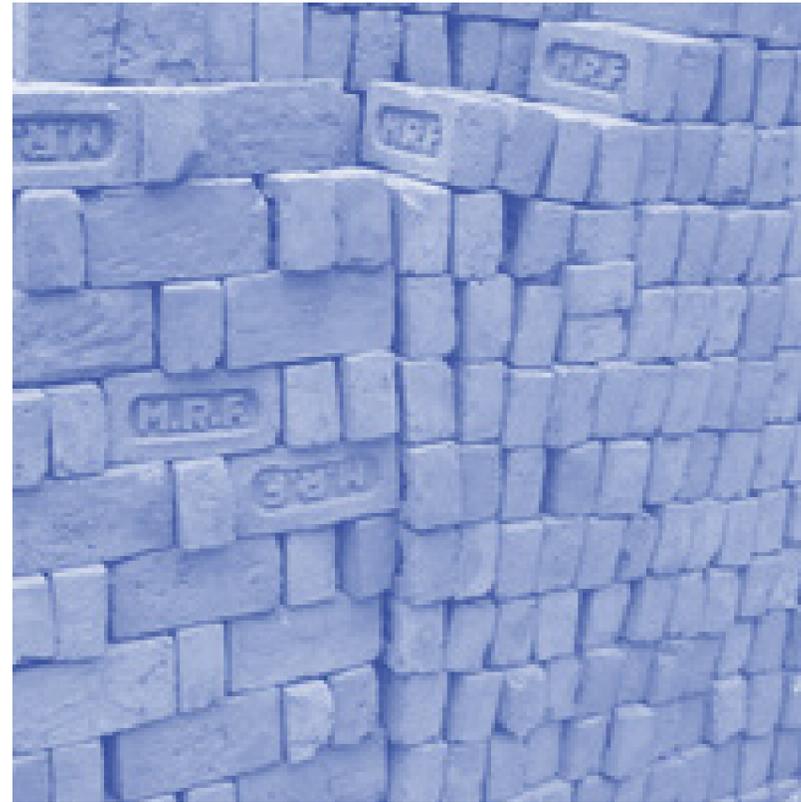
1:10



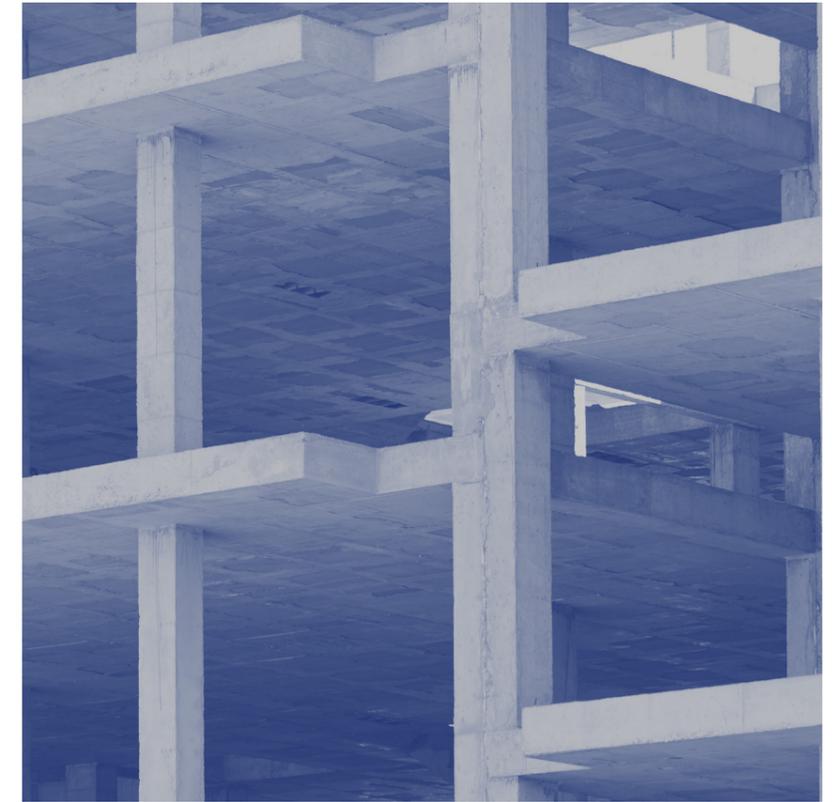
BUILDING
MATERIALS USED



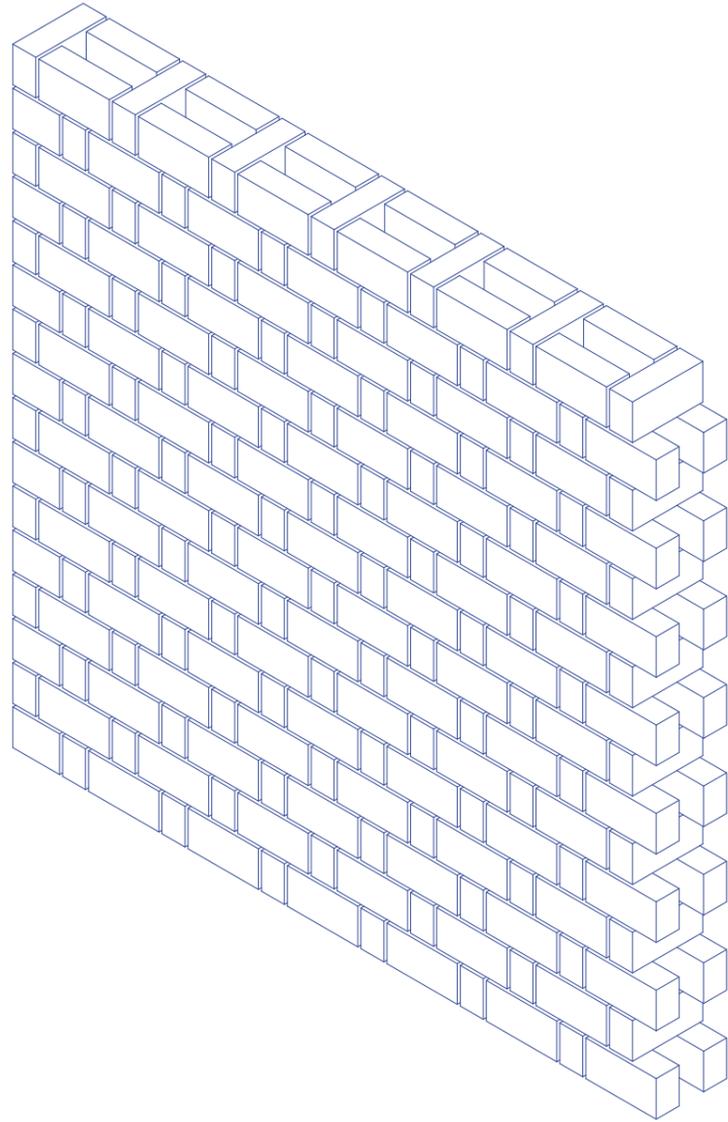
Cement plaster



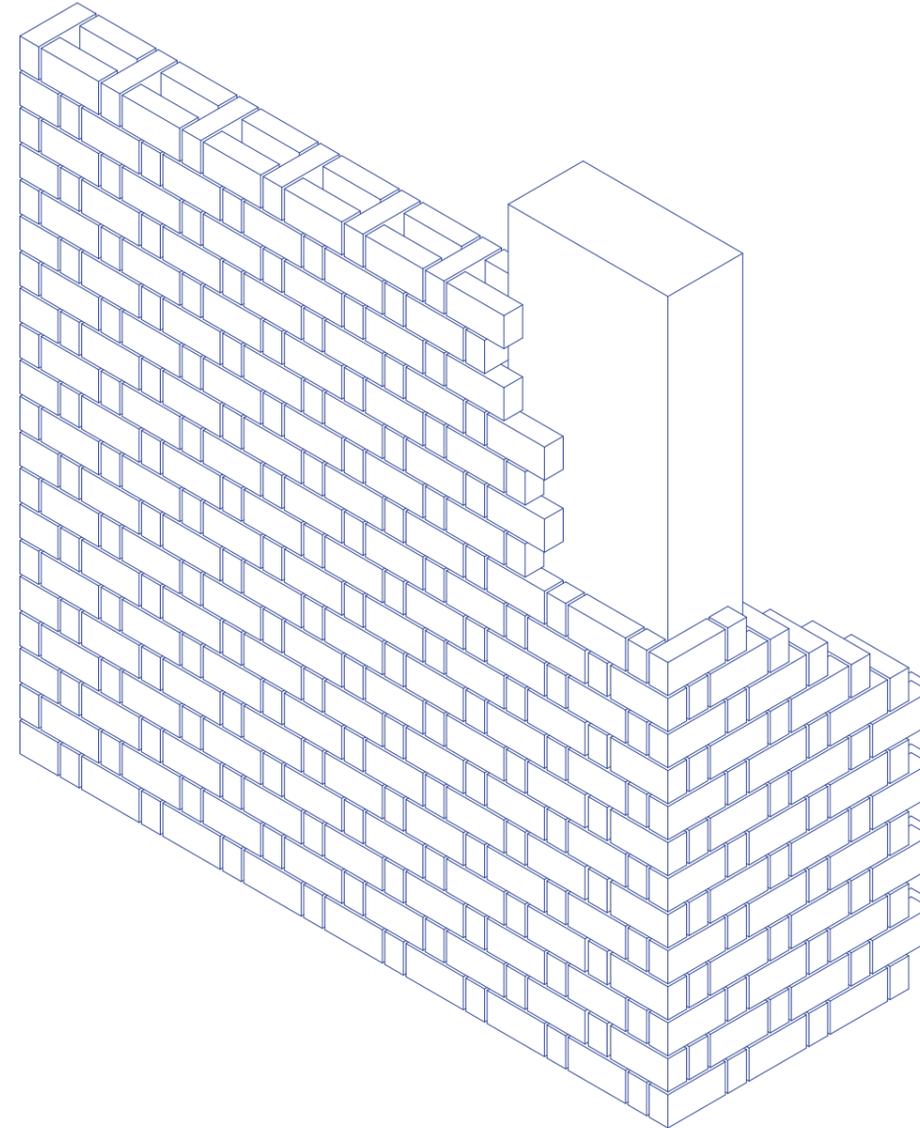
Fired brick



Concrete

