

NEW HOUSING STRATEGY
FOR THE URBANISING VILLAGES OF NAVI MUMBAI

AR3AD105 Dwelling Graduation Studio: Global Housing (2021/22)

Tasos Antonopoulos

The assignment of the studio is to explore possibilities to develop affordable and adequate housing for all in Navi Mumbai, rethinking housing as a resource for a more equitable city.

CONCEPT VS REALITY

-NAVI MUMBAI TO DIFFUSE OVERPOPULATION PROBLEM OF MUMBAI
- EXISTING VILLAGES DEVELOPED INFORMALLY ALONGSIDE THE FORMAL CITY

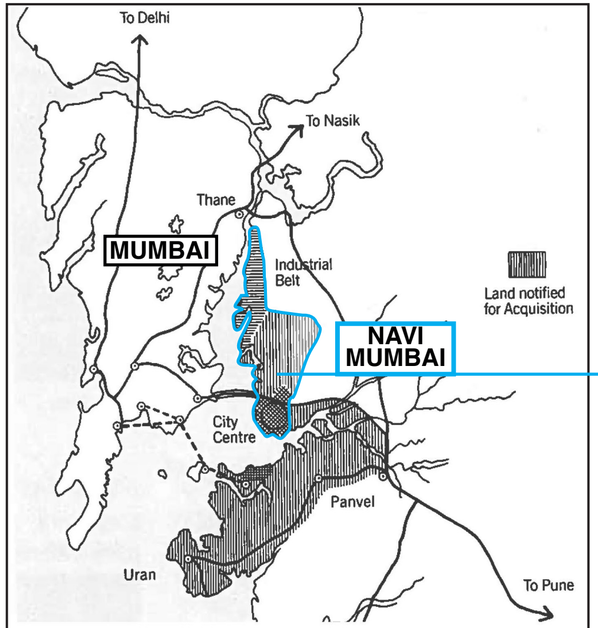


Fig.1. Land acquisition map for expansion of Navi Mumbai

Source:
Correa, C. (2000). Housing and Urbanisation. London: Thames & Hudson.

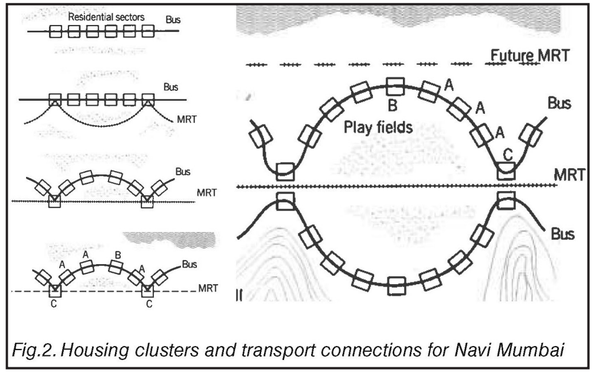


Fig.2. Housing clusters and transport connections for Navi Mumbai

Source:
Correa, C. (2000). Housing and Urbanisation. London: Thames & Hudson.

Navi Mumbai concept plans

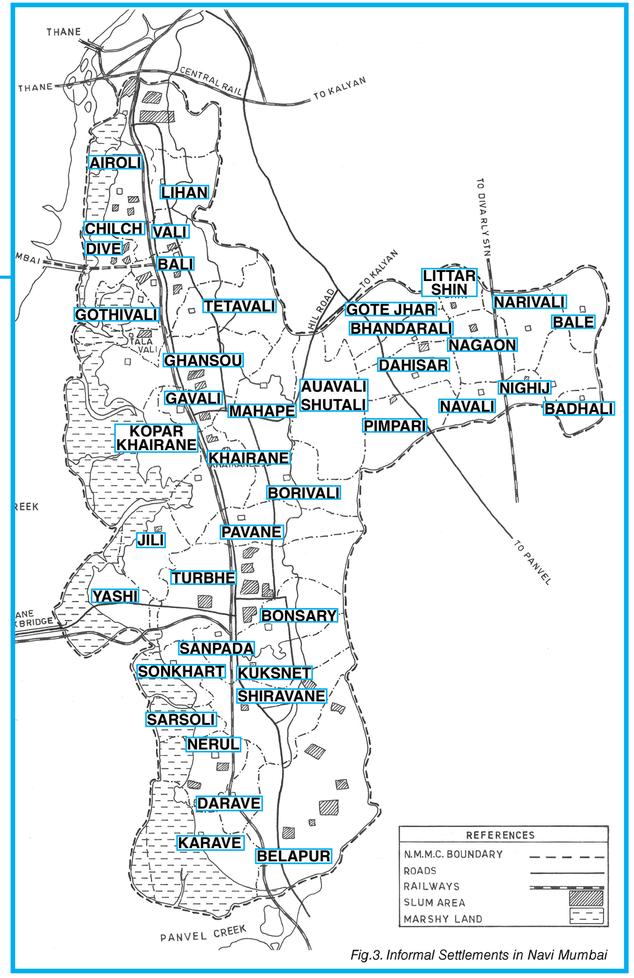


Fig.3. Informal Settlements in Navi Mumbai

Source:
Shaw, A. (1999). The planning and development of new bombay. Modern Asian Studies, 33(4), 951–988. Retrieved from: https://www.jstor.org/stable/313106

Informal settlements in Navi Mumbai

TYPES OF INFORMAL SETTLEMENTS

- FOCUS ON URBAN VILLAGES

2003:

2021:





CONSTRUCTION SQUATTED SHANTIES





PRE-EXISTING VILLAGE





ATTACHED SQUATTED SHANTIES

URBAN VILLAGES IN NERUL NODE

- HIGHLIGHTED IN YELLOW THE URBAN VILLAGES
WITH THEIR ANARCHIC FORMS

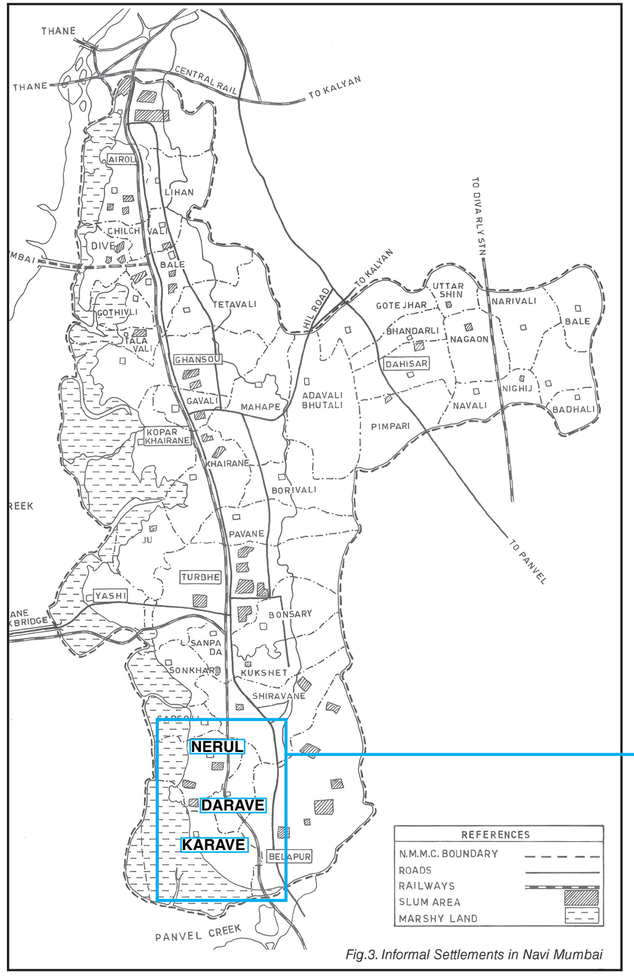
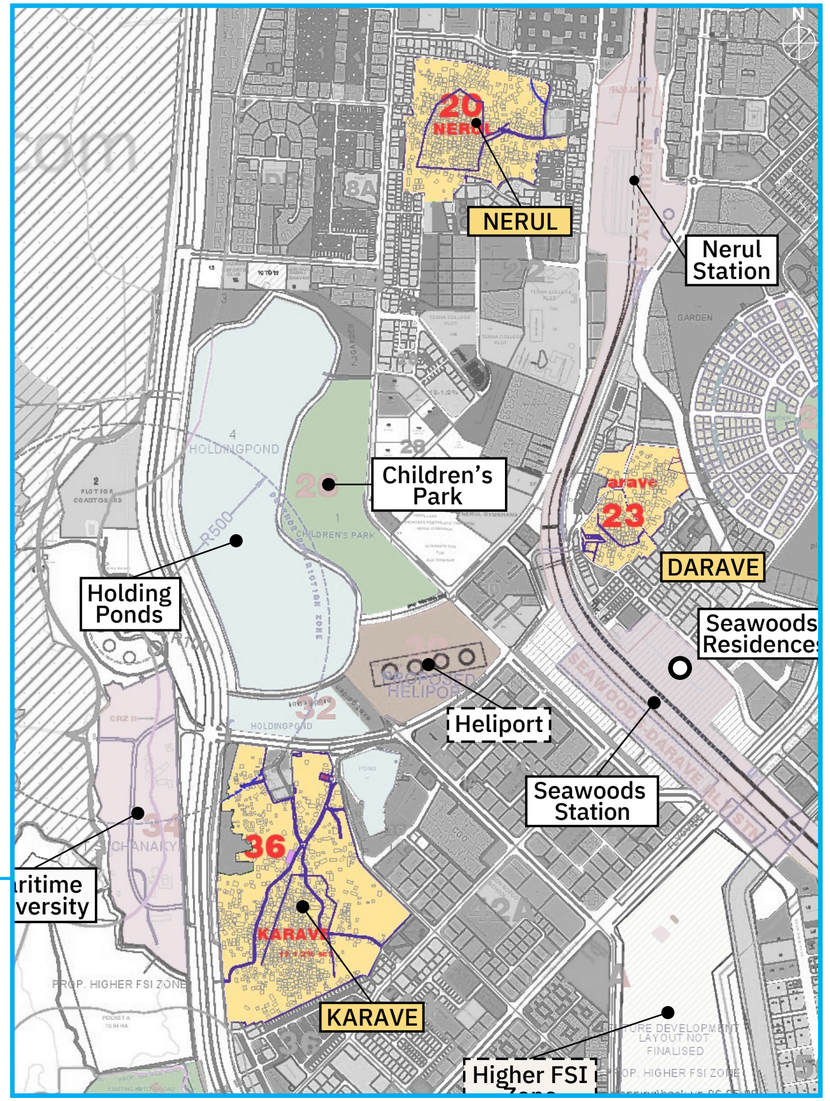


Fig.3. Informal Settlements in Navi Mumbai

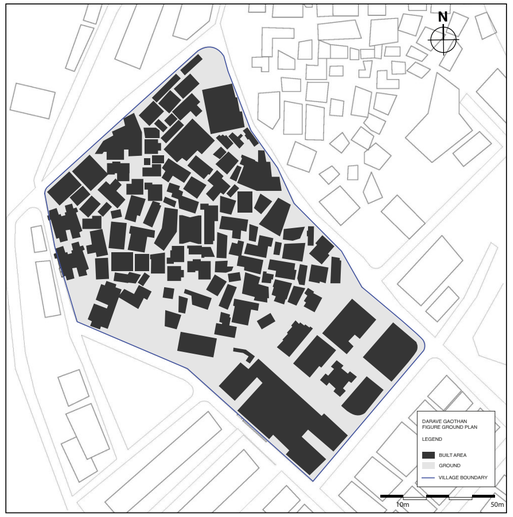
North Navi Mumbai

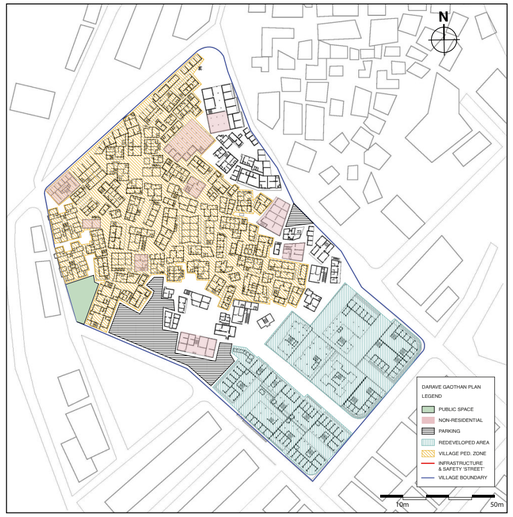


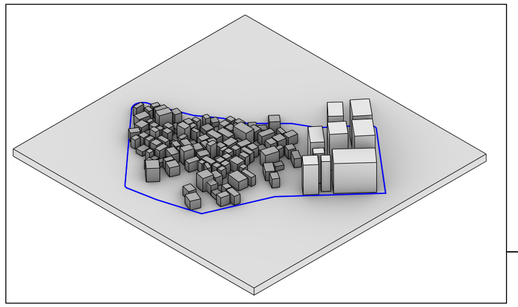
Nerul node plan

Source:
https://nmmc.gov.in/navimumbai/development-plan

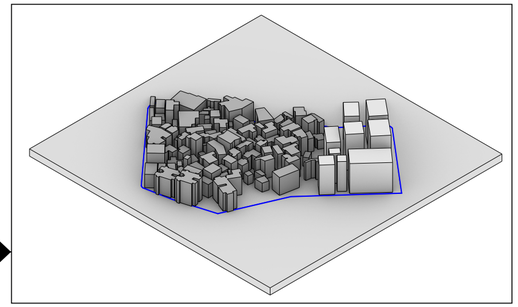
DARAVE VILLAGE STUDY



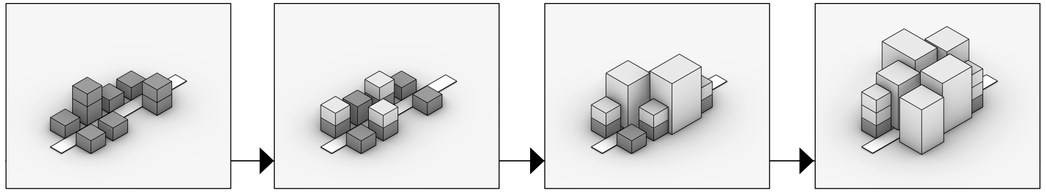




Darave 2003 axonometric



Darave 2021 axonometric



Conceptual development

PROBLEMS OF URBAN VILLAGES



1. Inadequate housing



2. Identity loss



3. Lack of instrastructure, eg. sewage



4. Lack of infrastructure for industries



5. Overcrowding



6. Narrow streets, incaccessibility, safety issues

ADVANTAGES OF URBAN VILLAGES

- Affordable rent.
- Absorption of rural migrants.
- Proximity to work in the formal city.
- Walkability within the village/ for work = relief of pressure from public transport.
- Strong community ties.
- Small scale sustainable industries eg. recycling, crafts, fishing.
- **Vital to the formal city by providing labour force.**

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INTIMATE CHARACTER & SCALE OF URBAN VILLAGES

- BEYOND THE ADVANTAGES
- INTIMATE CHARACTER & SCALE
- PLEASANT FOR RESIDENTS & FEELING OF BELONGING



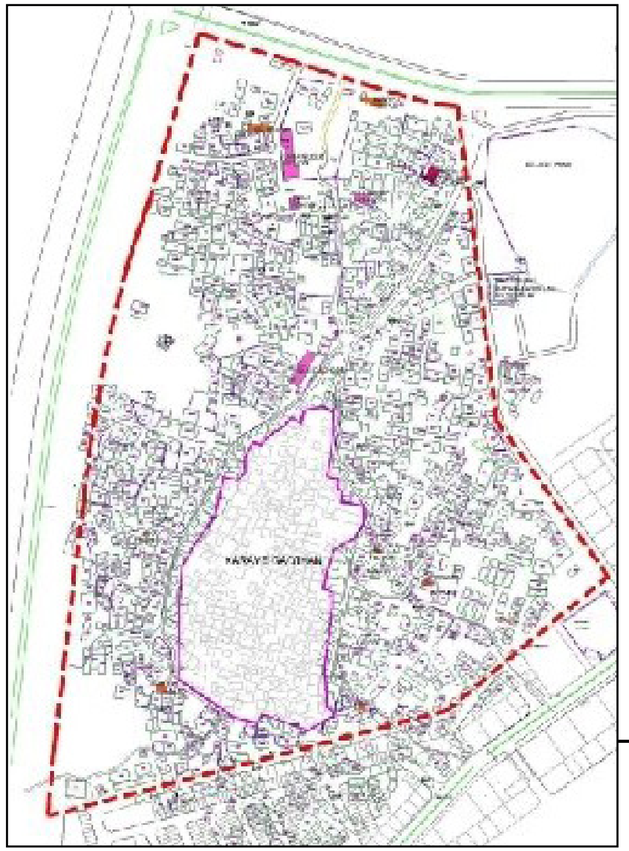
Houses of a village



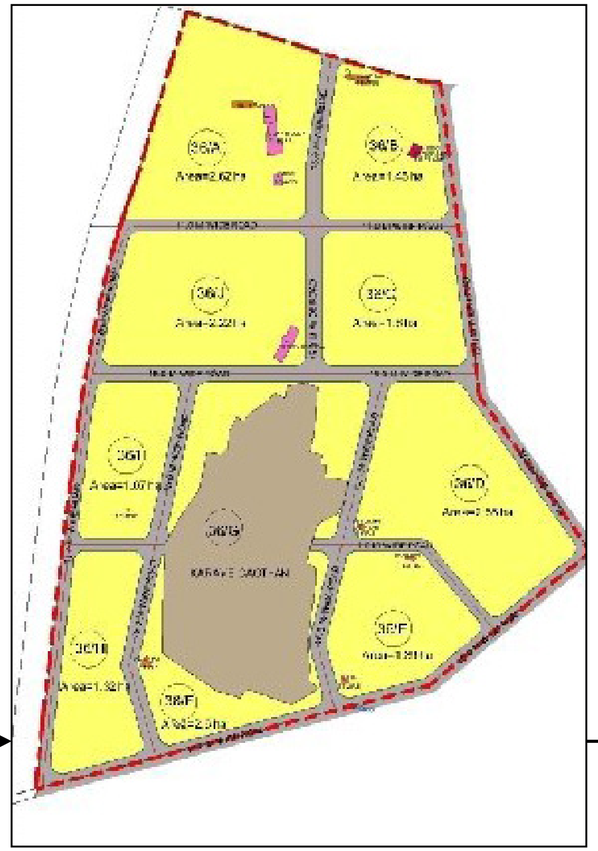
Leftover courtyard space

CIDCO PLAN FOR THE VILLAGES
- ERASURE & REDEVELOPMENT

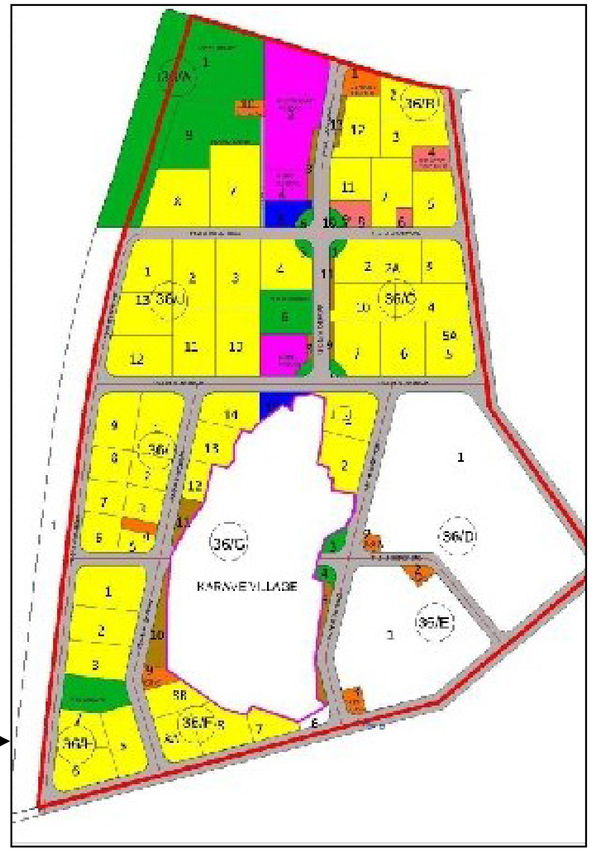
- SUPERIMPOSITION OF NEW STREETS
- DIVISION OF PLOTS FOR NEW CONSTRUCTIONS



Urban village plan



New sectors proposed



Plot division proposed

Source: https://present5.com/redevelopment-in-a-young-city-the-navi-mumbai/

NEOLIBERAL GLOBALISATION - A THREAT TO THE VILLAGES, ITS RESIDENTS & THE ENVIRONMENT

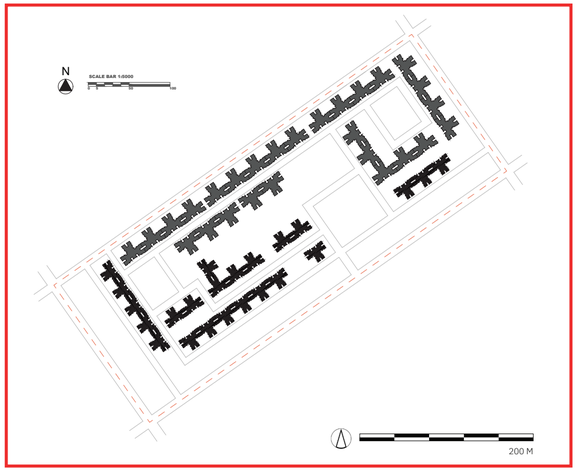
- GREATER THREAT TO VILLAGES
- ERASURE & DISPOSSESSION