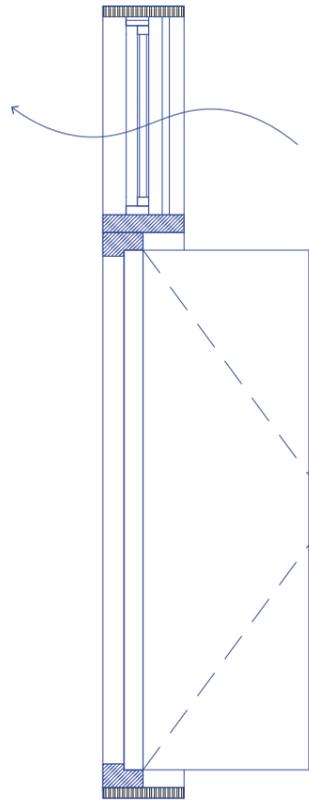


Rat trap bond

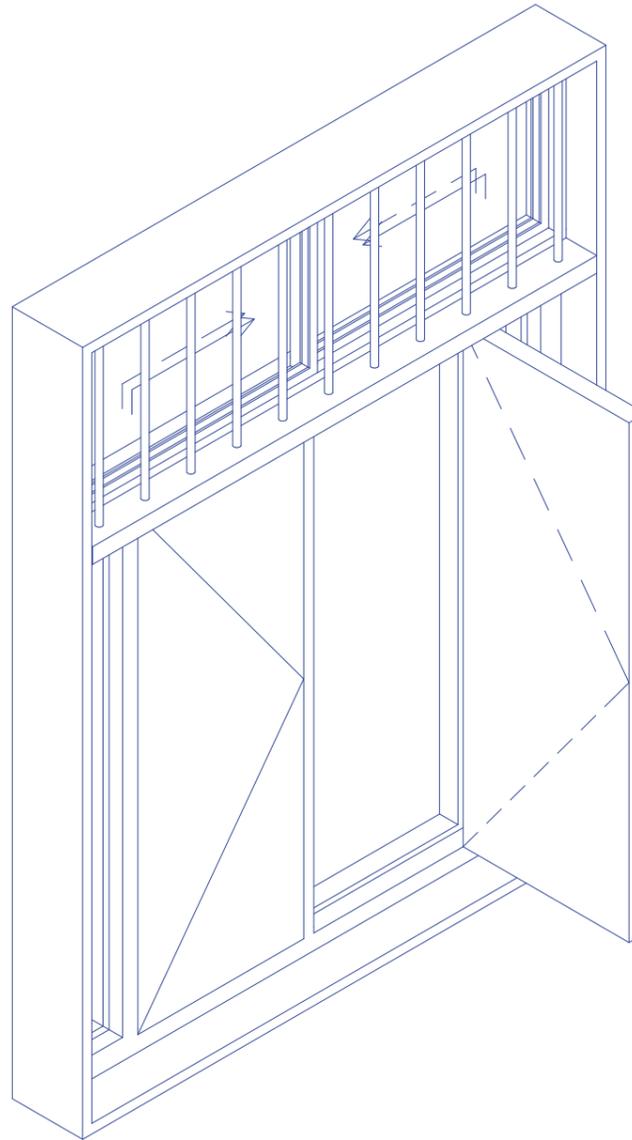


Hiding column

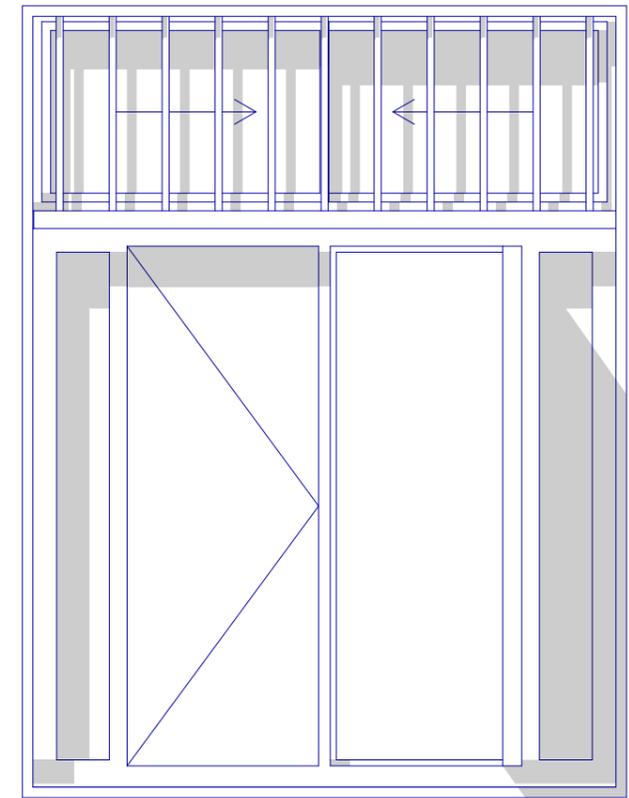
AFFORDABILITY - Window design



Always ventilation



Multi purpose



Less glass

WINDOW DESIGN - Privacy



DWELLING

DWELLING PLANS - Income groups

1:100



Low income

- 30 - 40 sqm
- Optional studio for rent
- 1 large bedroom
- 1 bathroom



Mid income

- 60 - 80 sqm
- 5 - 10 sqm outdoor
- 2 large bedrooms
- 1 bathroom



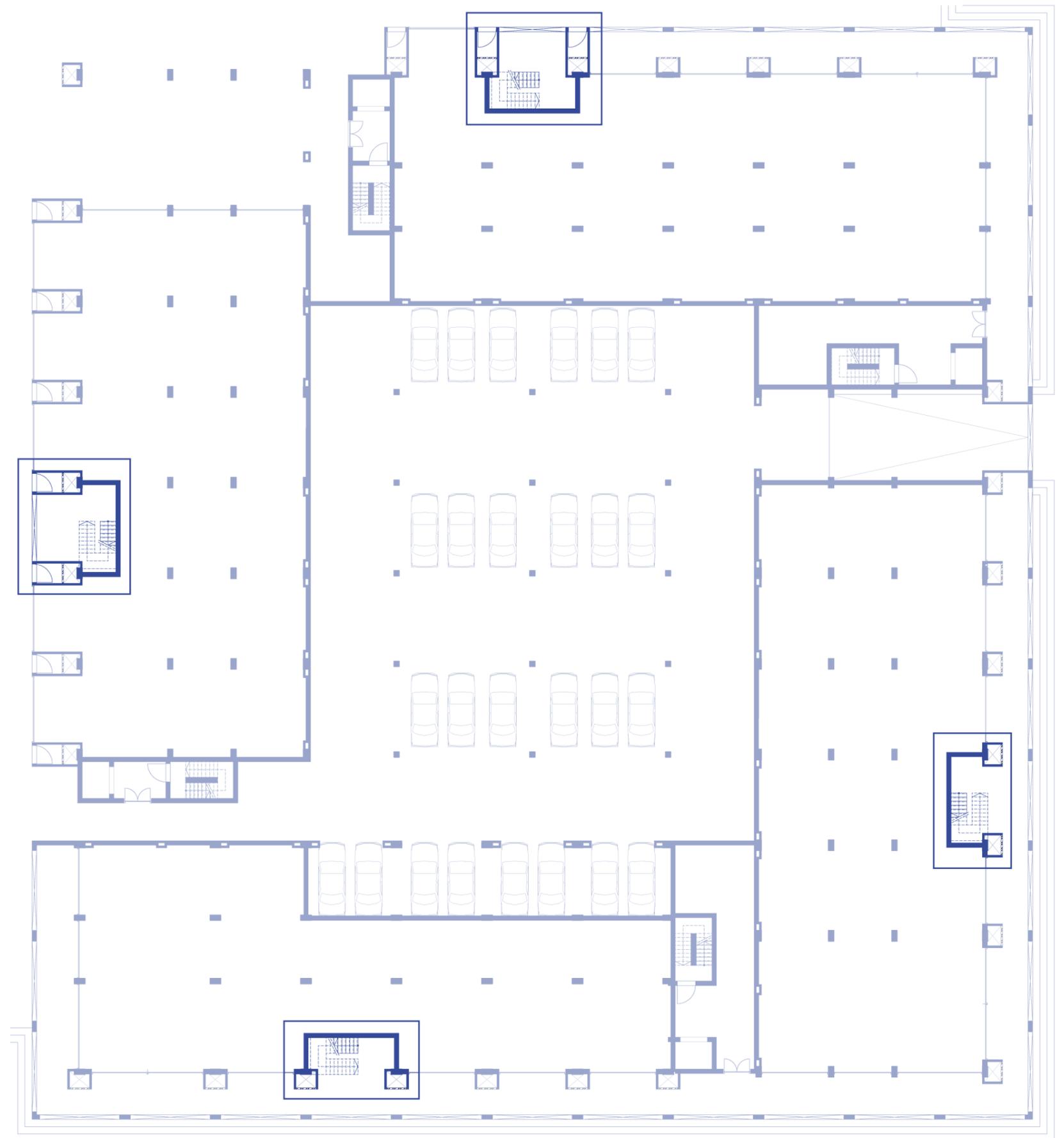
High income

- 90 - 100 sqm
- 10 - 20 sqm outdoor
- 3 large bedrooms
- 2 bathrooms

DWELLING
ENTERING TOGETHER



DWELLING
LOW INCOME - Own core



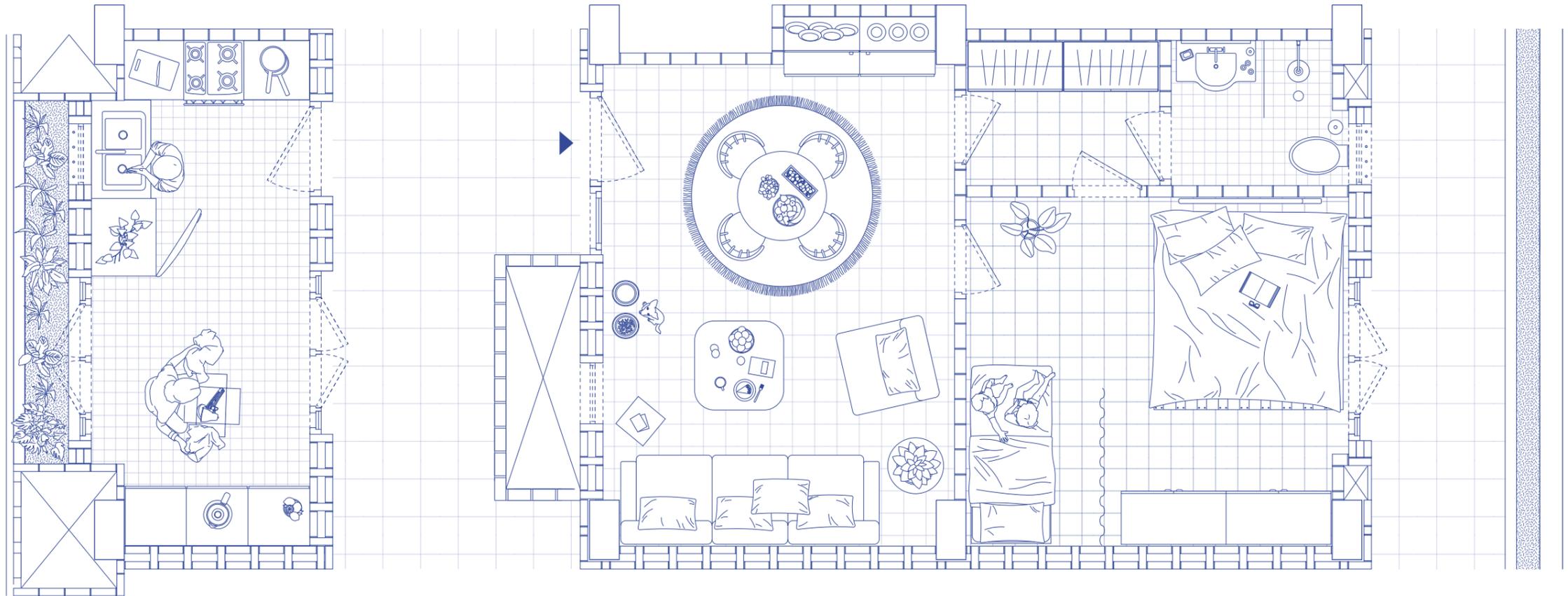
DWELLING

LOW INCOME - 'Corridor'