Navi Mumbai New Airport
& Trans Harbor Link

MASS HOUSING SCHEMES FOR THE URBAN POOR

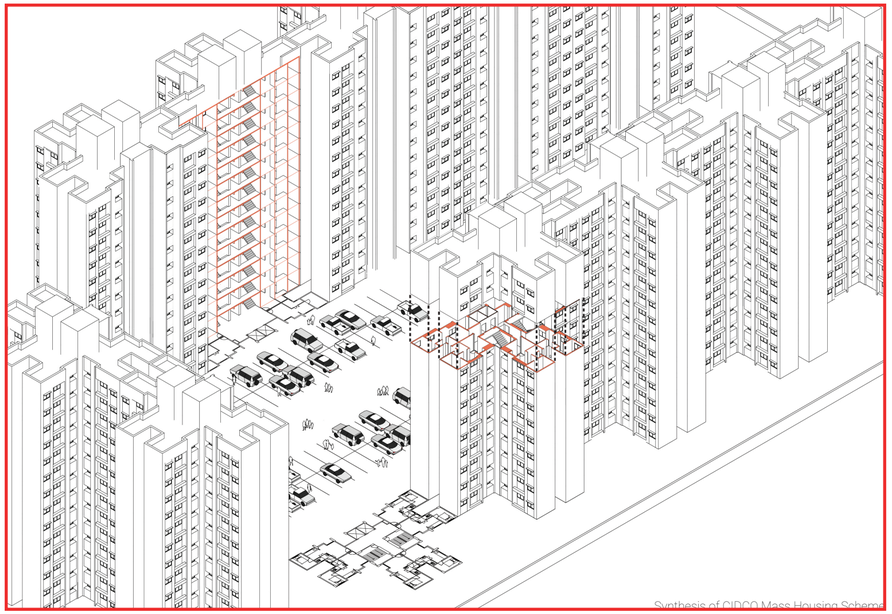
- PRESENTED AS SOLE SOLUTION TO HOUSE THE URBAN POOR
- SHEER SCALE & REPETITIVENESS MAKE THEM INHUMANE
- OPPOSITE OF VILLAGES



Ground Floor Plan



Location



Source: Global Housing Graduation Studio Research (2021/2022)

Axonometric

DISADVANTAGES OF MASS HOUSING SCHEMES

- Peripheral locations, displacement of people, bad proximity to work.
- Reliance on limited, burdened public transport by payment.
- Typically no amenities provided.
- No ground association for residents of the towers.
- Poor quality in anything but the structure.
- No maintenance or unaffordability of maintenance lead to quick dilapitation.

- Unaffordable appartments to buy/ rent for too many.

- Even those who can afford resell and go back to informal settlements eg. urban villages.

Sources:

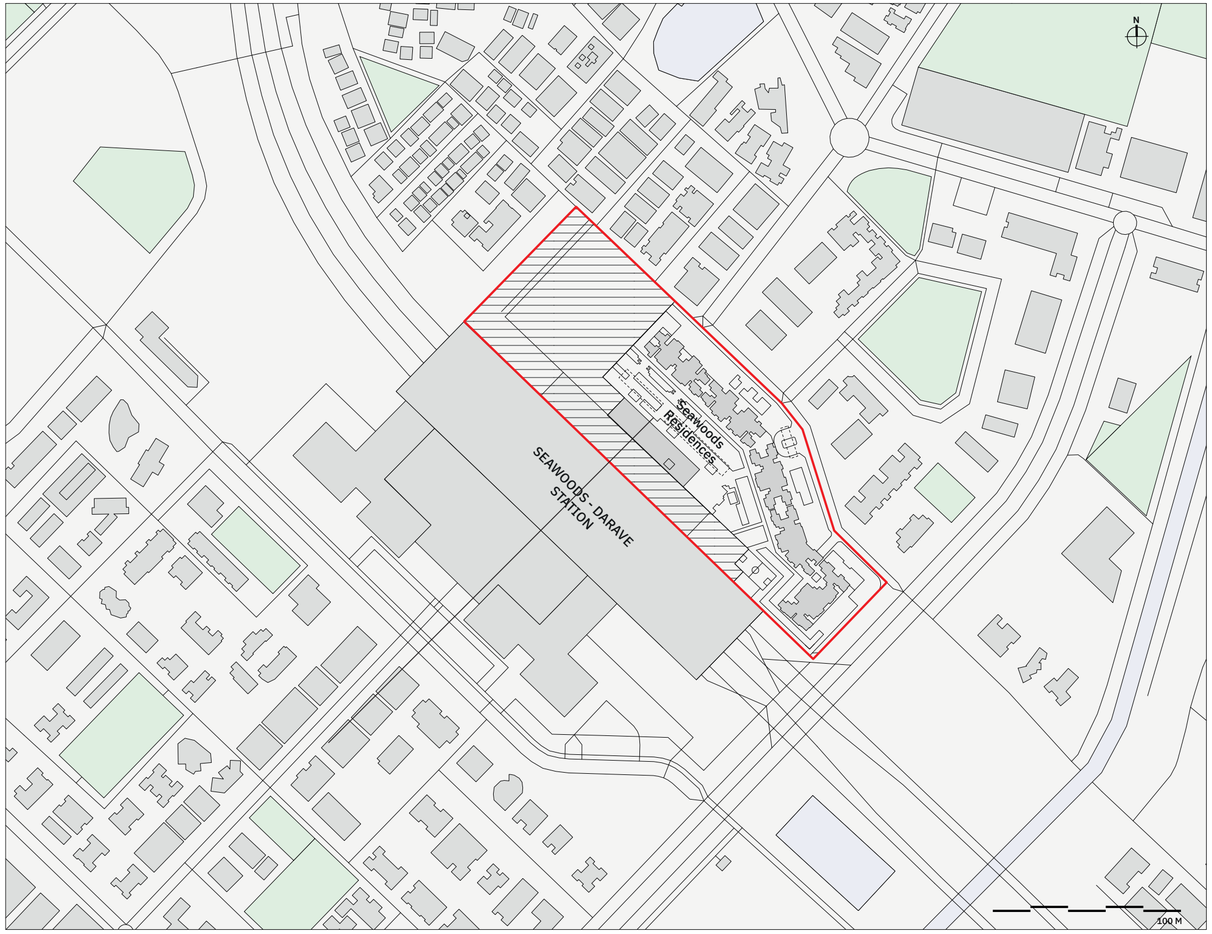
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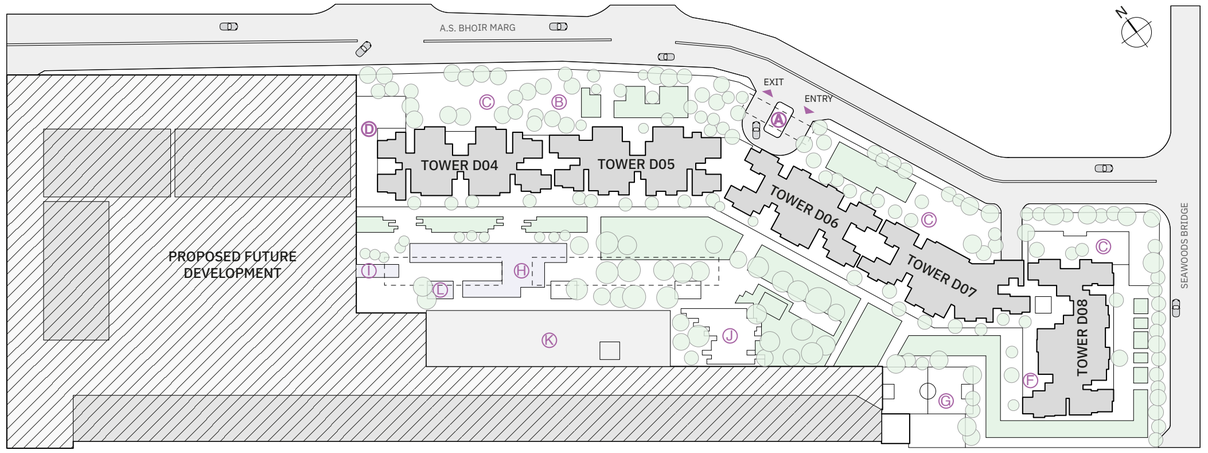
Shaw, A. (1999). The planning and development of new bombay. Modern Asian Studies, 33(4), 951–988. Retrieved from: https://www.jstor.org/stable/313106

URBAN ENCLAVES FOR THE RICH

- AMENITIES FOUND WITHIN HOUSING COMPLEX



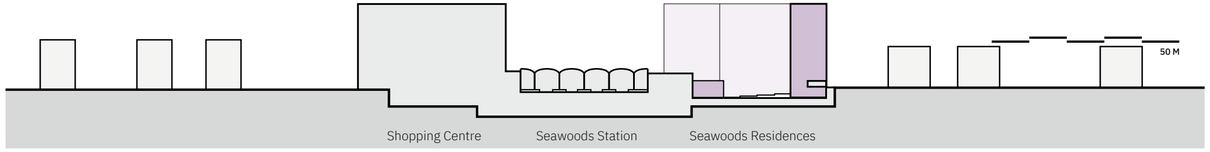
Location Plan



LEGEND

- Ⓐ MAIN ENTRY
- Ⓑ GROVE WALK
- Ⓒ RETAIL PLAZAS
- Ⓓ SEAWOODS STATION ENTRANCE
- Ⓔ JOGGING TRACK
- Ⓕ KID'S SPACE
- Ⓖ SPORTS COURT
- Ⓗ LAP POOL
- Ⓘ KID'S POOL
- Ⓙ AMHITHEATRE
- Ⓚ CLUBHOUSE
- Ⓛ JACUZZI

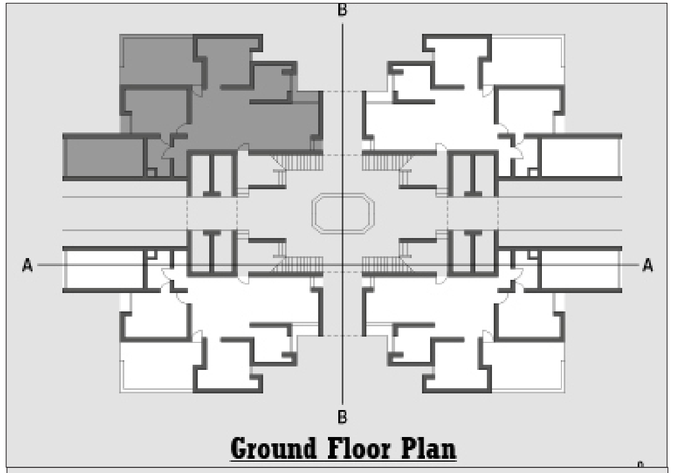
Ground Floor Plan

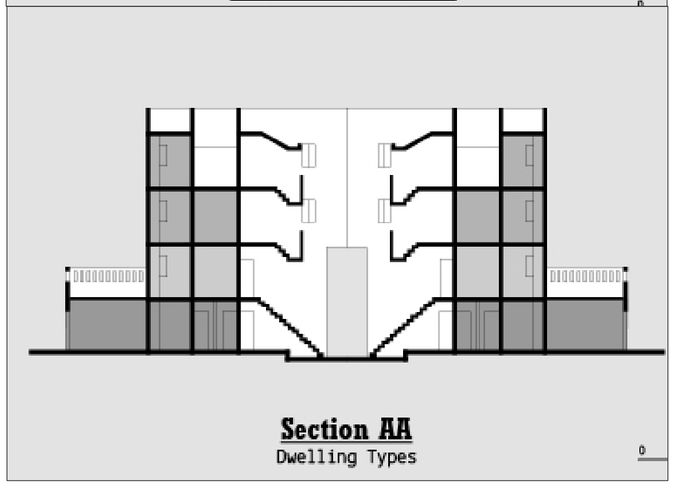


Schematic Section

INSPIRATION FROM INDIAN MODERNISM - SHEIKH SARAI HOUSING, RAJ REWAL ARCHITECTS, 1970

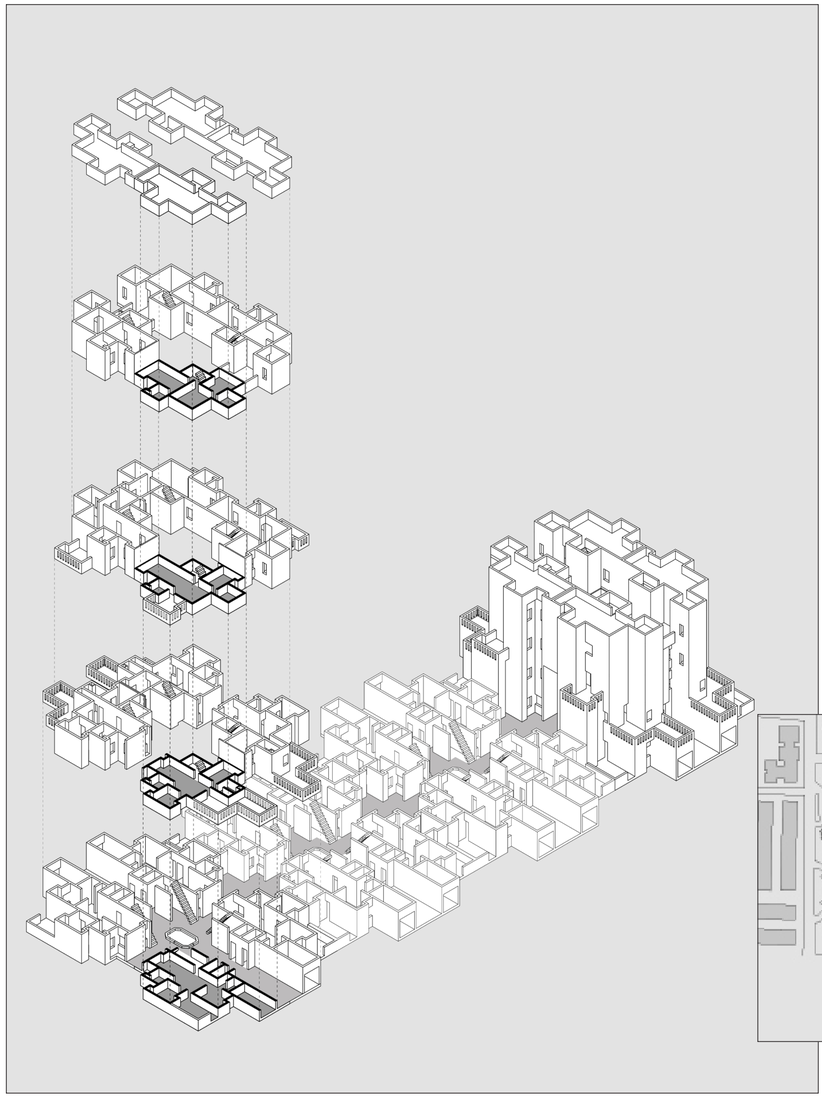
- APPROPRIATE ARCHITECTURE
- REPETITIVE BLOCKS TO FORM COURTYARDS
- ORCHESTRATION OF PUBLIC SPACE
- HIGH DENSITY IN HUMANE MANNER



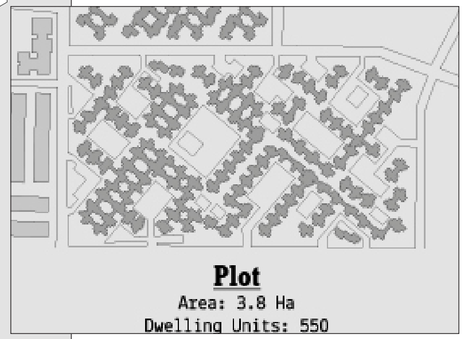




Dwelling Units



Axonometric



Site Plan

Around 40% of the 1.1 million residents of Navi Mumbai live in informal settlements because of their affordability. Informal dwellers consitute a large body of people that require better housing. It is aspired that mass housing schemes of high-rise residential buildings can be provided to solve this problem.

PROBLEM STATEMENT

Currently, informally developed villages provide a substantial amount of affordable housing for the urban poor but of a substandard quality. Meanwhile, mass housing schemes prove to be inadequate too for a number of reasons.

How can architecture and urban planning guide villages to plan better for their urbanisation, in anticipation of informality, and provide quality housing for all their future residents?

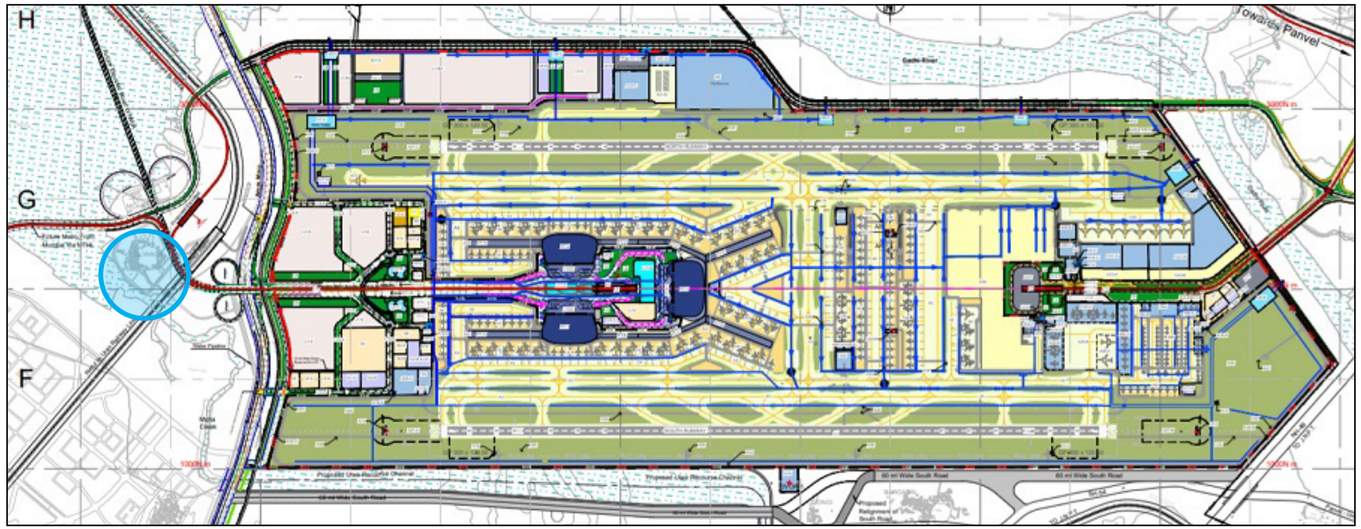
DESIGN HYPOTHESIS

To design an appropriate strategy and housing typologies for the currently urbanising villages that can provide better quality of life for all future residents, while respecting their ancestral lifestyle.

If the design proposal is deemed promising this would signify that urbanising villages can be worthily pursued as sites of providing afforable and quality housing for the urban poor; an alternative to the aspired model of the mass housing schemes of high-rise buildings.