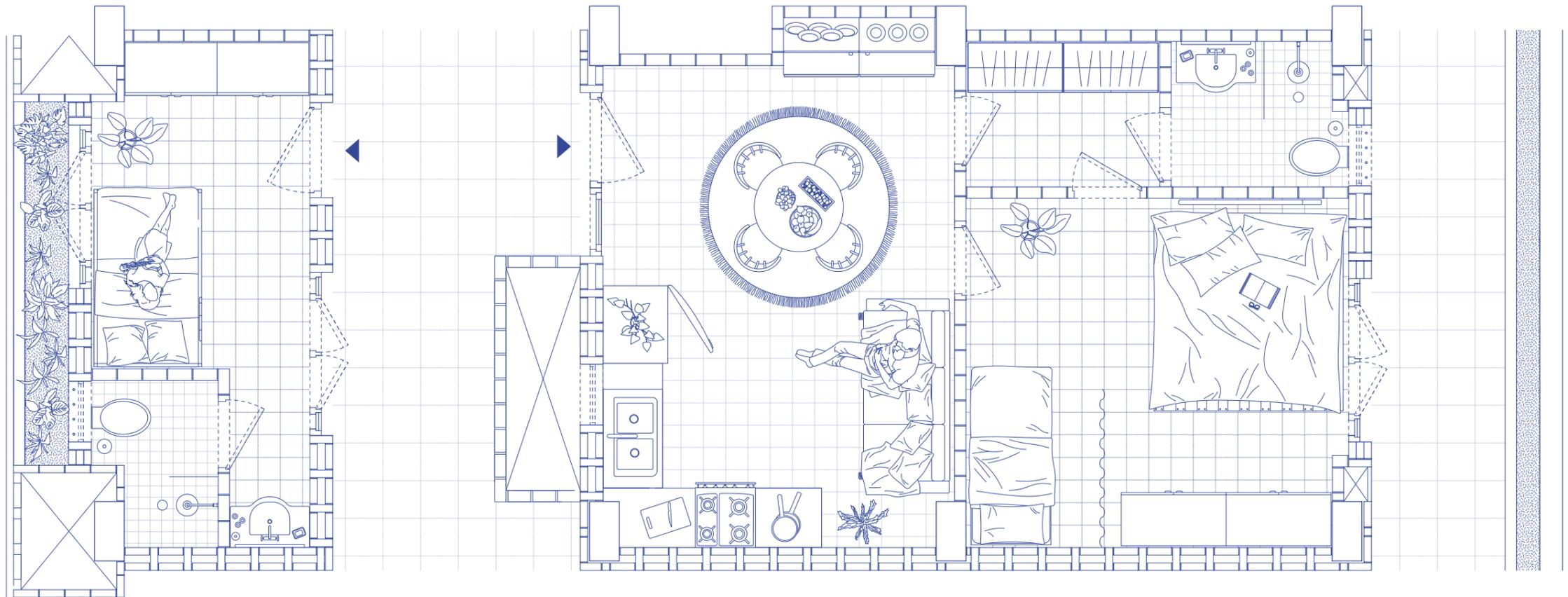
LOW INCOME - Type 1

1:50

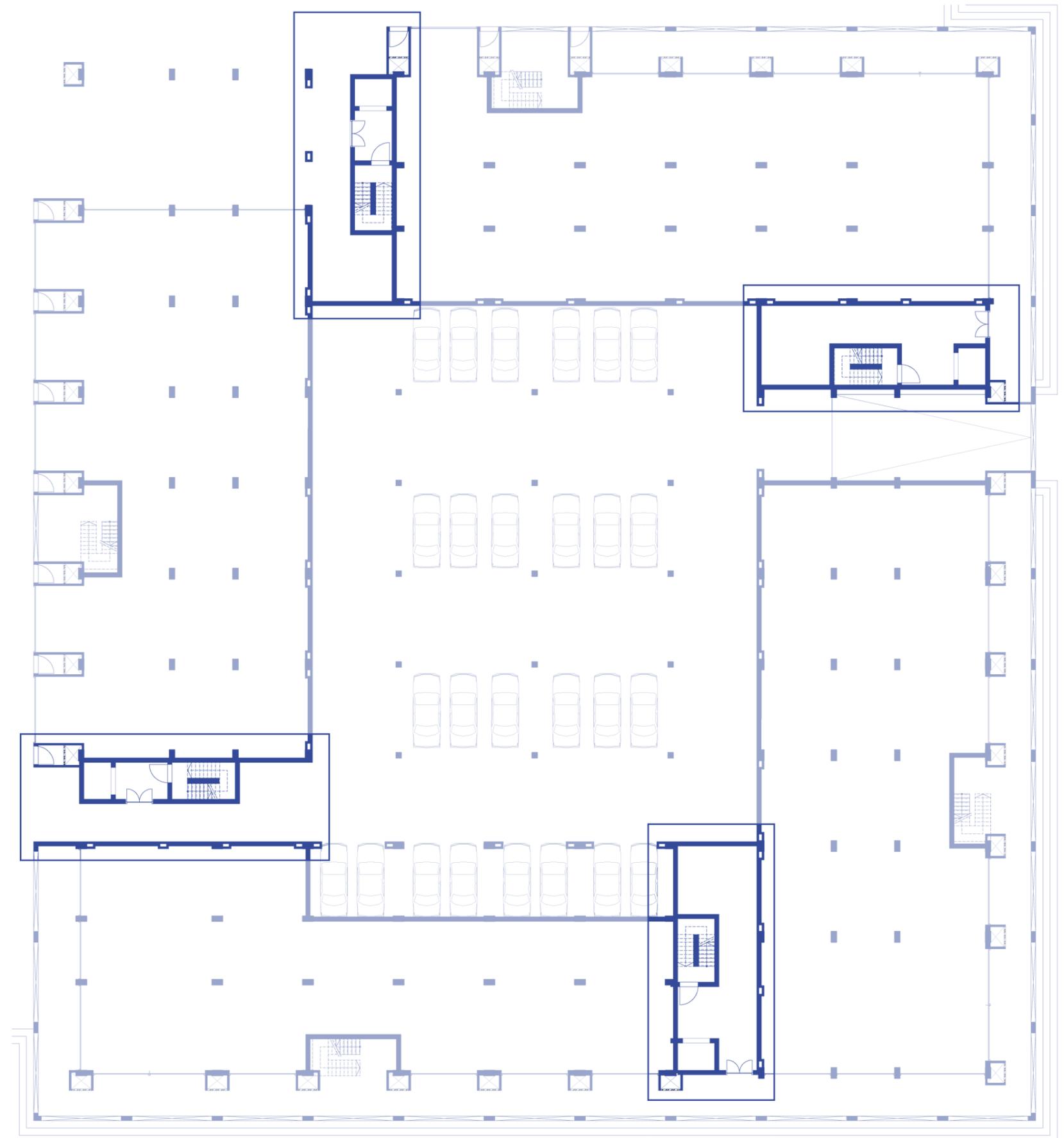


LOW INCOME - Type 2

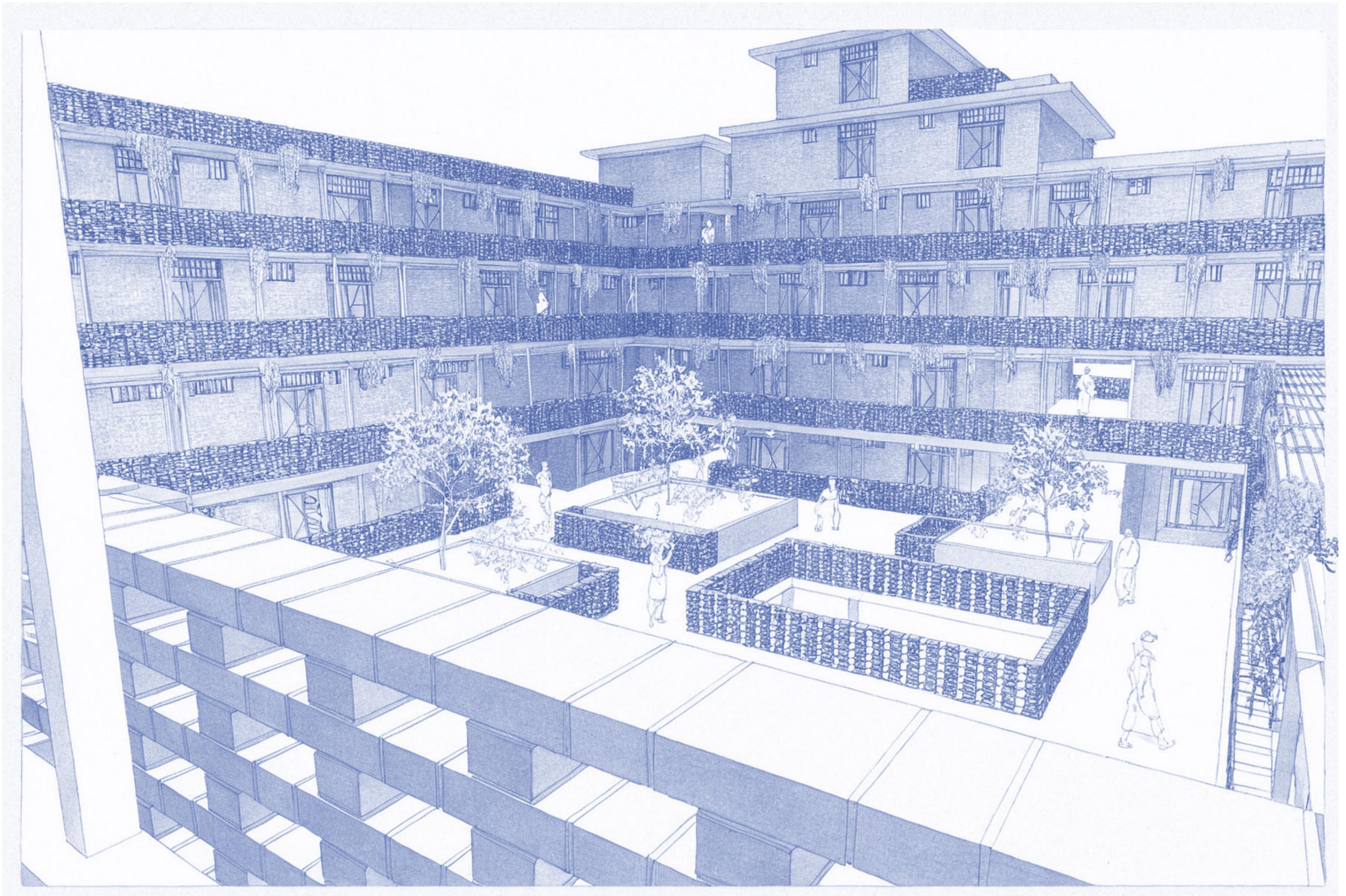
1:50



MID INCOME - Shared core

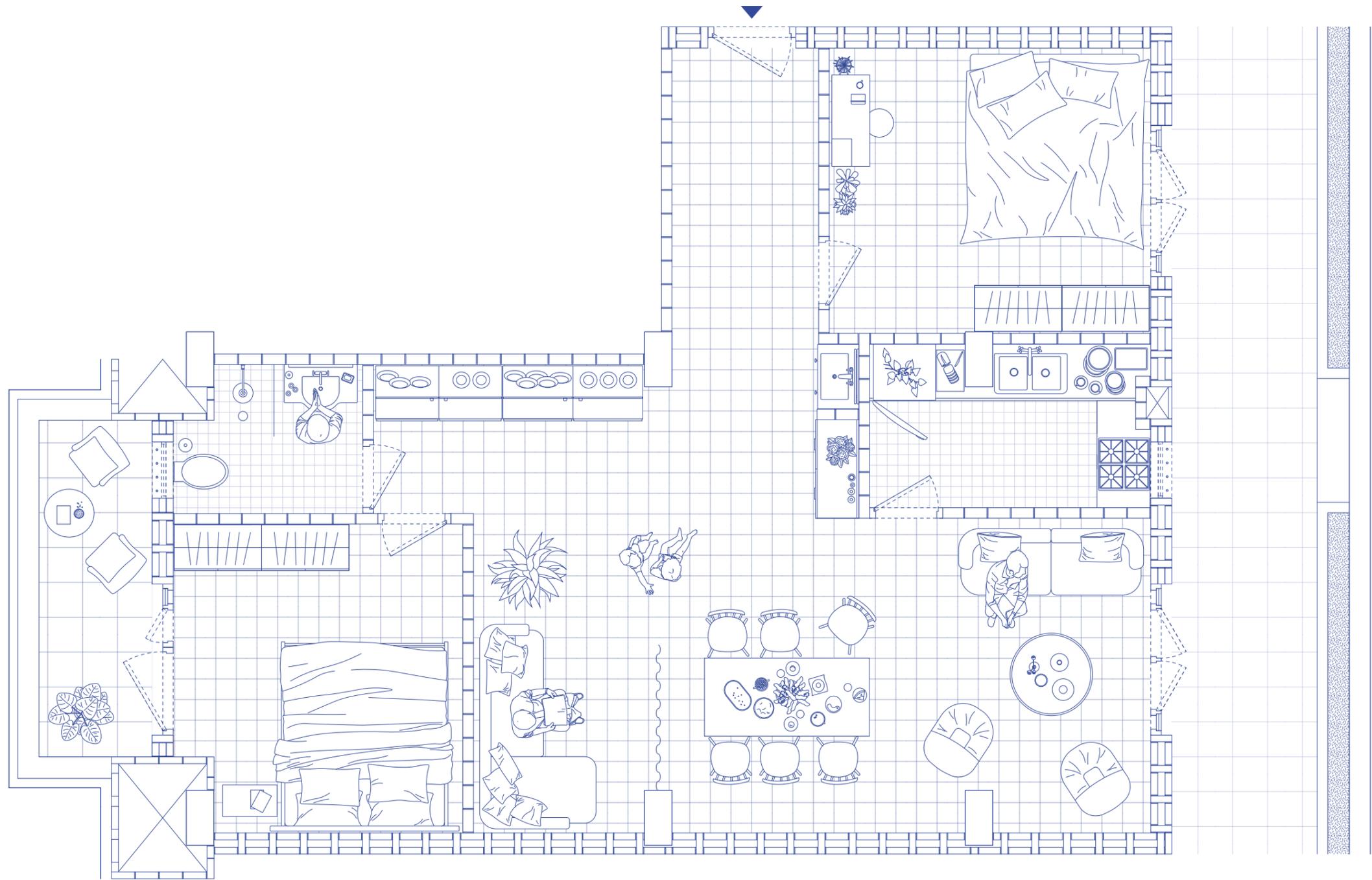