SITE
MOHA KOLIWADA

- FISHING VILLAGE ADJACENT TO NEW AIRPORT
- DEVELOPMENT EXPECTED TO INCREASE



2003:



2021:



THE COMMUNITY: KOLI PEOPLE

- CALENDAR BASED ON FISHING
- MULTIPLE FAITHS
- FISHING SOURCE OF INCOME

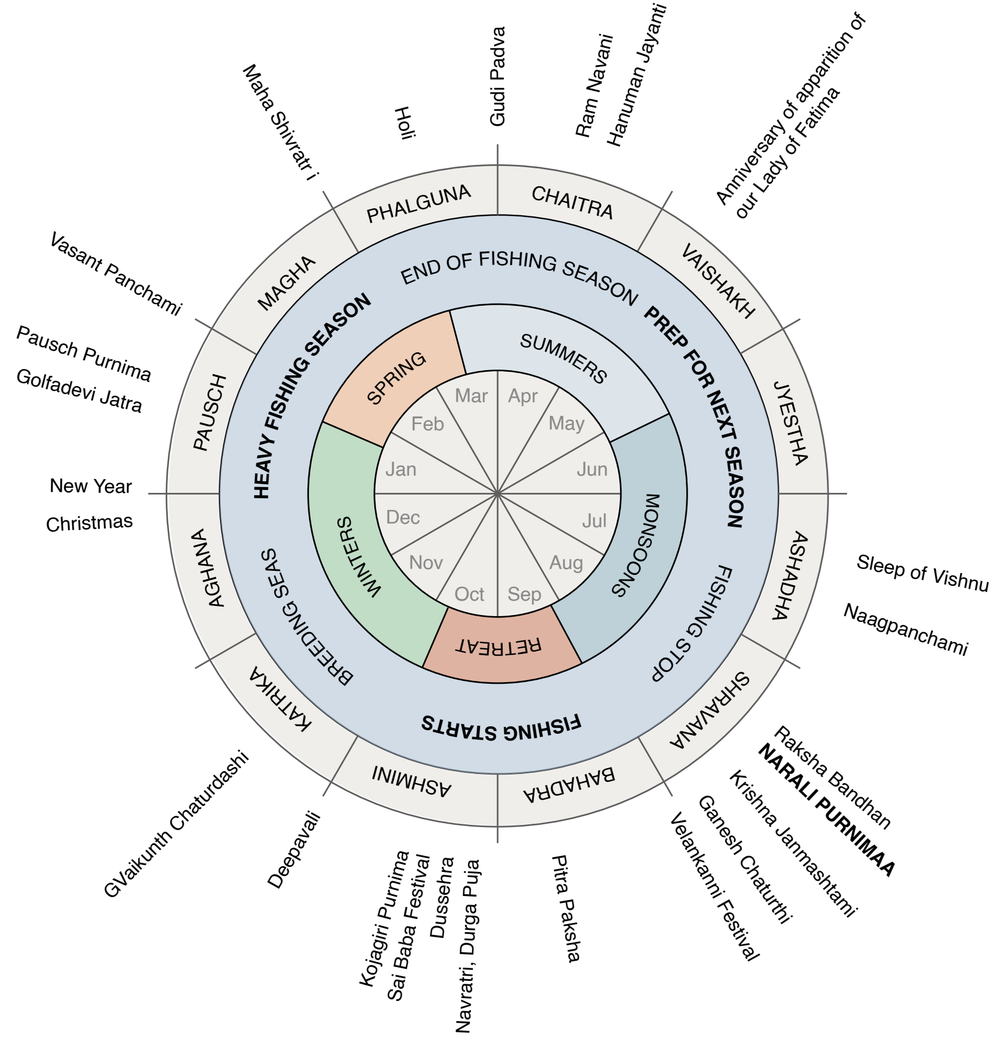


Diagram redrawn from source: https://portfolio.cept.ac.in/archive/an-urban-village-in-mumbai-worli-koliwada/

The Kinetic City, bazaar-like in form, can be seen as the symbolic image of the emerging urban Indian condition... an ever-transforming streetscape - a city in constrant motion, where the physical fabric is characterised by the kinetic (*Negotiating the Static and Kinetic Cities - The Emergent Urbanism of Mumbai*, Rahul Mehrotra, 2008).



Boats set sail, nets are laid. Dinghys head out first.

4.00 AM



First batch of fresh sea catch is brought in.

8.00 AM



Cleaning of nets, detangling, and collection of fish.



Catch is sorted, sent of to market or drying yards.



Bigger motorised boats leave the jetty to place wider nets.

10.00 AM



Fish market opens. Koli womenfolk sell the fish. Active days are Mondays, Wednesdays, Fridays and weekends.



Boats return from the sea with more fish.

12.00 PM



Fish market spaces are allocated by the Market Committee on rental basis.



Fish taken for drying, storing and selling in other markets. Boats and allied equipment parked by Jetty.

2.00 PM



Vans transport stock to markets and homes. Fishing is wrapped up for the day.



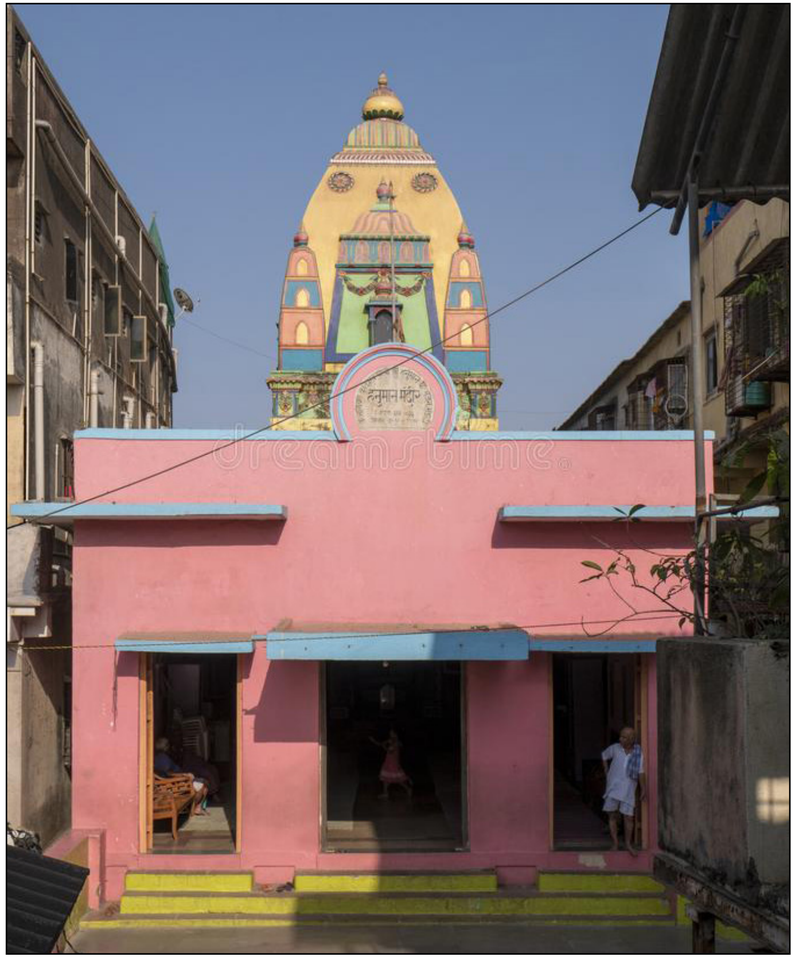
Fish market closes for the day. Cleaning and maintenance is carried out.

Timeline recreated from source: https://portfolio.cept.ac.in/archive/an-urban-village-in-mumbai-worli-koliwada/

FISHING CULTURE: VIBRANCY & COLOUR











EXISTING SITE PLAN

- IDENTIFICATION OF PROBLEMS ON SITE
- MAPING OF EXISTING FUNCTIONS



EXISTING SITE PLAN

- TRACING OF STREETS
AND MAJOR AREAS
OF INTERVENTION



PROPOSED PLAN

- INFRASTRUCTURE



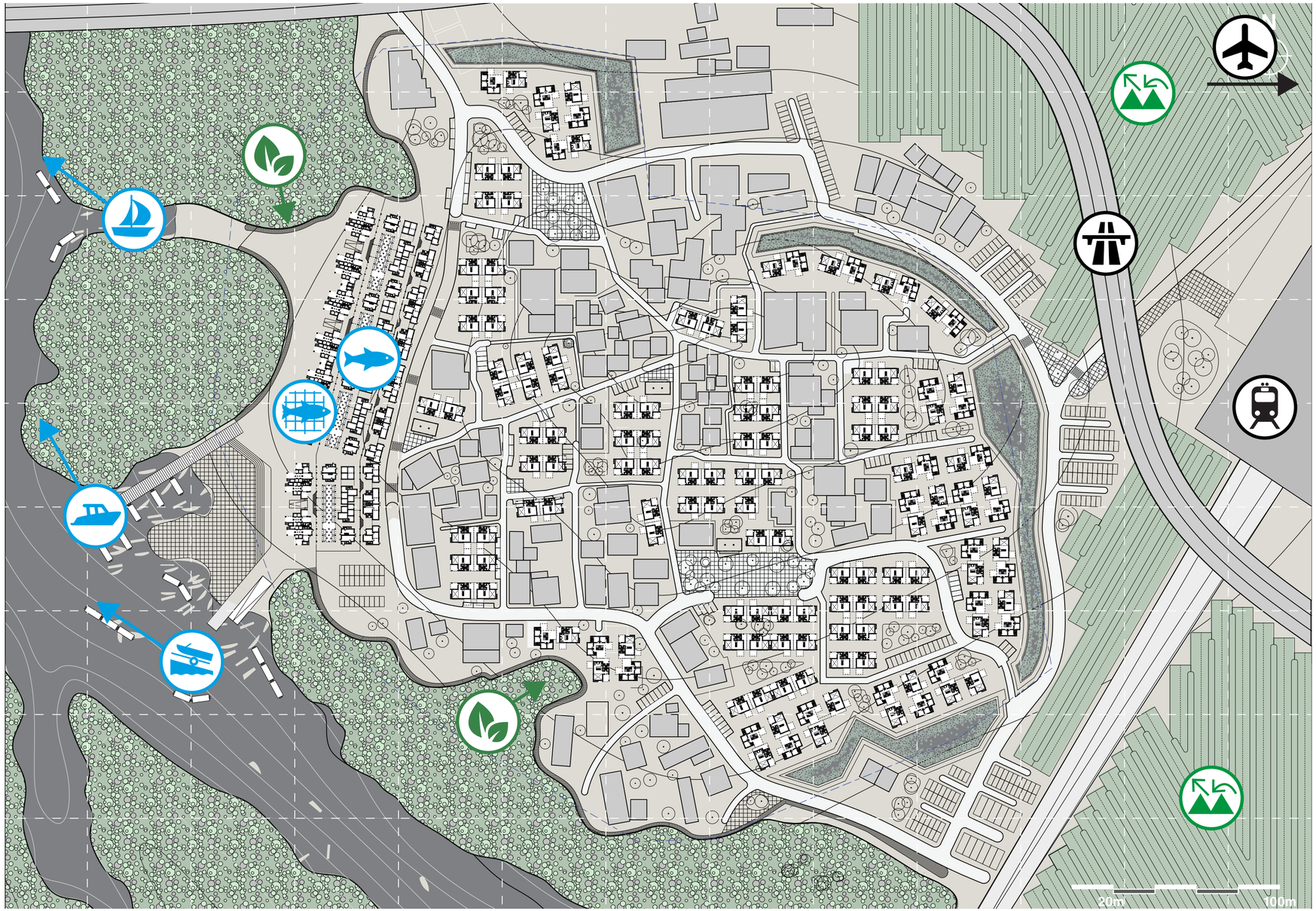
PROPOSED PLAN

- HILLS & MARSHES



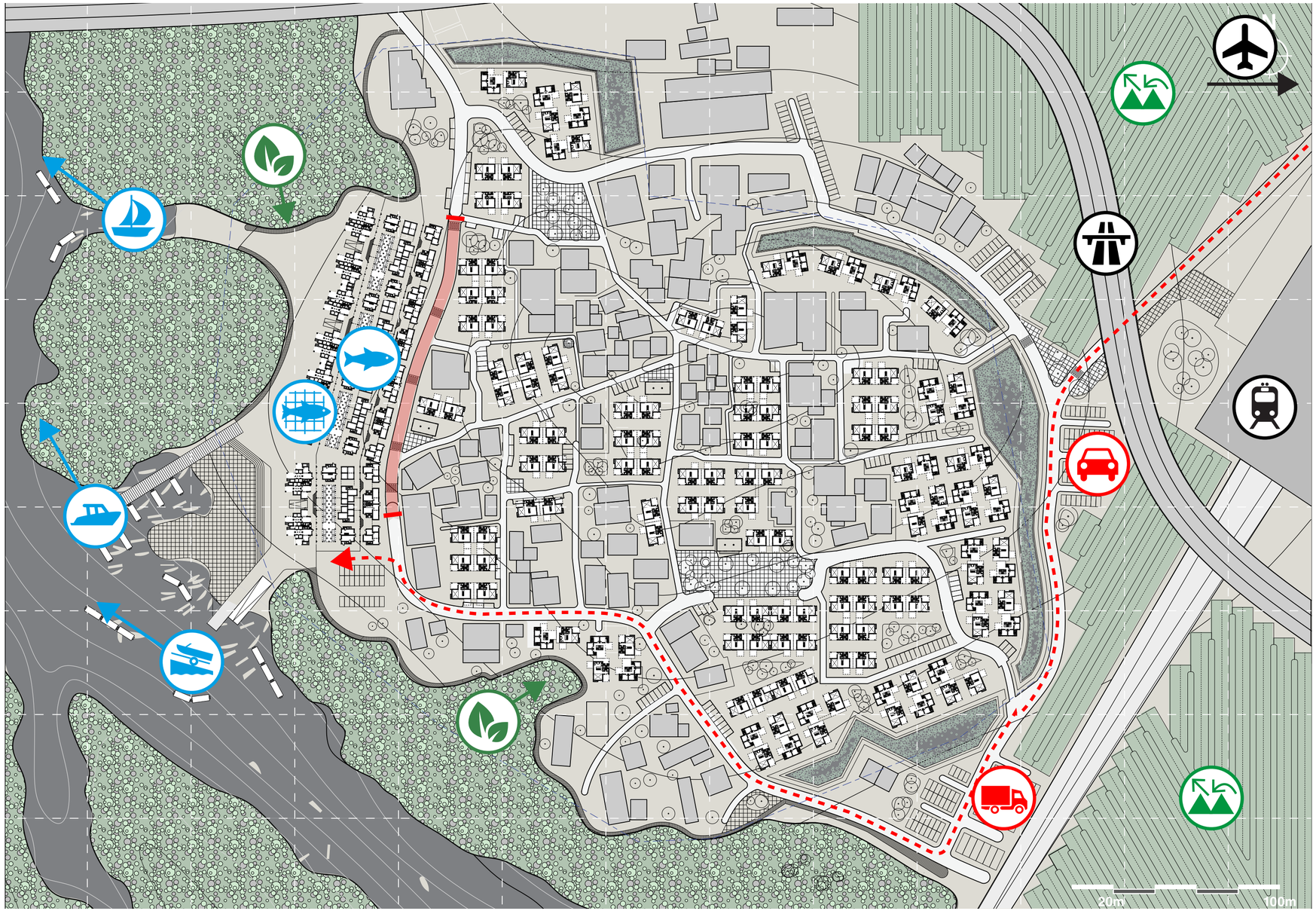
PROPOSED PLAN

- BOAT ACCESS POINTS
- FISHING FACILITIES



PROPOSED PLAN

- VEHICULAR
ARRANGEMENT



PROPOSED PLAN

- WALKWAY ALONG MANGROVES



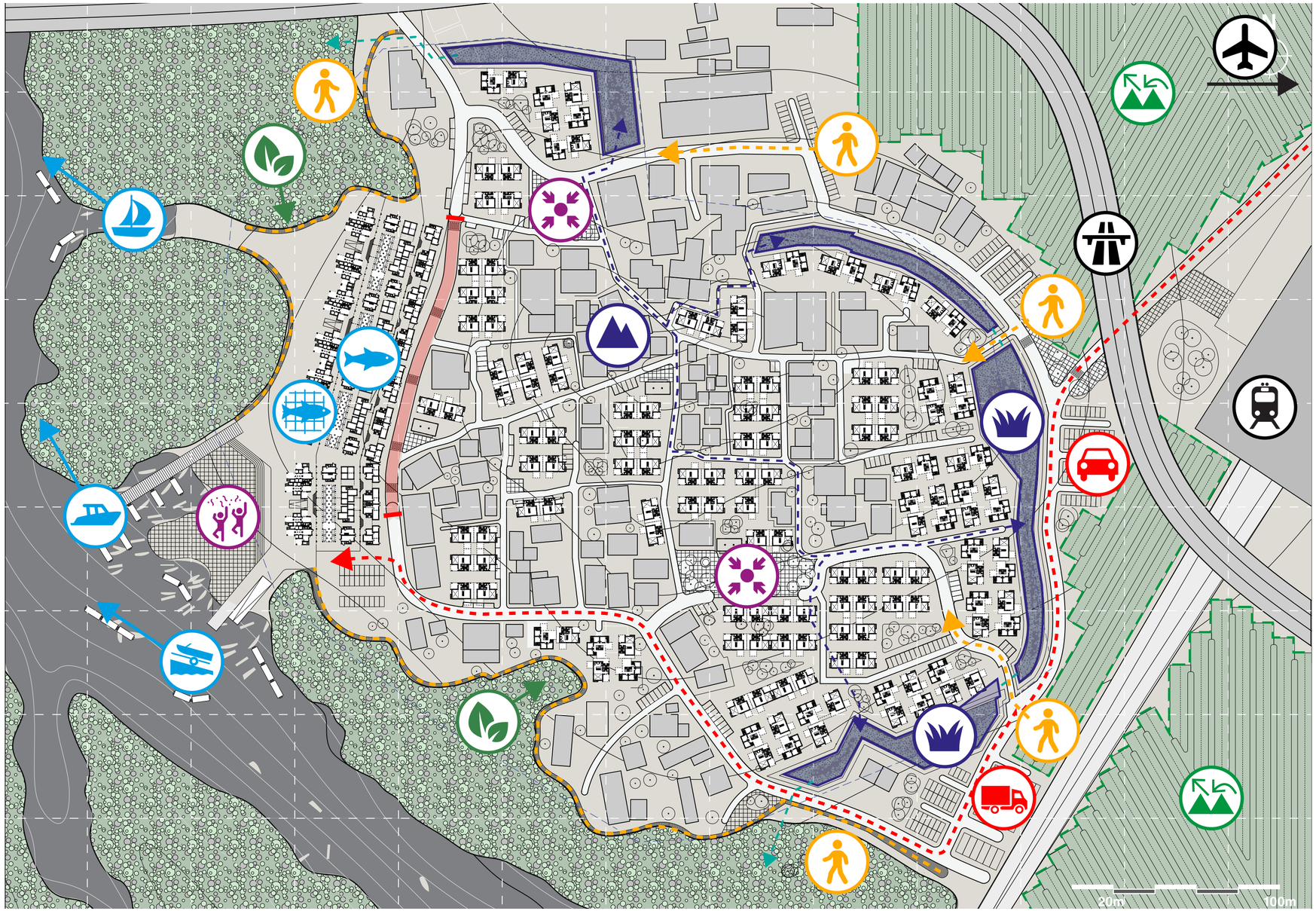
PROPOSED PLAN

- WATER RESERVOIRS
& BAMBOO



PROPOSED PLAN

- PUBLIC SPACES

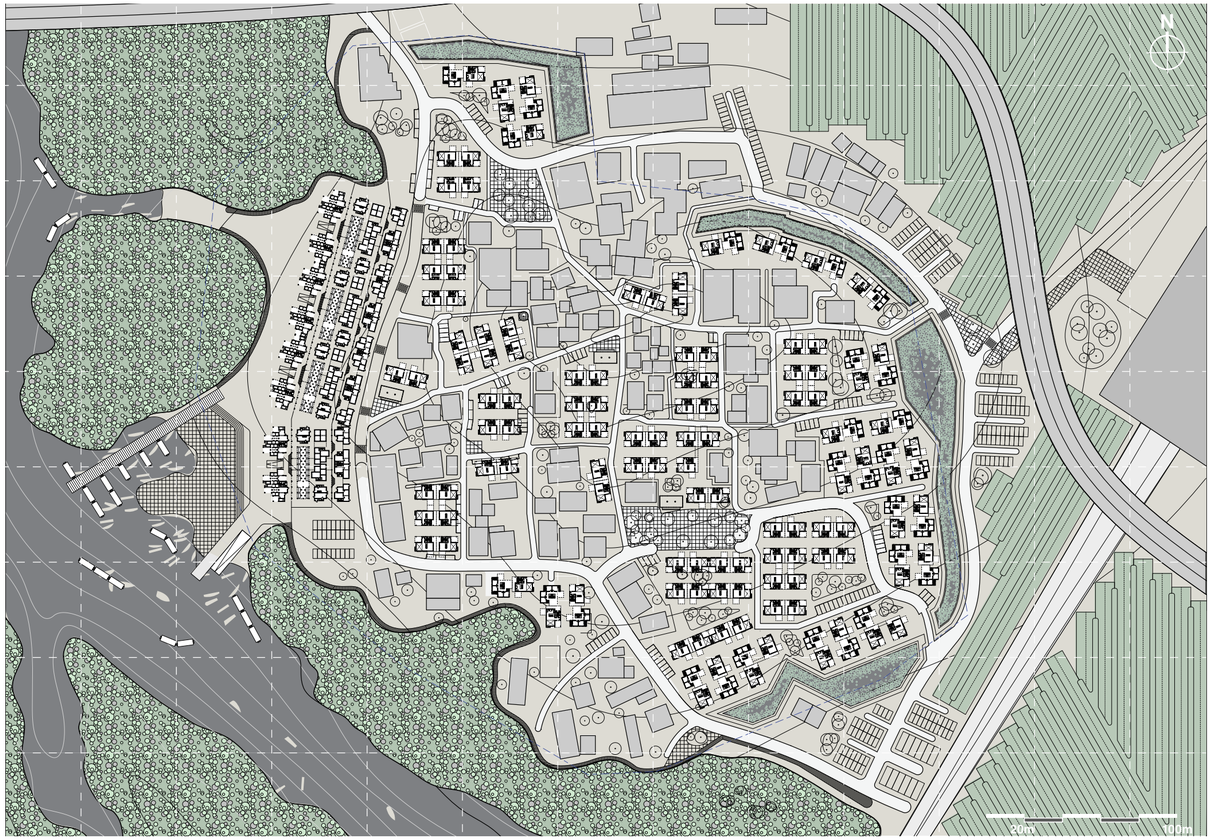


EXISTING URBAN PLAN



PROPOSED URBAN PLAN

- NEW STREETS & INFRASTRUCTURE
- NEW FISHING FACILITIES
- INCREASED GREEN AREAS & BIODIVERSITY



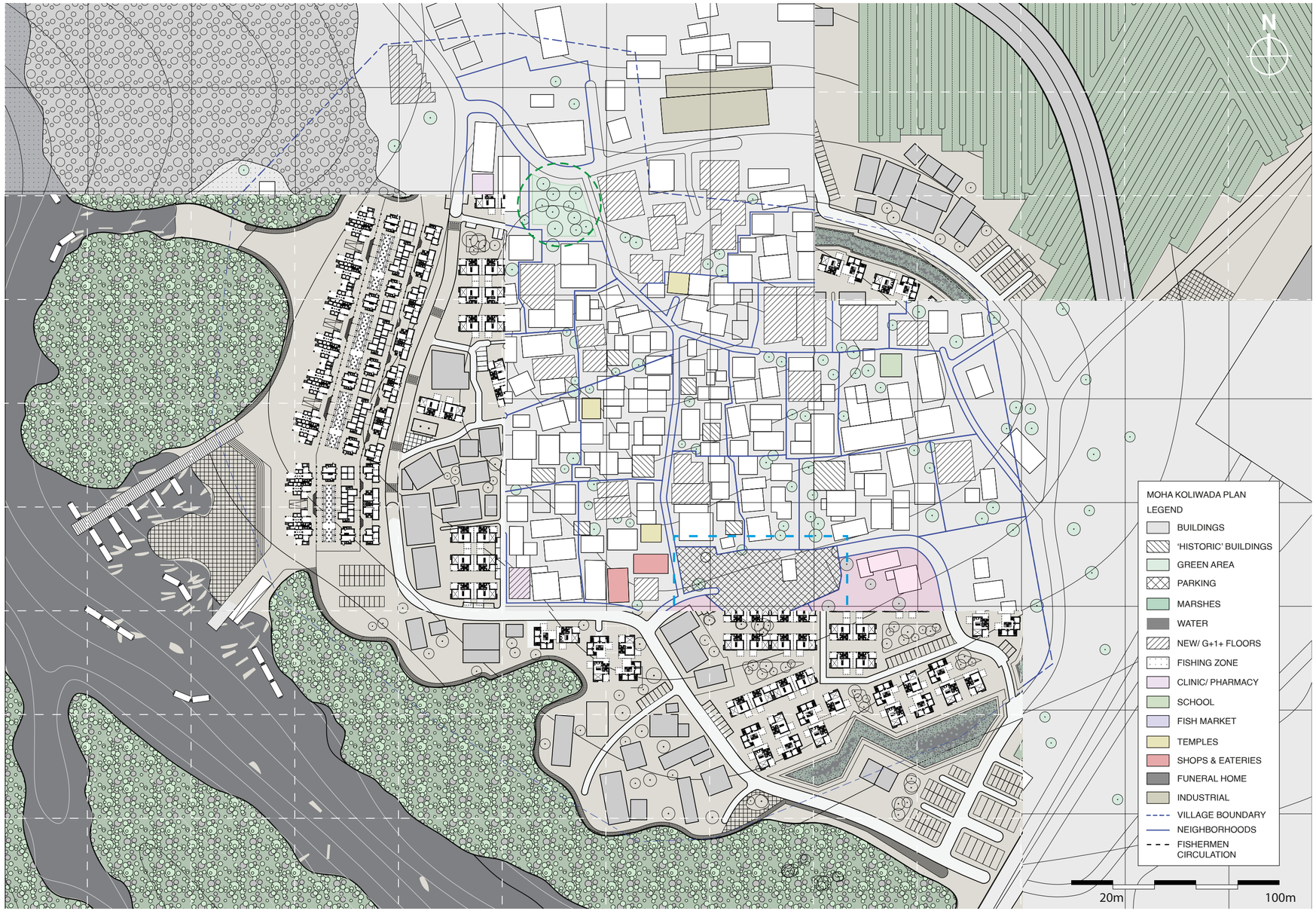
INDICATIVE PROPOSED PLAN / THREE TYPOLOGIES AND URBAN CONDITIONS