MID INCOME - Looking down on courtyard



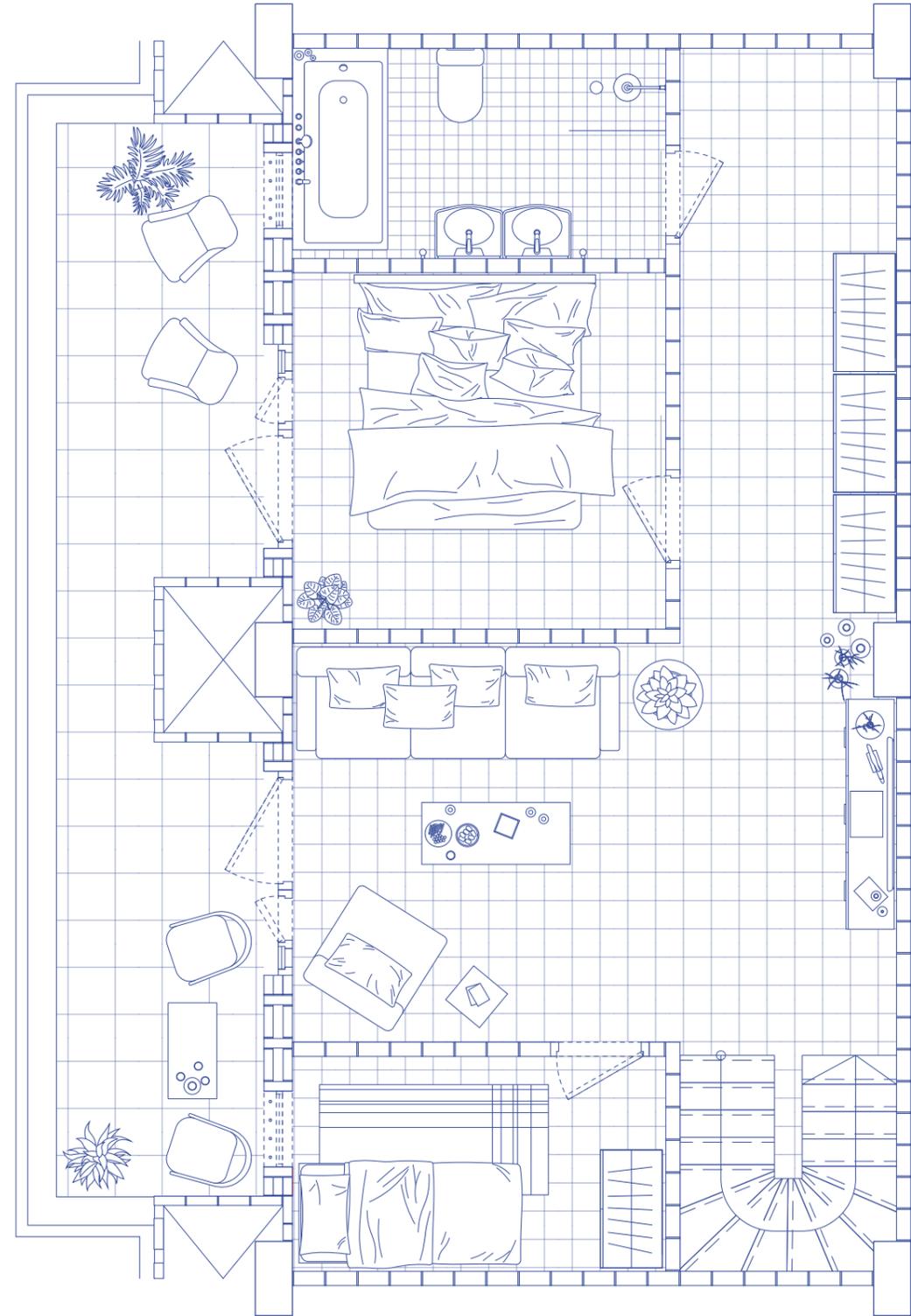
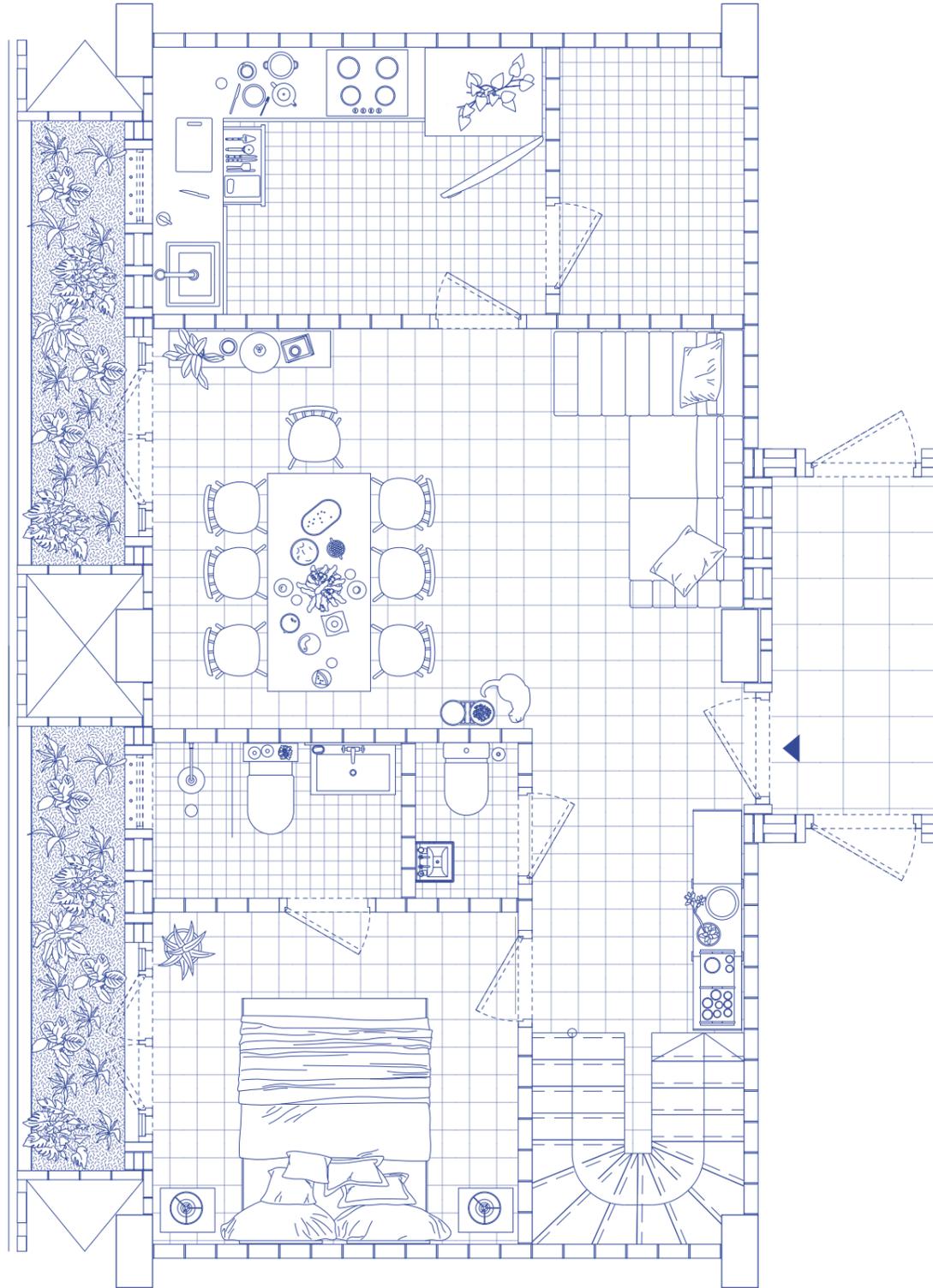
DWELLING
MID INCOME