- BLUE:
VILLAGE SEAFRONT
- YELLOW:
VILLAGE CENTRE
- PINK:
VILLAGE EDGE



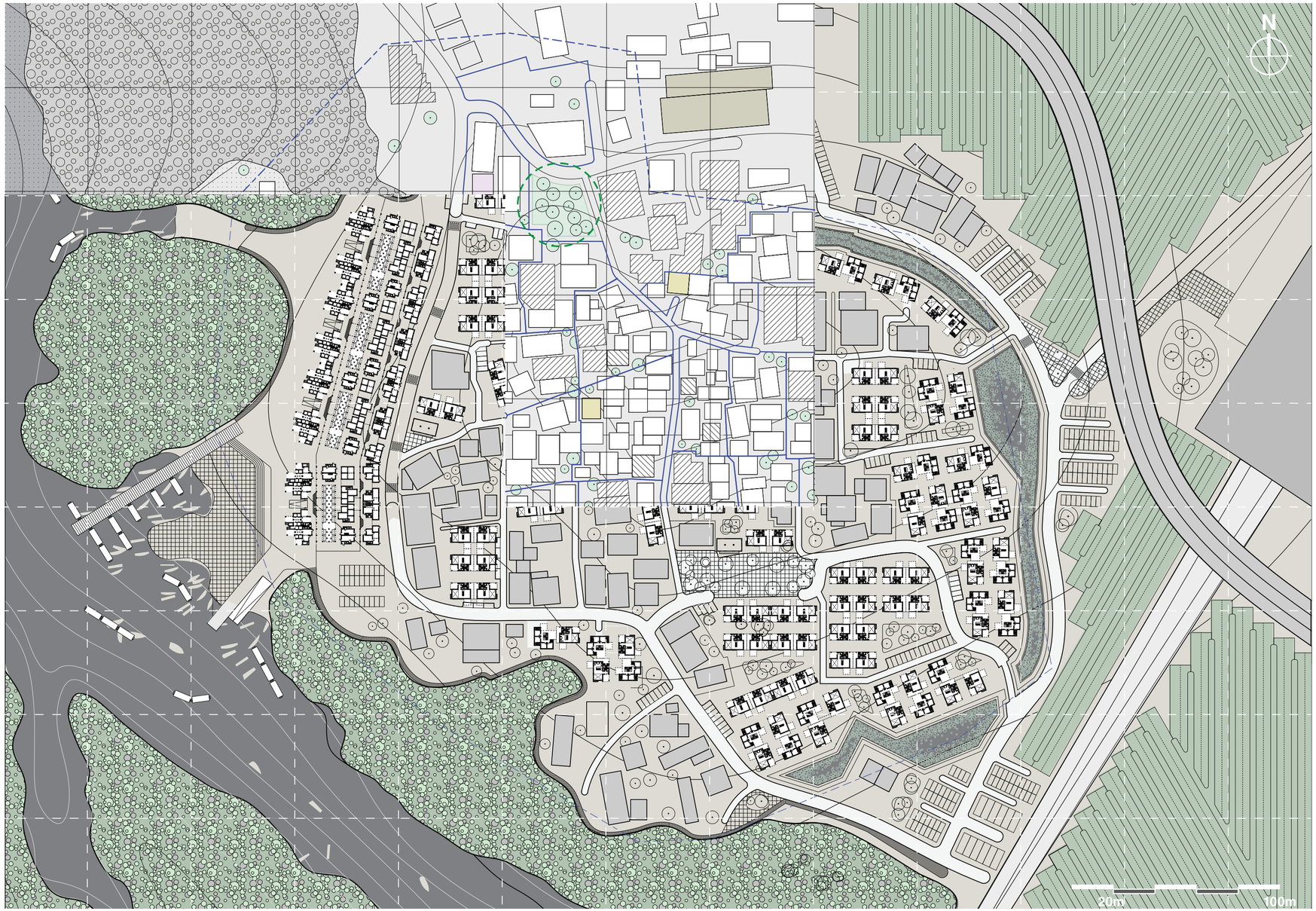
INDICATIVE PHASING ONE

- STARTING WITH EMPTY AREAS



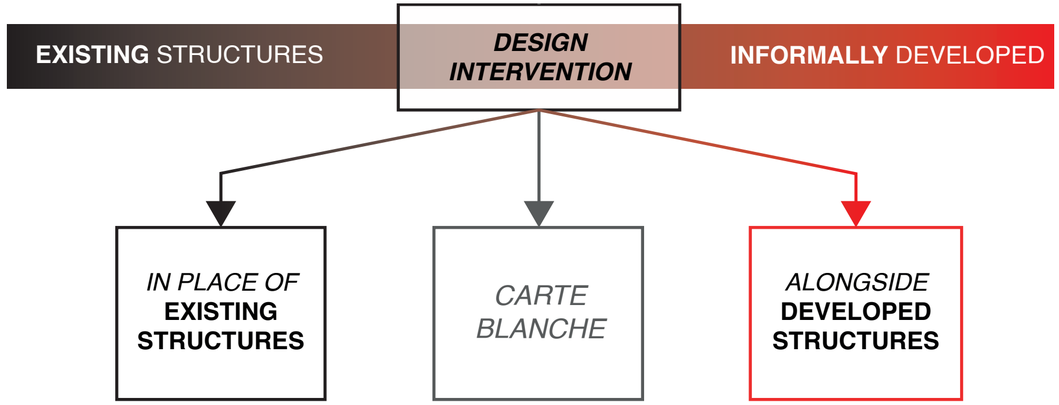
INDICATIVE PHASING TWO

- CONTINUE INSIDE THE VILLAGE



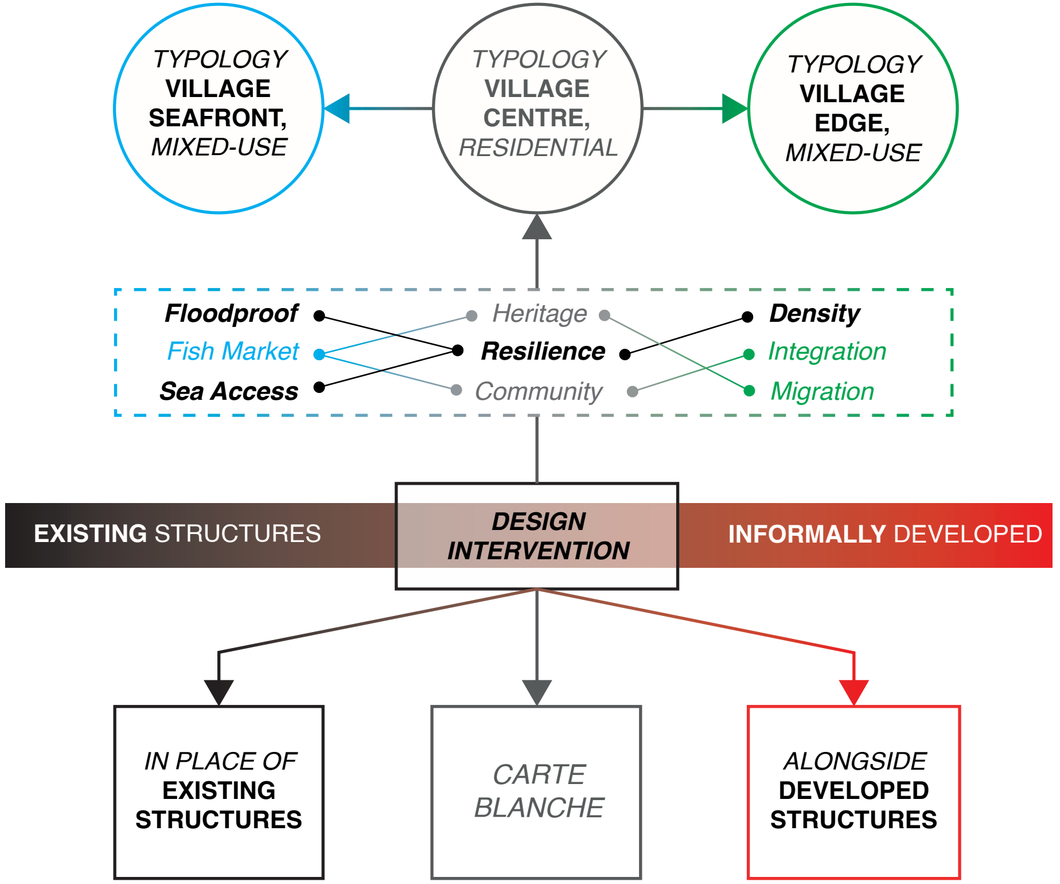
TYPOLOGIES & APPLICATION

- INTERVENE BEFORE THE VILLAGE
IS INFORMALLY DEVELOPED

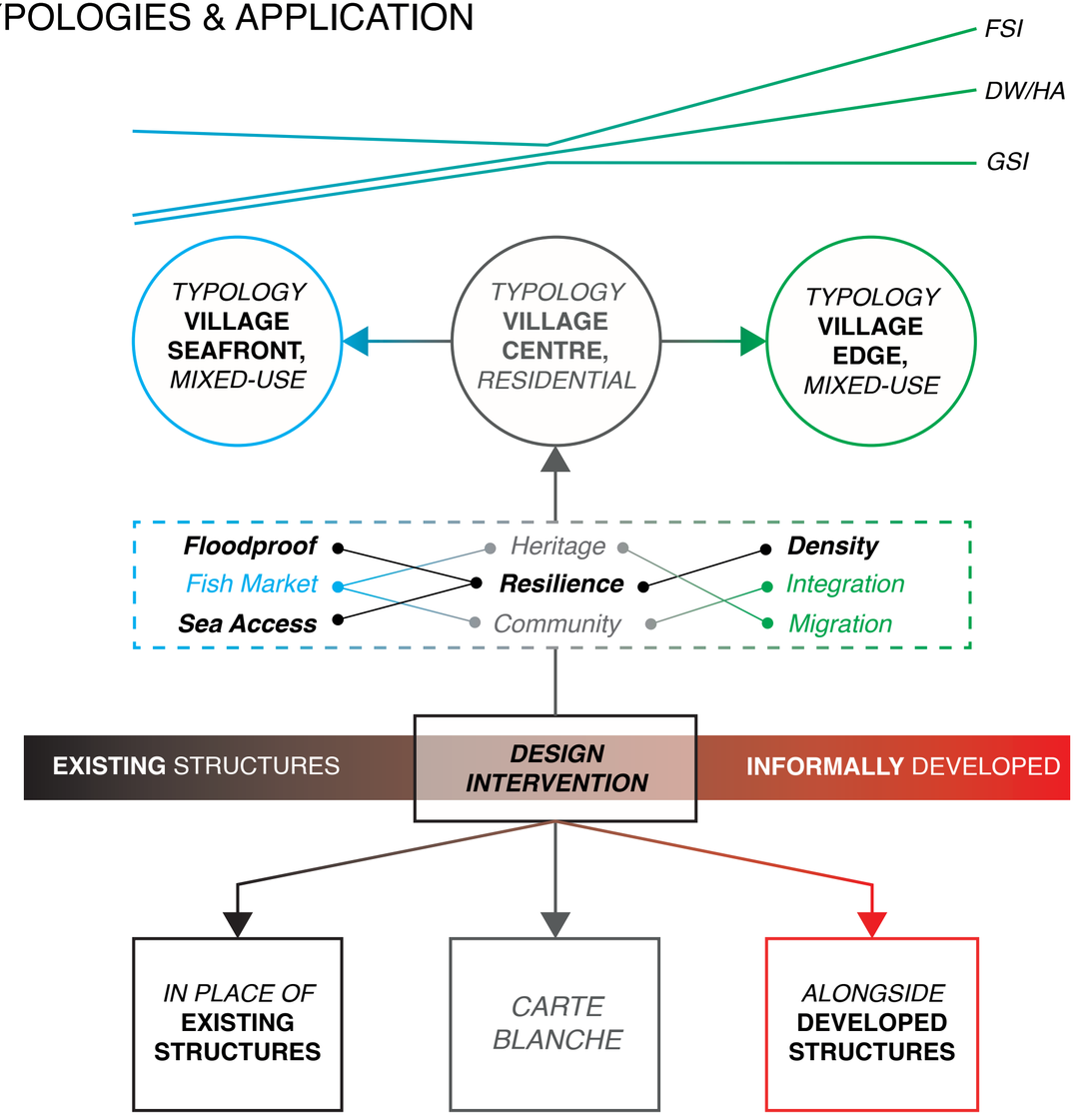


TYPOLOGIES & APPLICATION

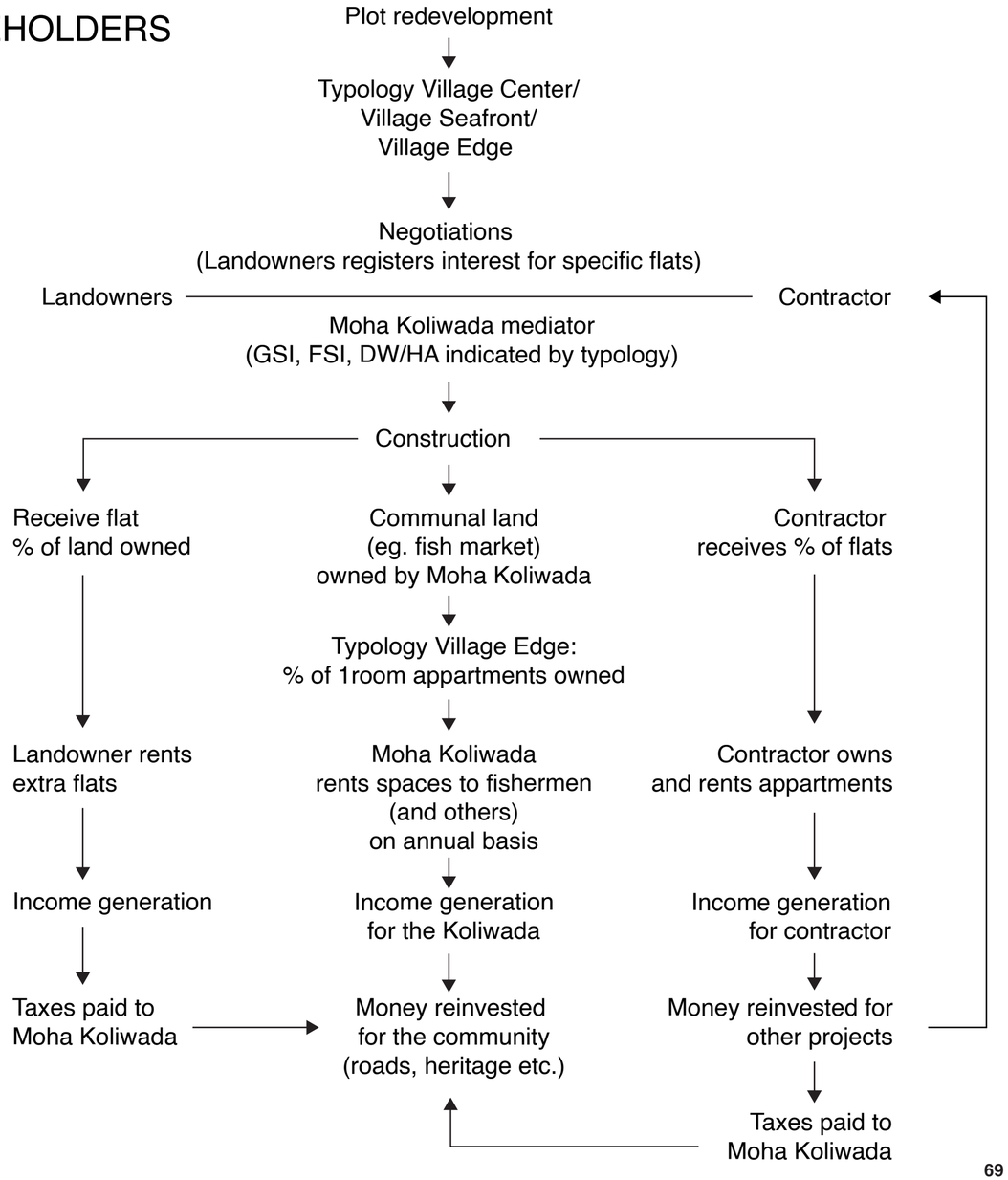
- THREE TYPOLOGIES/ THREE GOALS



TYPOLOGIES & APPLICATION

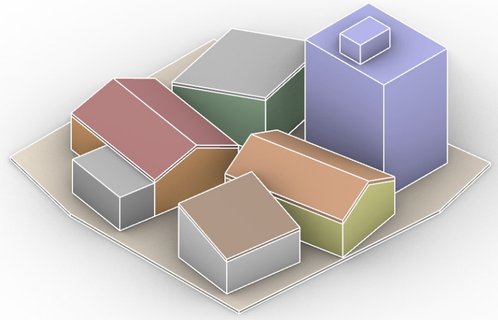


STAKEHOLDERS

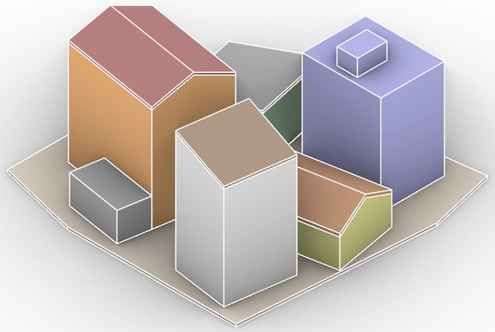


TYPOLOGIES & APPLICATION

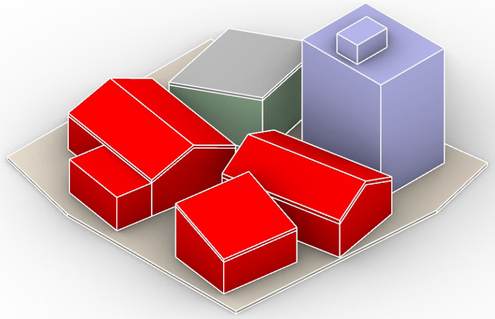
- PLOT EXAMPLE



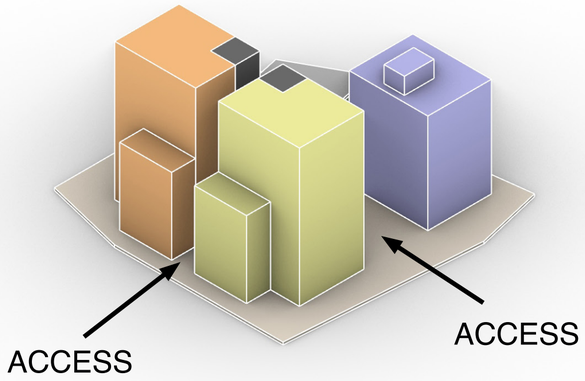
INFORMAL DEVELOPMENT

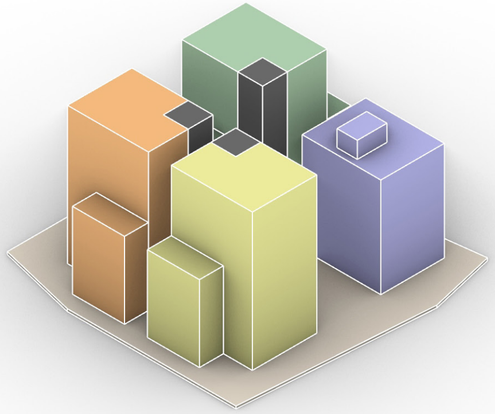


DEMOLITION INSTEAD

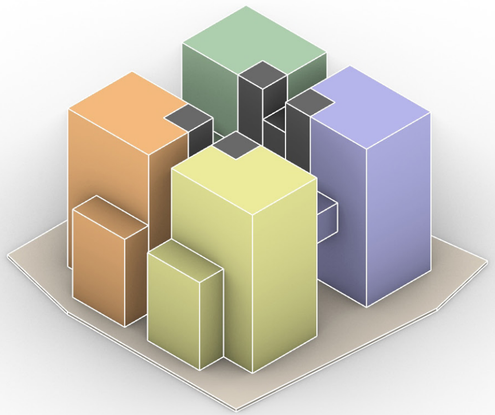


ORGANISED DEVELOPMENT

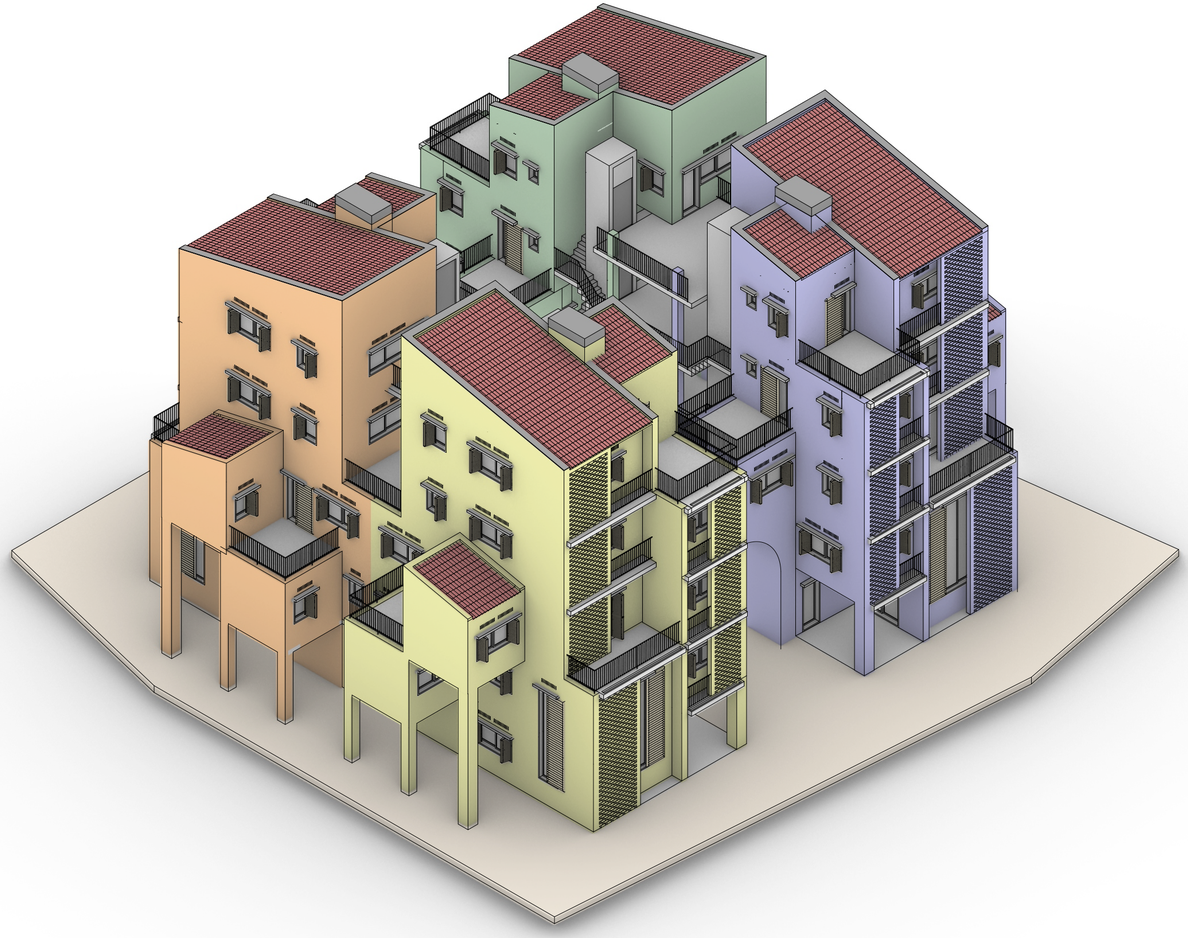




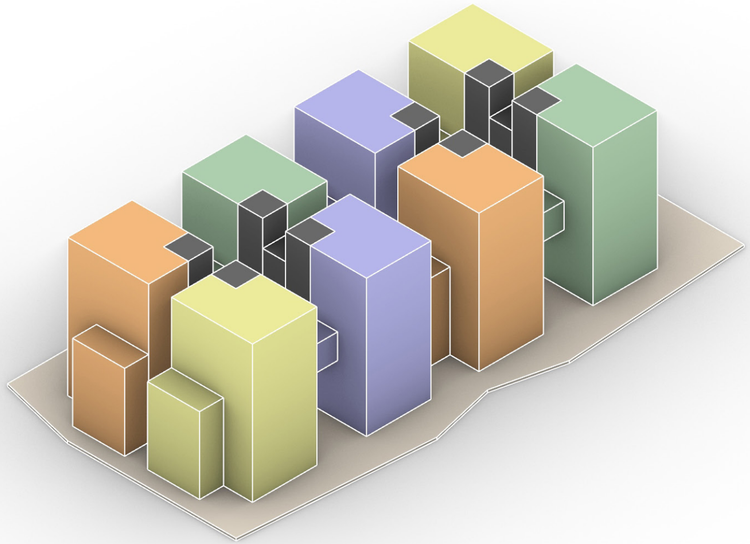
NEW CLUSTER



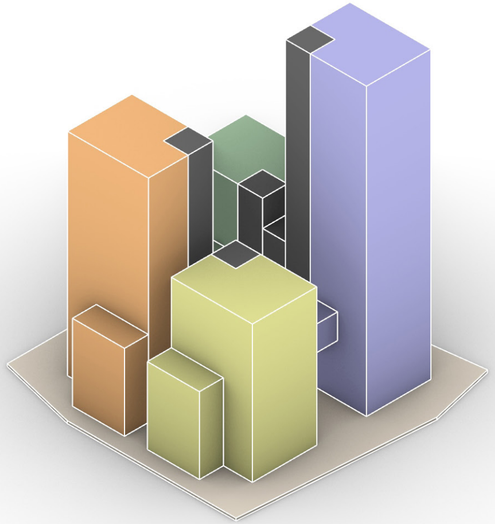
VILLAGE CENTRE TYPOLOGY



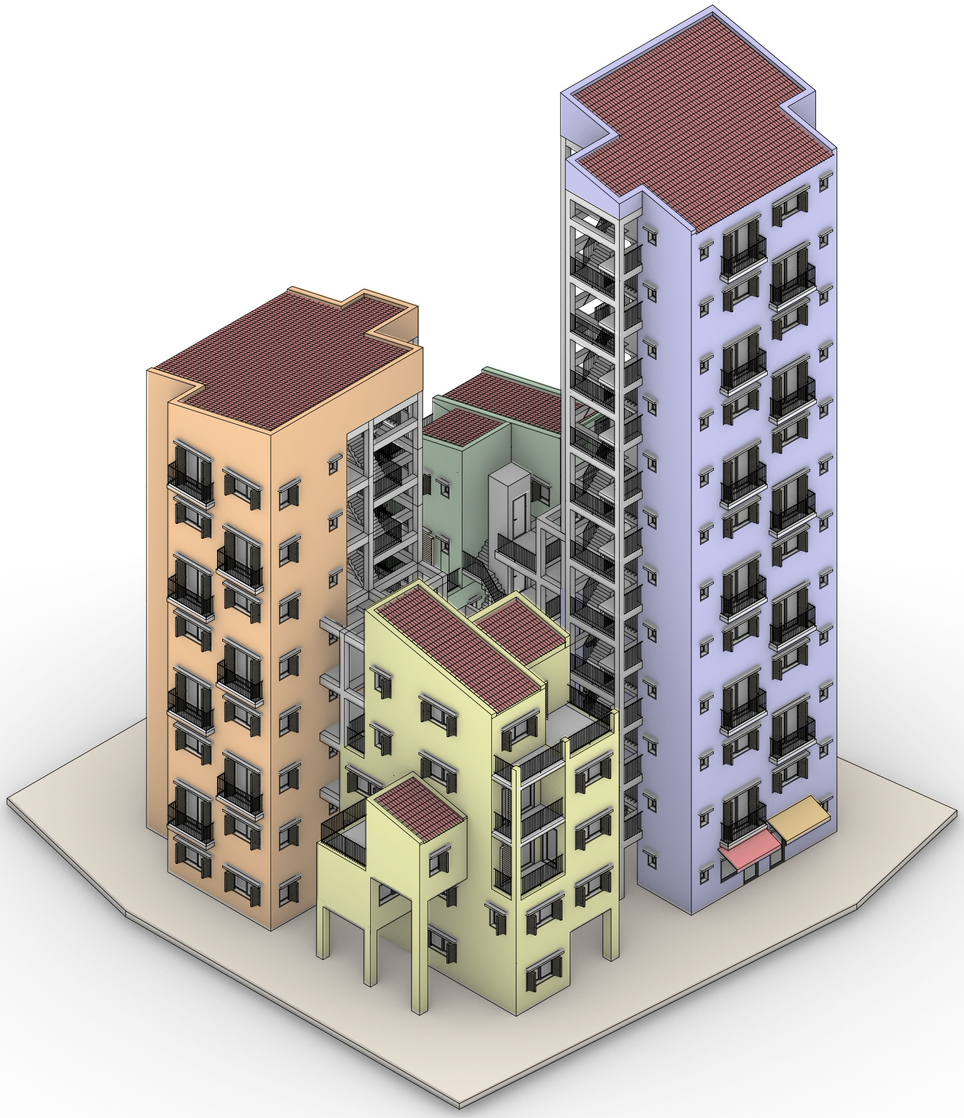
NEIGHBORHOOD



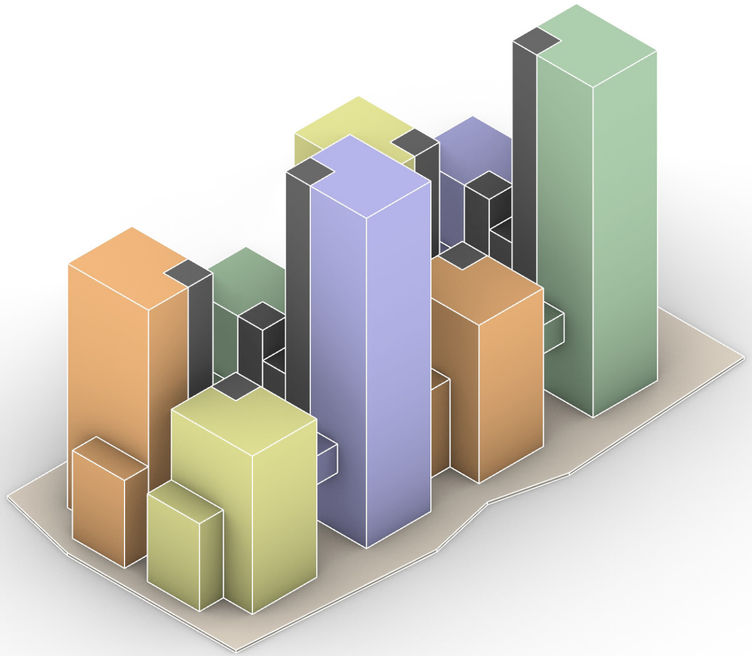
INCREASE DENSITY



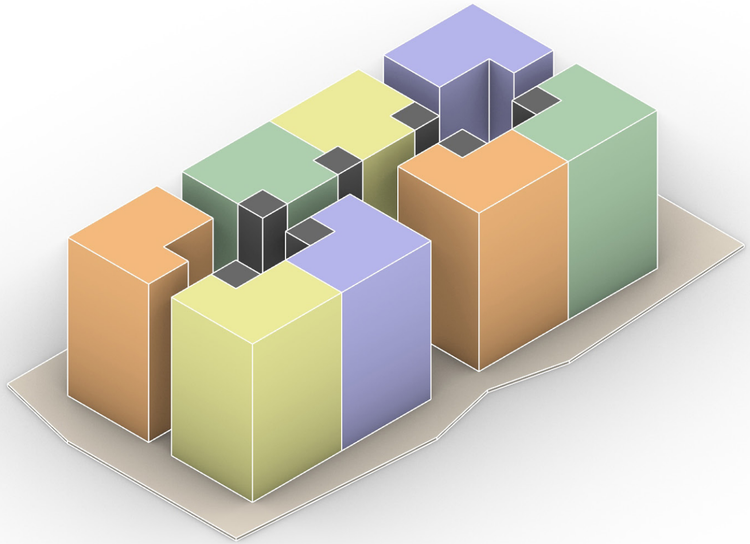
VILLAGE EDGE TYPOLOGY



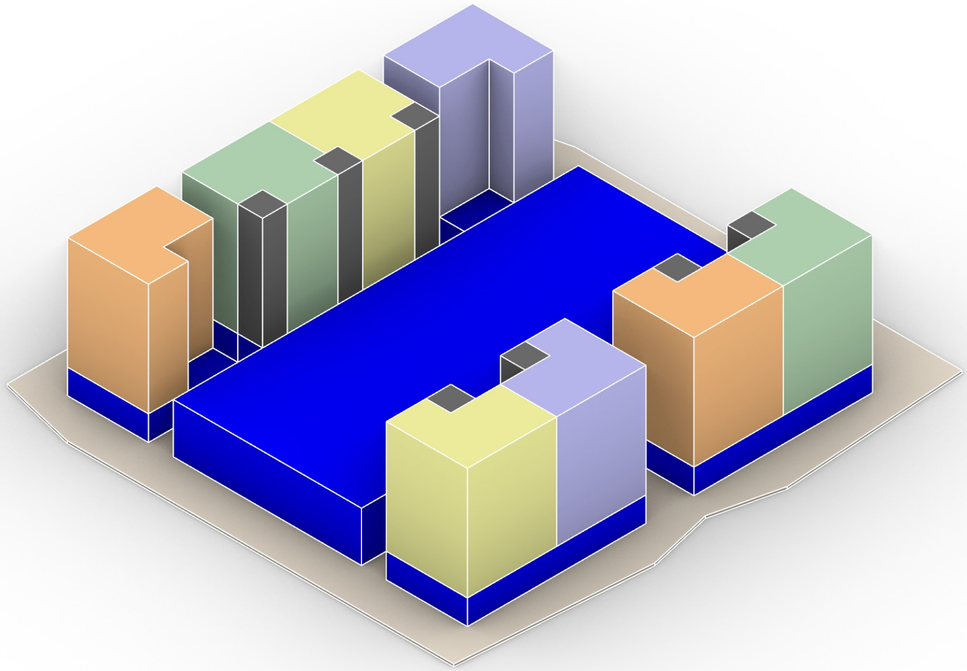
NEIGHBORHOOD



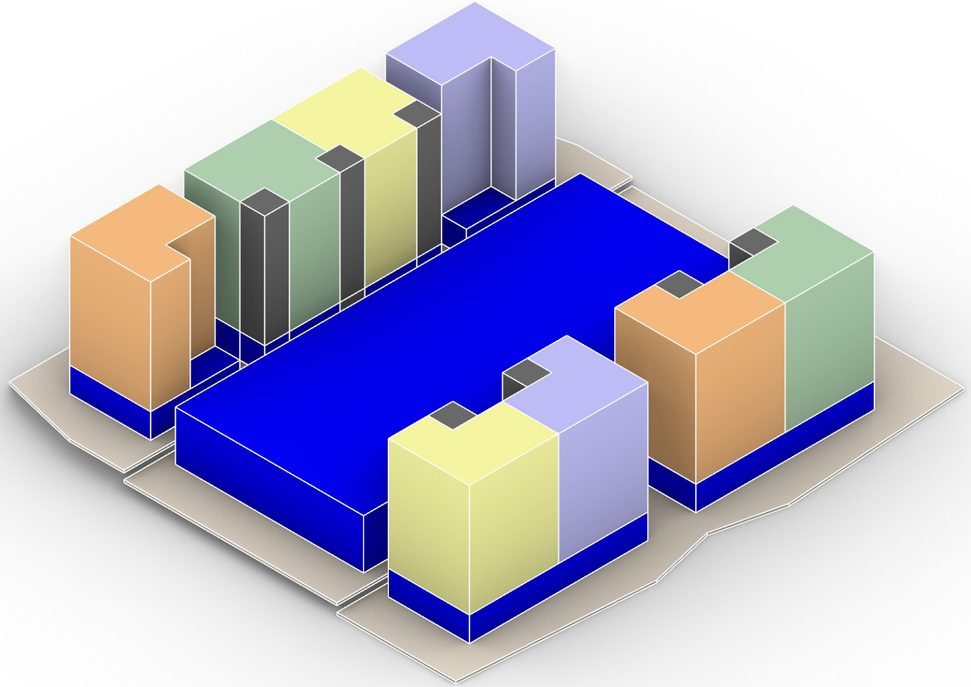
SHUFFLE CIRCULATION



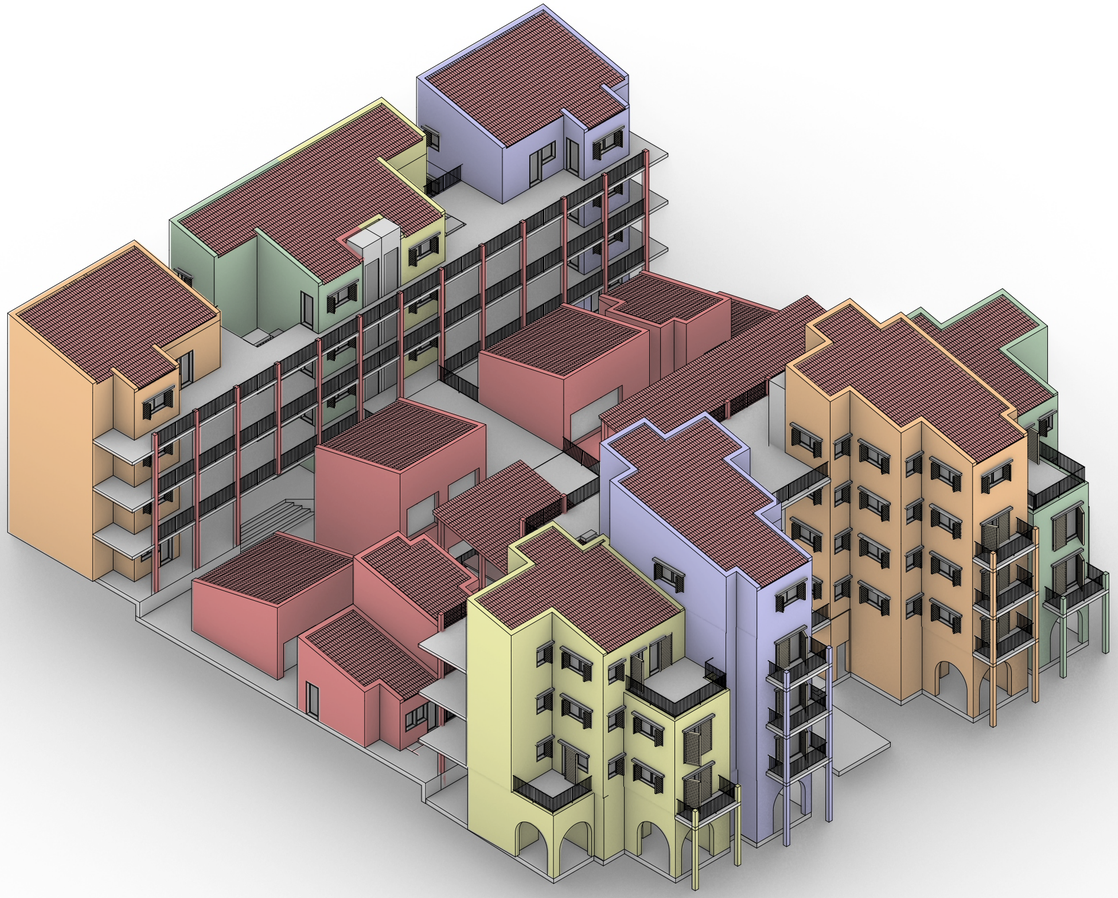
OPEN FOR FISH MARKET



SPLIT FLOORS FOR FLOODING



VILLAGE SEAFRONT TYPOLOGY

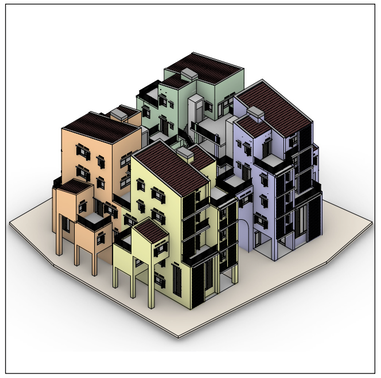


VILLAGE CENTRE TYPOLOGY
- LEVEL 0 PLAN

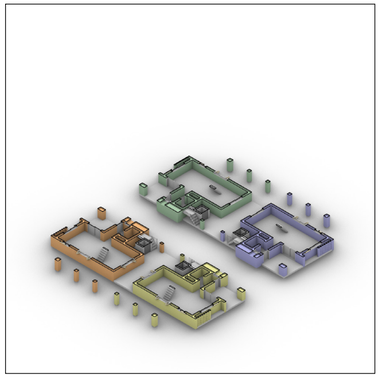
- FOUR DOUBLE FLOOR DWELLINGS
- PREFERRED ORIENTATION
- CONNECTED VERTICAL CIRCULATION
- VOID IN THE MIDDLE FOR COURTYARD



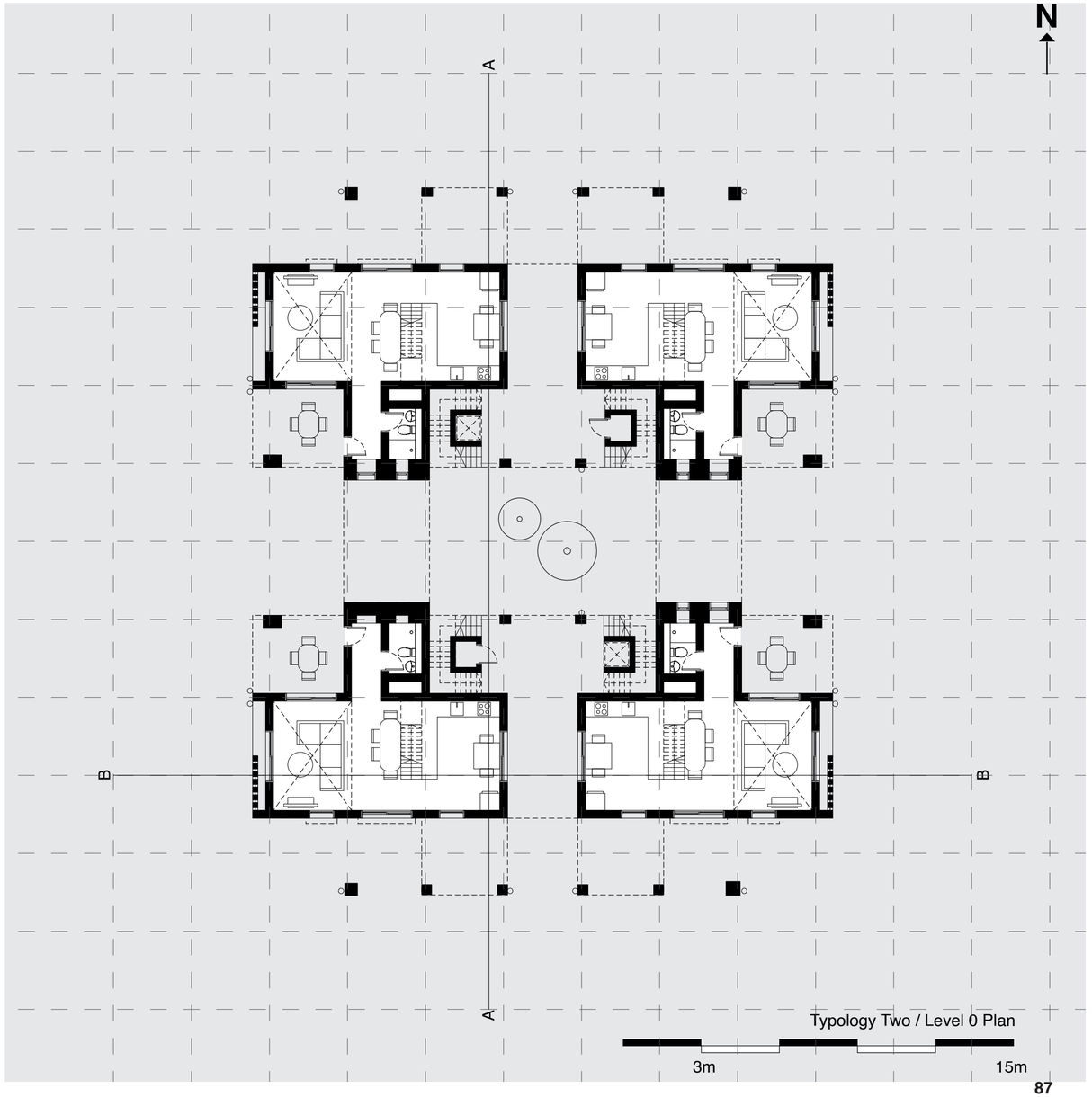
Urban plan



Axonometric

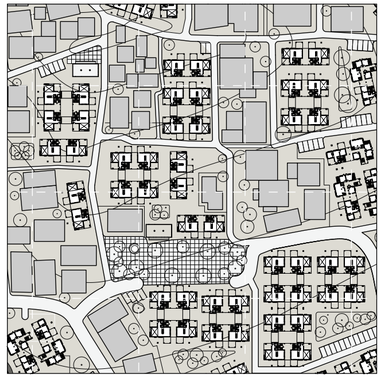


Floor axonometry

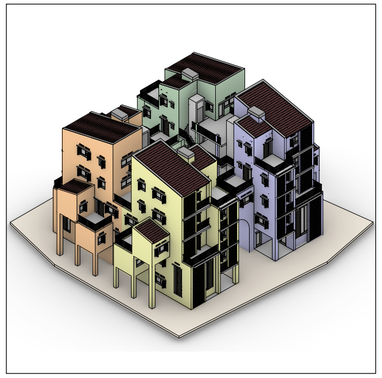


VILLAGE CENTRE TYPOLOGY
LEVEL 1 PLAN

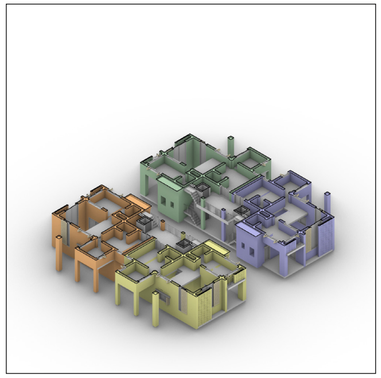
- BEDROOMS OF THE DWELLING
- THE SECONDARY ENTRANCE AIDS IN VENTILATION



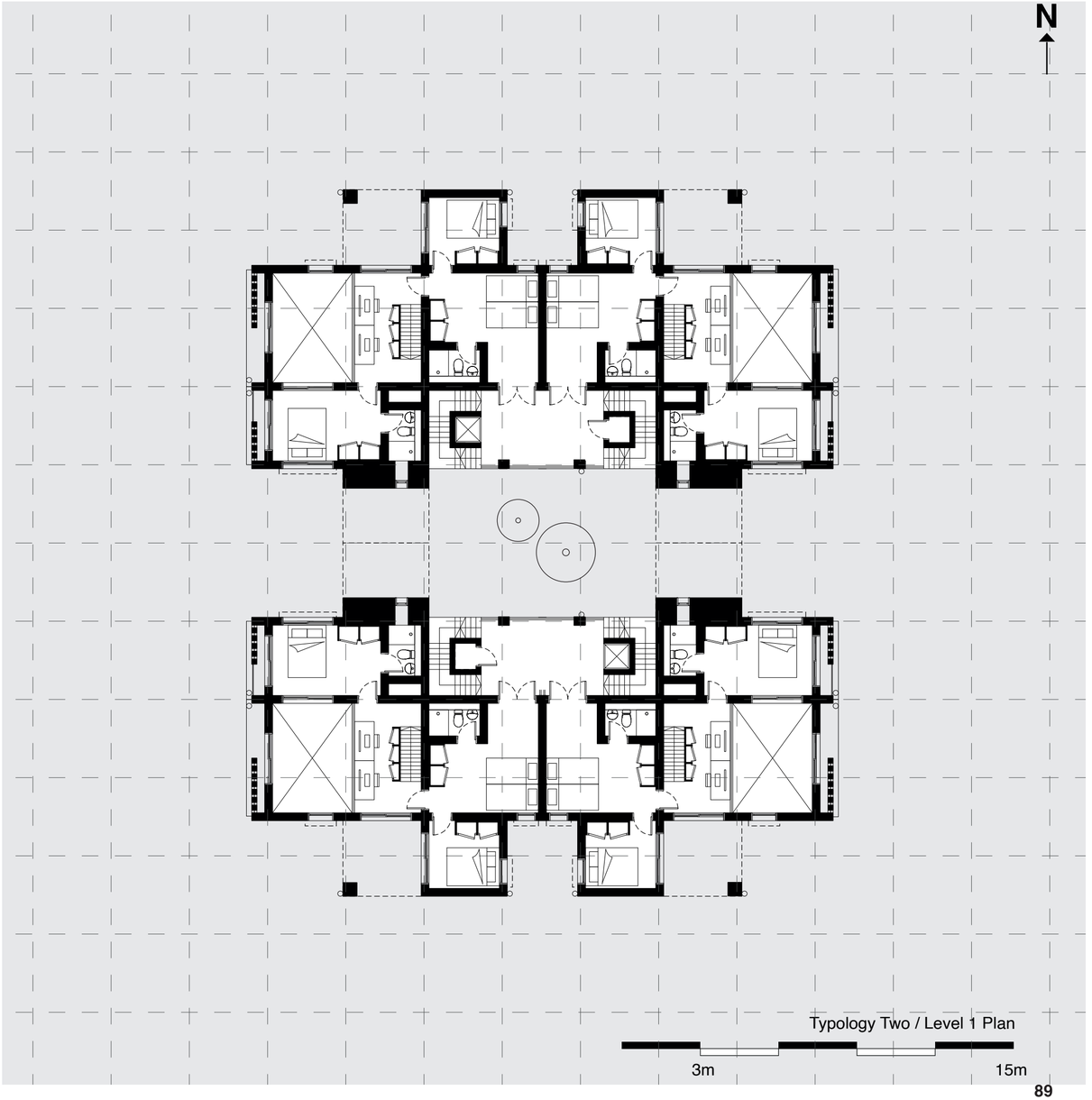
Urban plan



Axonometric

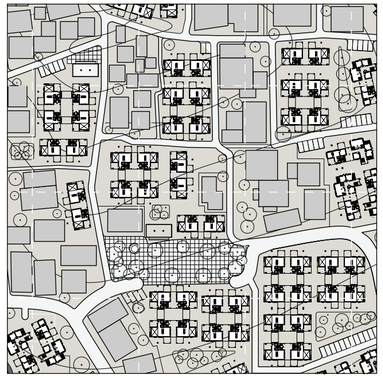


Floor axonometry

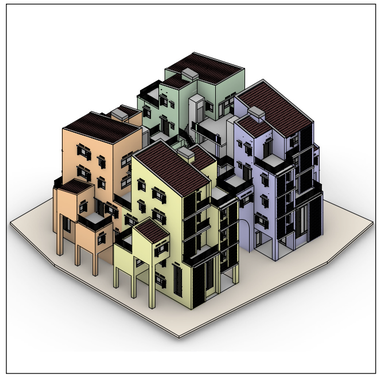


VILLAGE CENTRE TYPOLOGY
- LEVEL 2 PLAN

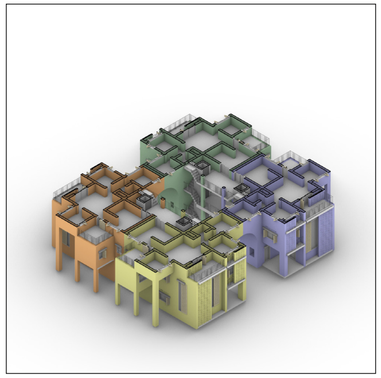
- NEW VOLUMES SPRING OUT TO BECOME BEDROOMS
- VOLUMES FROM LOWER FLOOR BECOME TERRACES



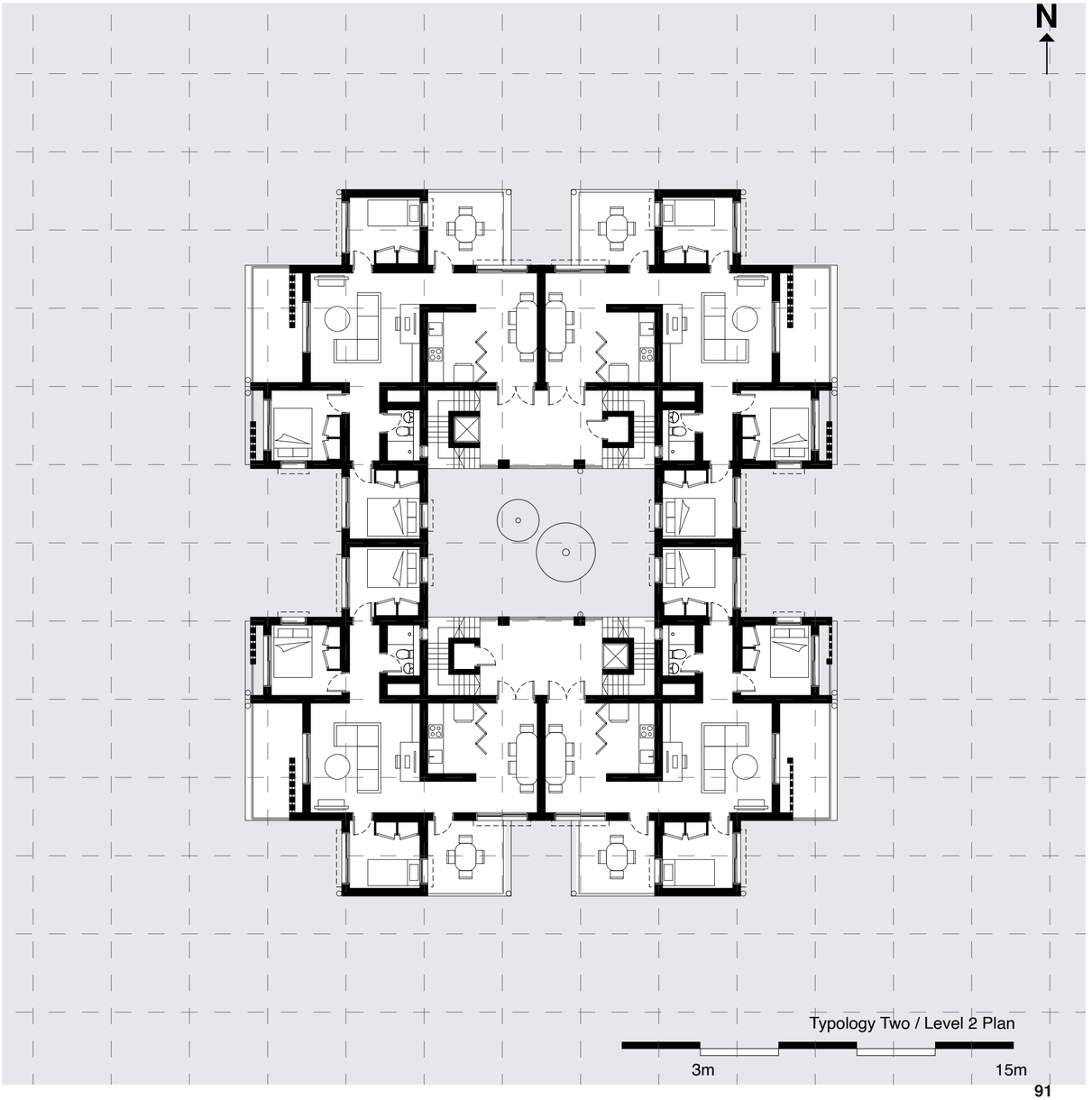
Urban plan



Axonometric

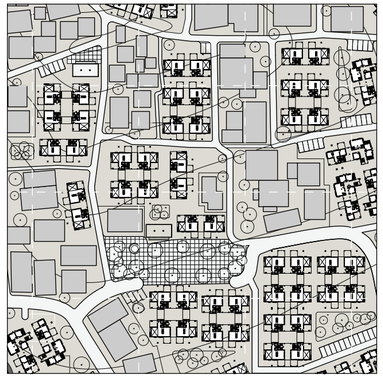


Floor axonometry

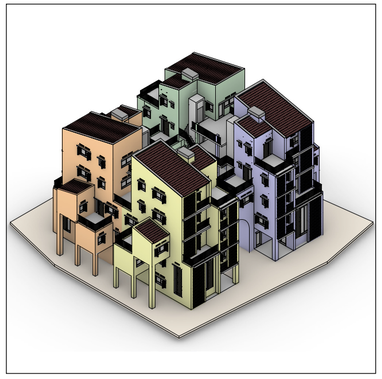


VILLAGE CENTRE TYPOLOGY
- LEVEL 3 PLAN

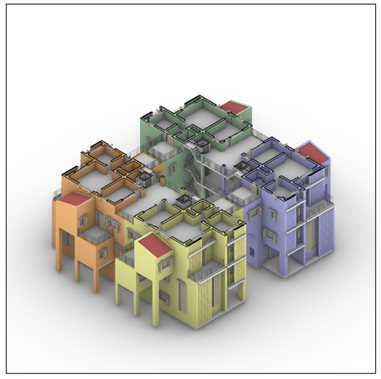
- SIMILAR PATTERN CONTINUES ON 3RD FLOOR