1:50



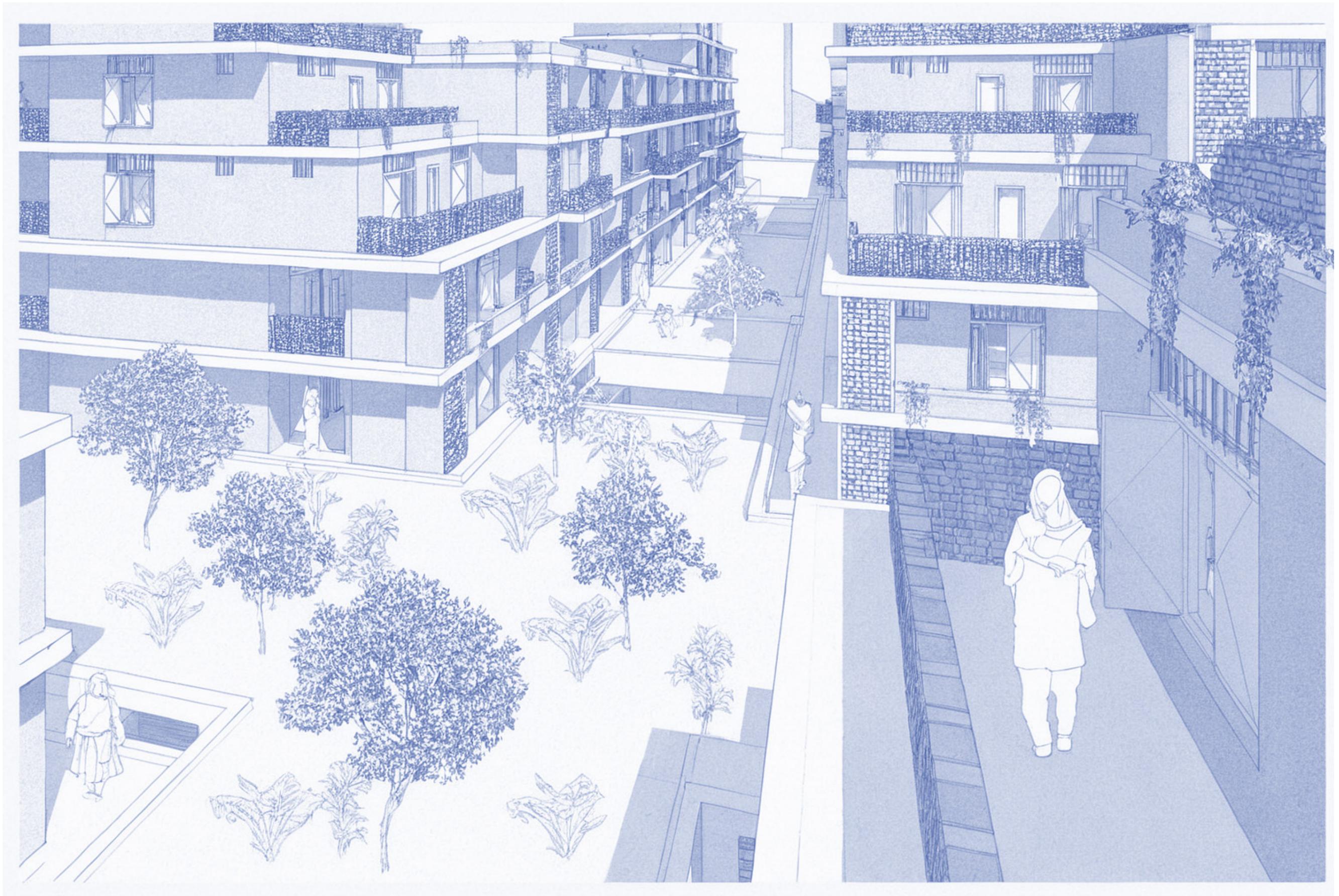
DWELLING
HIGH INCOME

1:50



DWELLING

HIGH INCOME - View from balcony



LIVING MARKETS