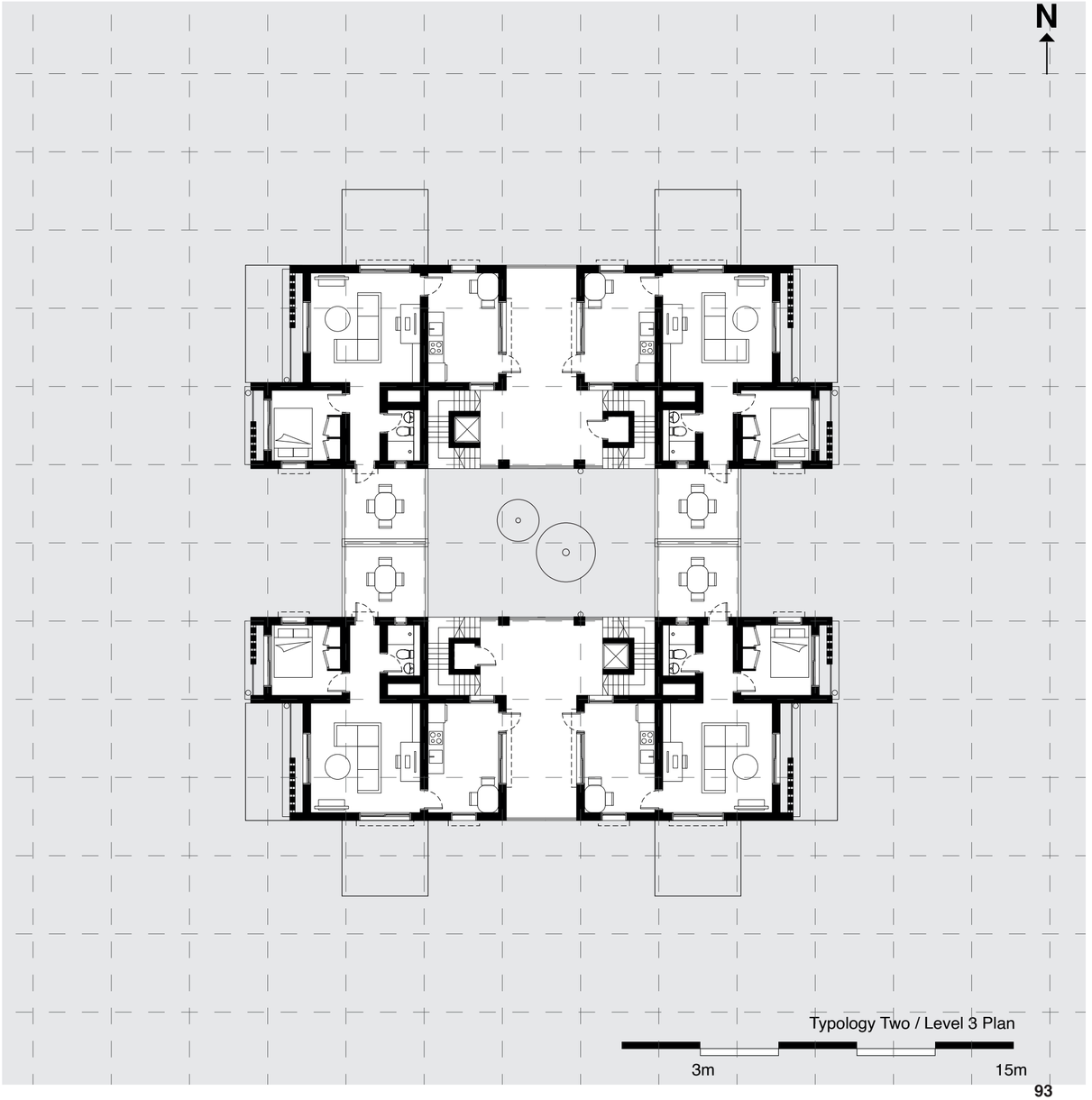
Urban plan



Axonometric

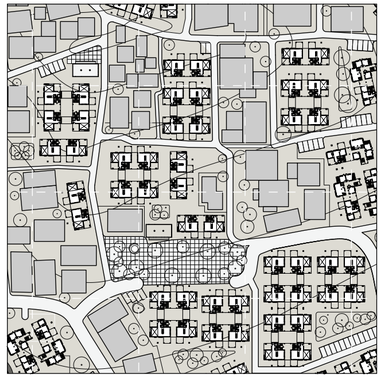


Floor axonometry

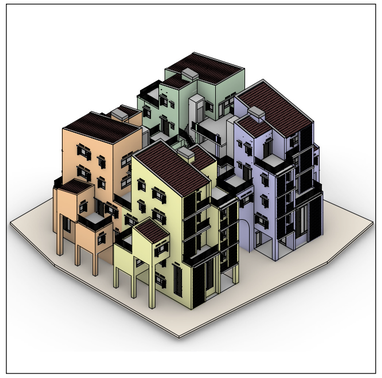


VILLAGE CENTRE TYPOLOGY
- LEVEL 4 PLAN

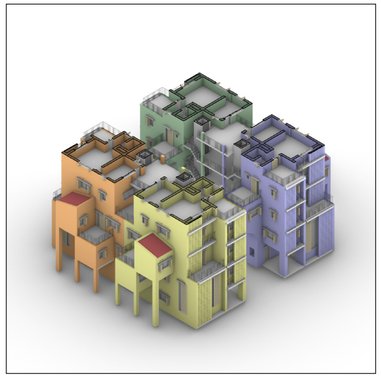
- FINISH WITH A 1 BEDROOM APPARTMENT ON 4TH FLOOR



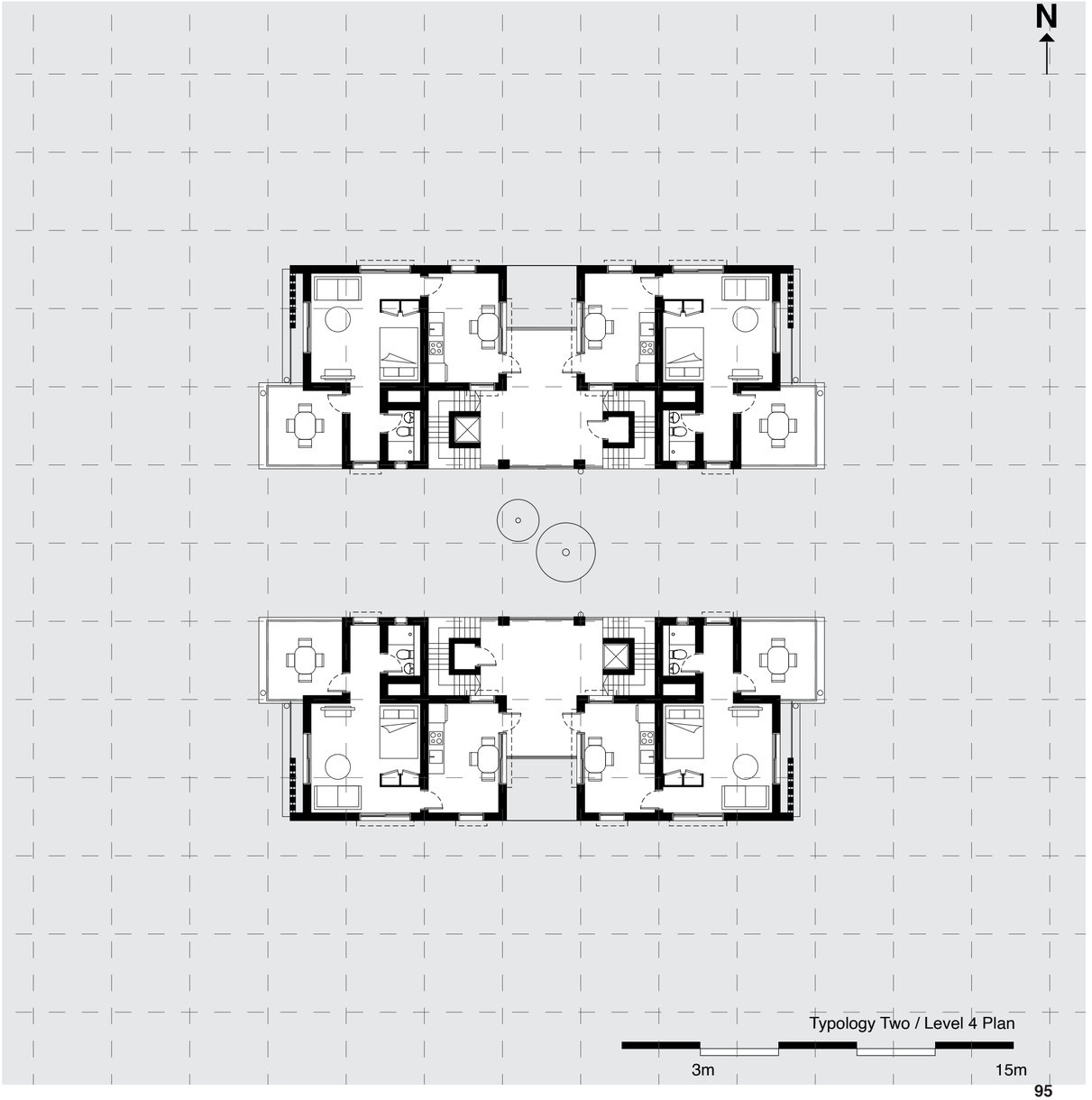
Urban plan



Axonometric



Floor axonometry



VILLAGE CENTRE TYPOLOGY

- COMPACT DESIGN, FOR DENSITY, COMFORT & VILLAGE INTIMACY
- ON THE LEFT THE VERTICAL CIRCULATION CONNECTED
- DIFFERENT COLOURS DIFFERENT DECORATION
- LEFT CUTS THROUGH BEDROOMS, RIGHT LIVING ROOMS



Typology Two / Section AA

1.5m 7.5m



Typology Two / Section BB

1.5m 7.5m

VILLAGE CENTRE TYPOLOGY



Typology Two / Section CC

1.5m 7.5m

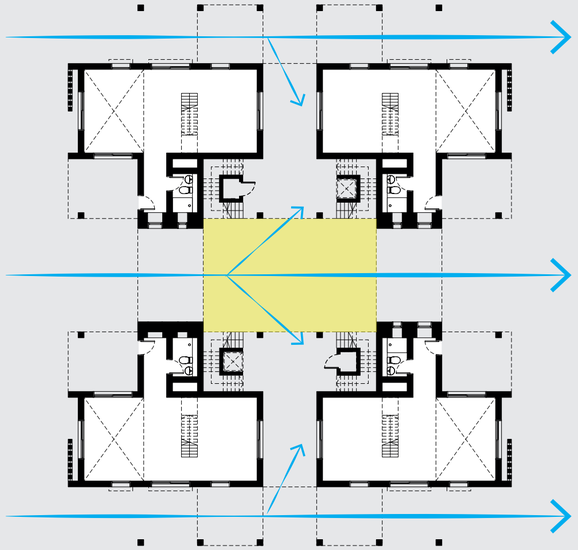


Typology Two / Section DD

1.5m 7.5m

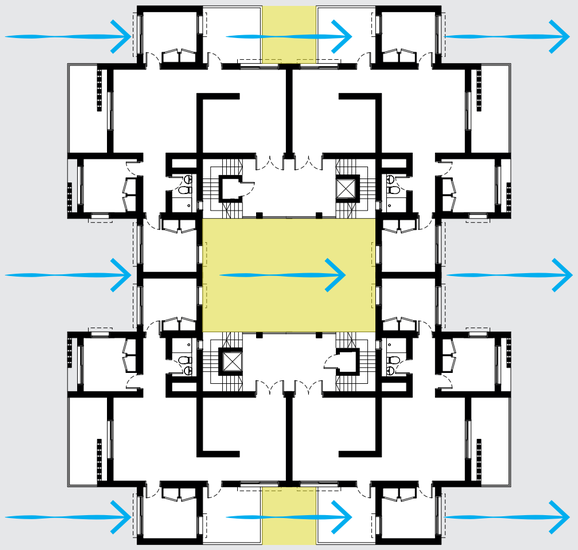
VENTILATION & DAYLIGHT

- BORROW FROM VERNACULAR WADA HOUSE
- COURTYARD FOR WIND TO PENETRATE AND DAYLIGHT



Typology Two / Level 0 Plan

3m 15m

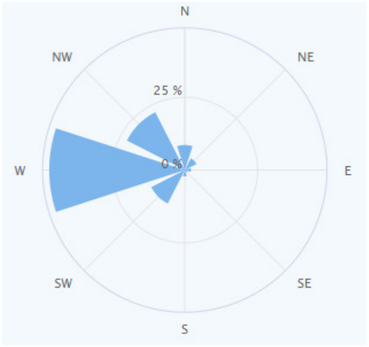


Typology Two / Level 2 Plan

3m 15m

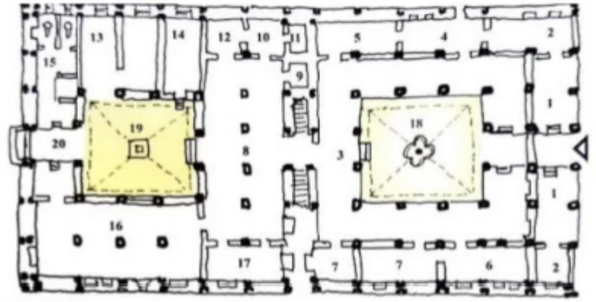
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WIND ROSE IN NAVI MUMBAI



SOURCE: https://world-weather.info/archive/india/navi_mumbai/

VERNACULAR WADA HOUSE



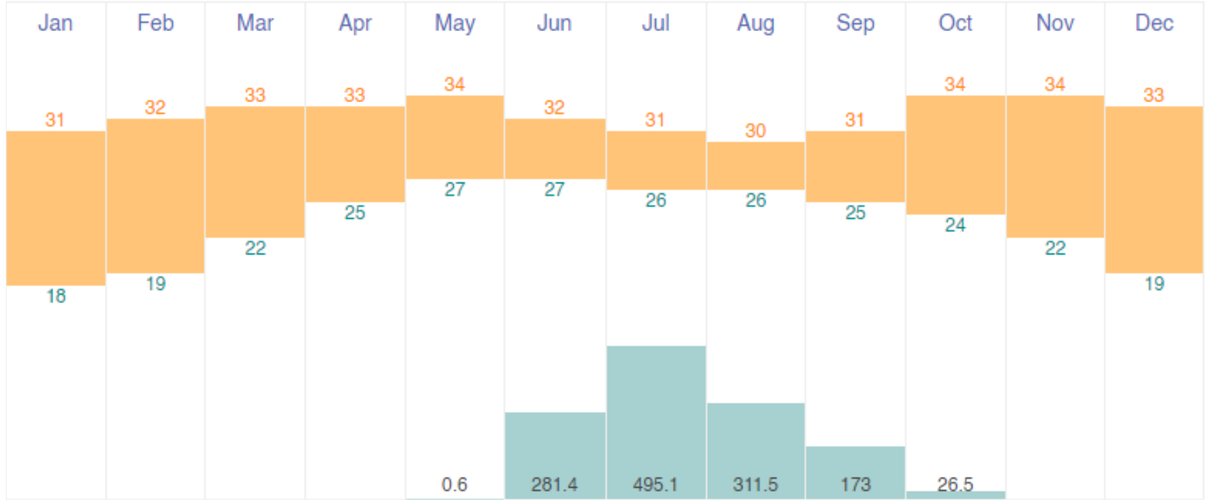
4.6: Typical Wada.

SOURCE: https://www.slideshare.net/MansiJain34/vernacular-architecture-of-mahrashtra-west

TEMPERATURES & HUMIDITY

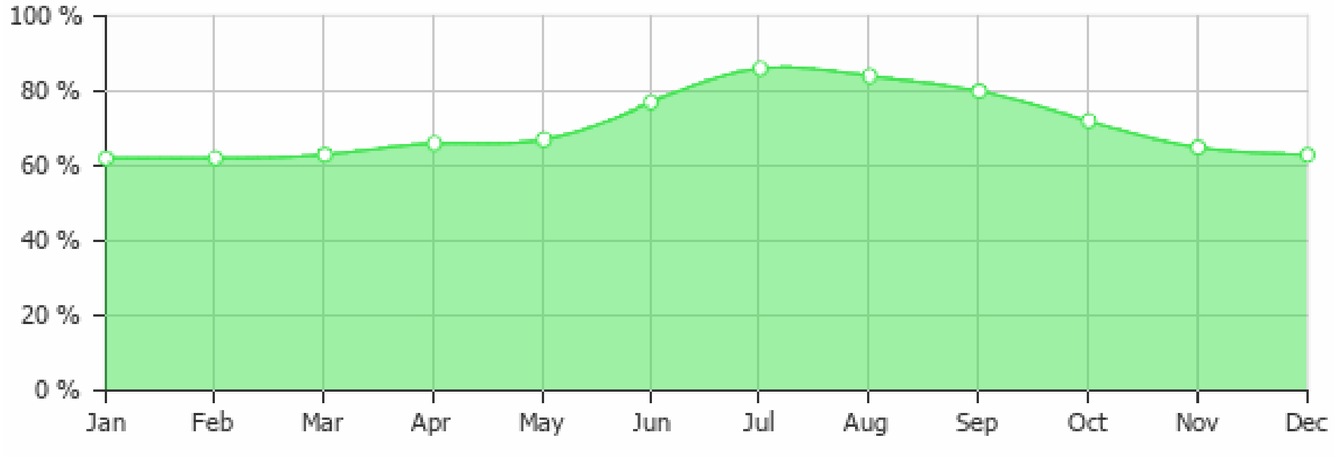
- HIGH THEREFORE, VENTILATION FOR PASSIVE COOLING

NAVI MUMBAI AVERAGE TEMPERATURES



SOURCE: https://www.slideshare.net/MansiJain34/vernacular-architecture-of-mahrashtra-west

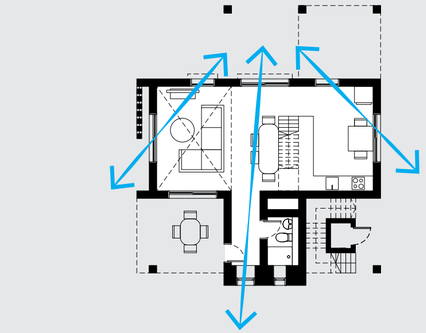
NAVI MUMBAI HUMIDITY LEVELS



SOURCE: https://weather-and-climate.com/average-monthly-Humidity-perc,mumbai,India

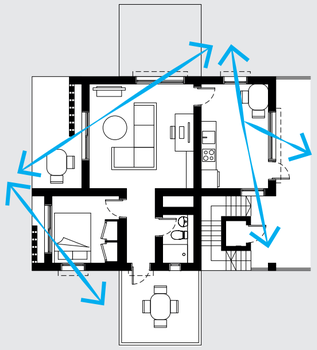
CROSS VENTILATION PER APARTMENT

- AT LEAST 2 OPENINGS PER ROOM



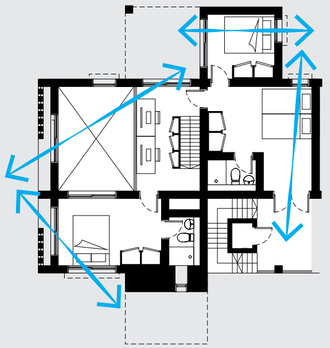
Typology Two / Level 0 Plan

3m 15m



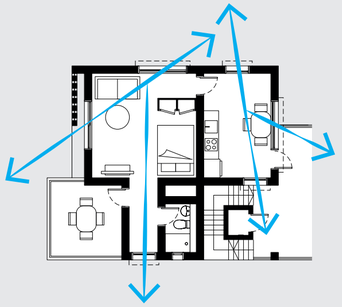
Typology Two / Level 3 Plan

3m 15m



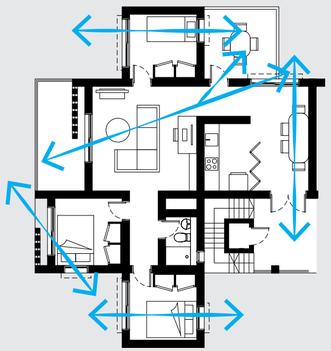
Typology Two / Level 1 Plan

3m 15m



Typology Two / Level 4 Plan

3m 15m

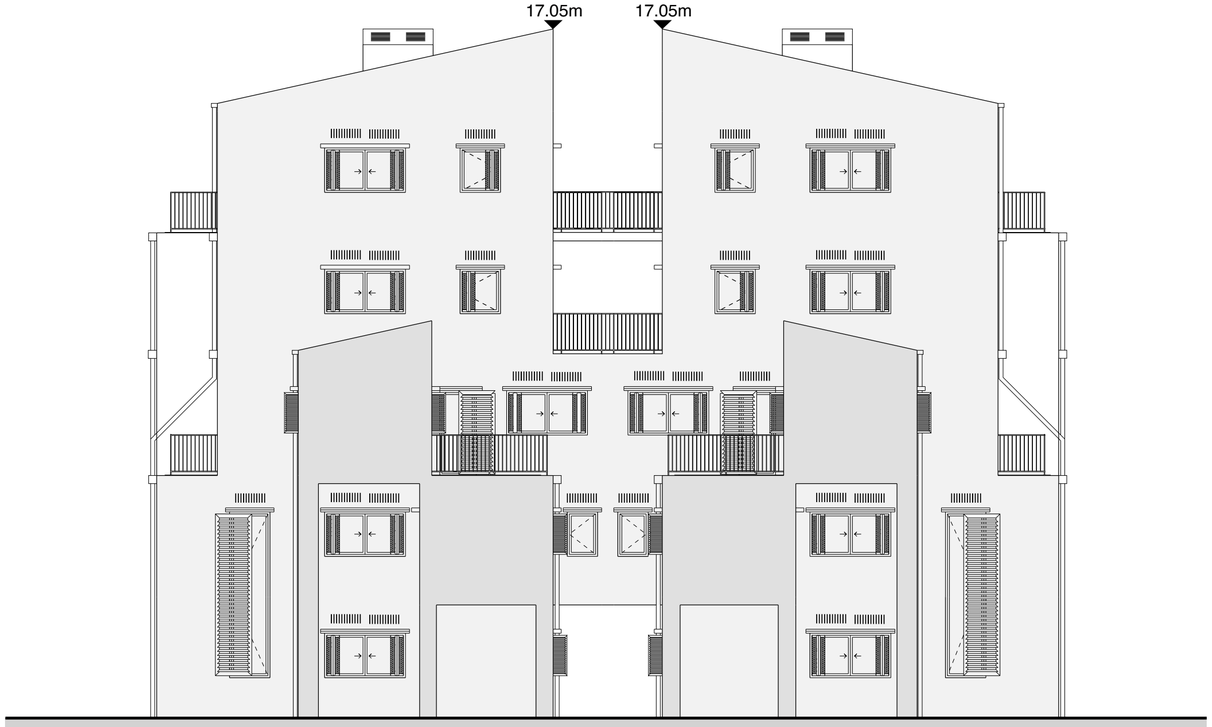


Typology Two / Level 2 Plan

3m 15m

VILLAGE CENTRE TYPOLOGY

- NORTH/ SOUTH ELEVATION
- BAMBOO SHUTTERS TO BLOCK SUNLIGHT

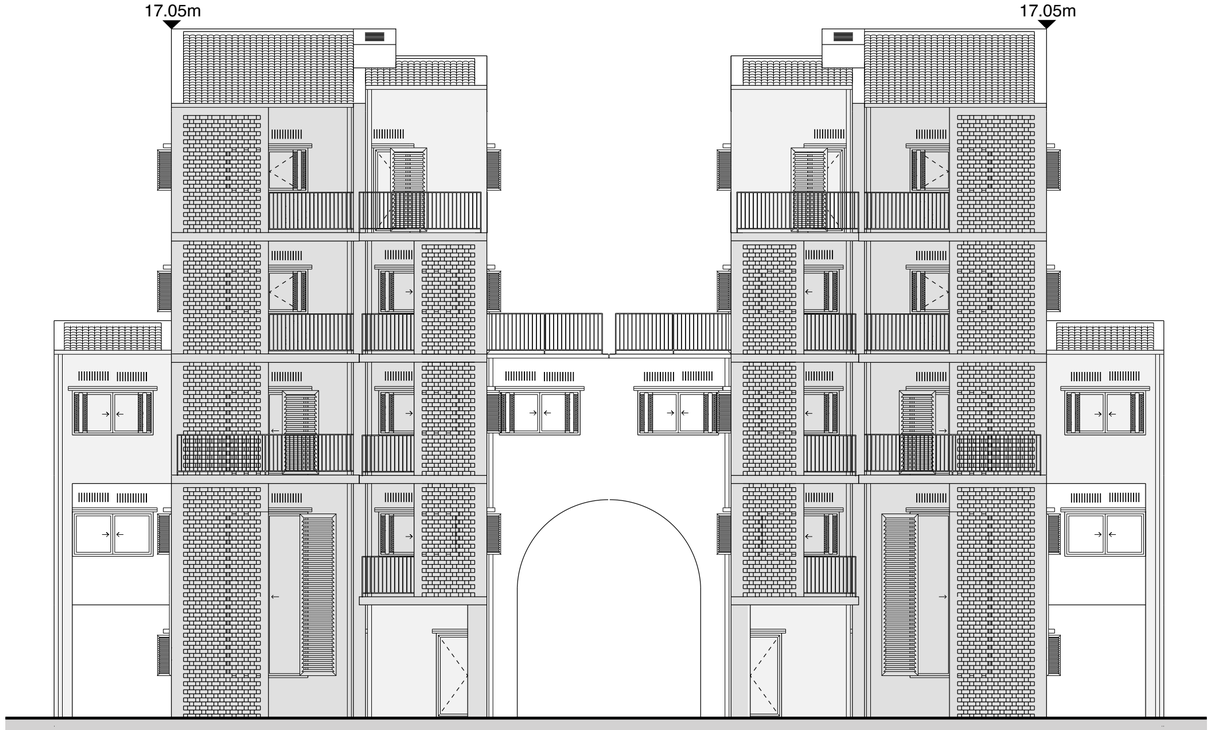


Typology Two / Elevation One

1.5m 7.5m

VILLAGE CENTRE TYPOLOGY

- WEST/ EAST ELEVATION
- SECONDARY BRICK WALL TO BLOCK SUNLIGHT

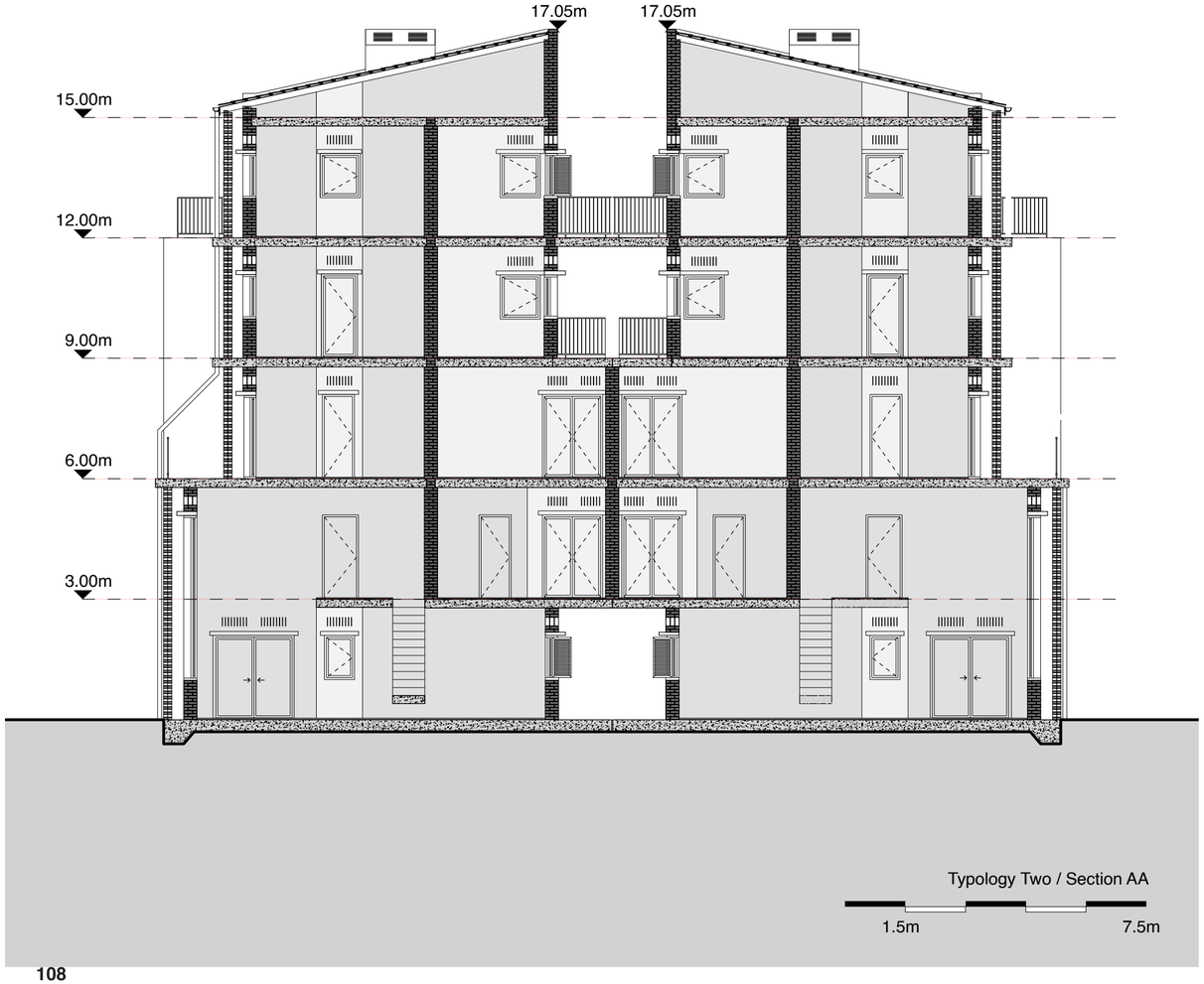


Typology Two / Elevation Two

1.5m 7.5m

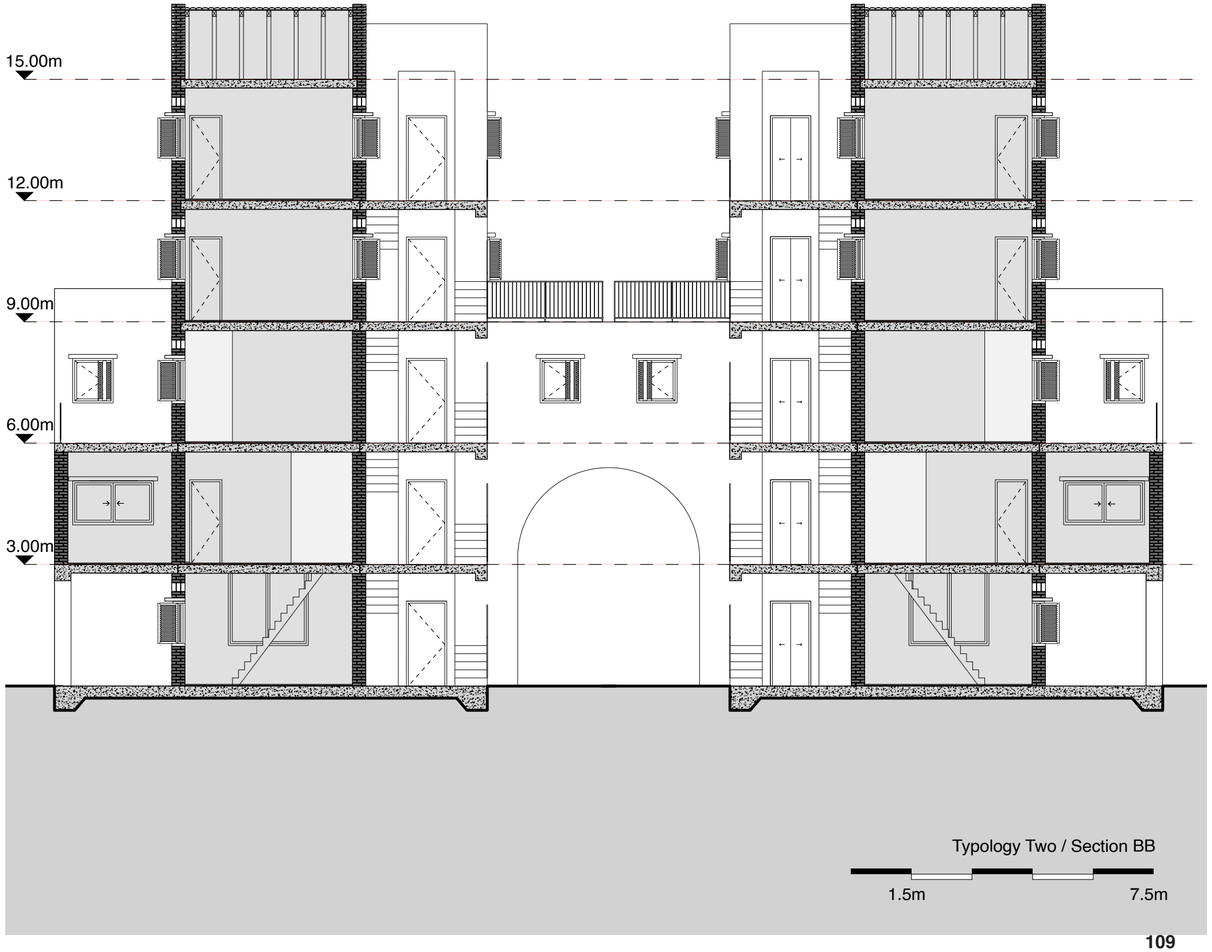
VILLAGE CENTRE TYPOLOGY

- SECTION AA



VILLAGE CENTRE TYPOLOGY

- SECTION BB CUTTING THROUGH LOAD BEARING WALLS



MATERIALS - WALLS & FLOORS



Compressed earth blocks





Exterior:
Waterproofing Plaster

Interior: Clay plaster

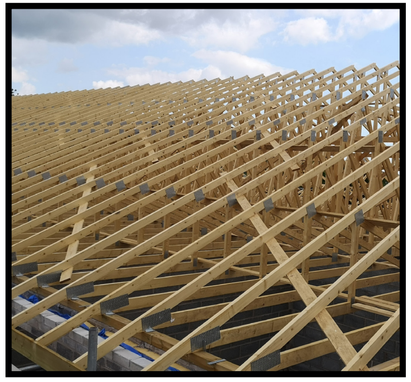


Cast in-situ concrete floors and beams



Clay floor tiles

MATERIALS - ROOF



Timber structure



Local clay roof tiles

MATERIALS - OPENINGS



Aluminium frame windows



Bamboo shutters

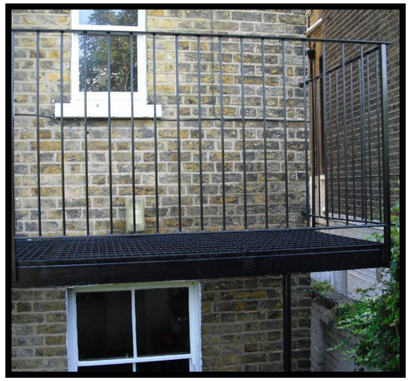


Aluminium frame sliding doors for balconies



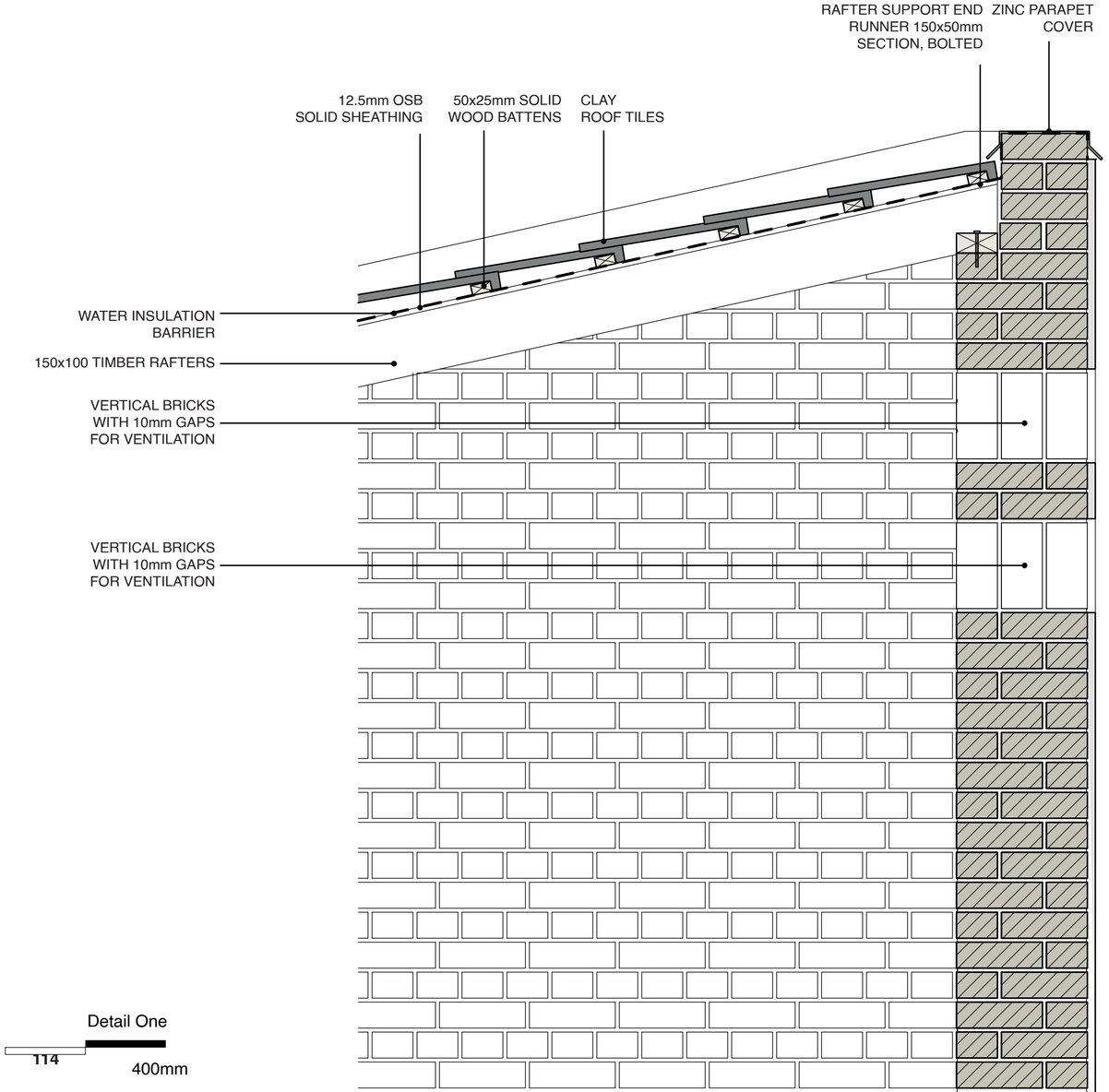
Timber doors for entrances and the interior

MATERIALS - RAILINGS



Steel balcony railings

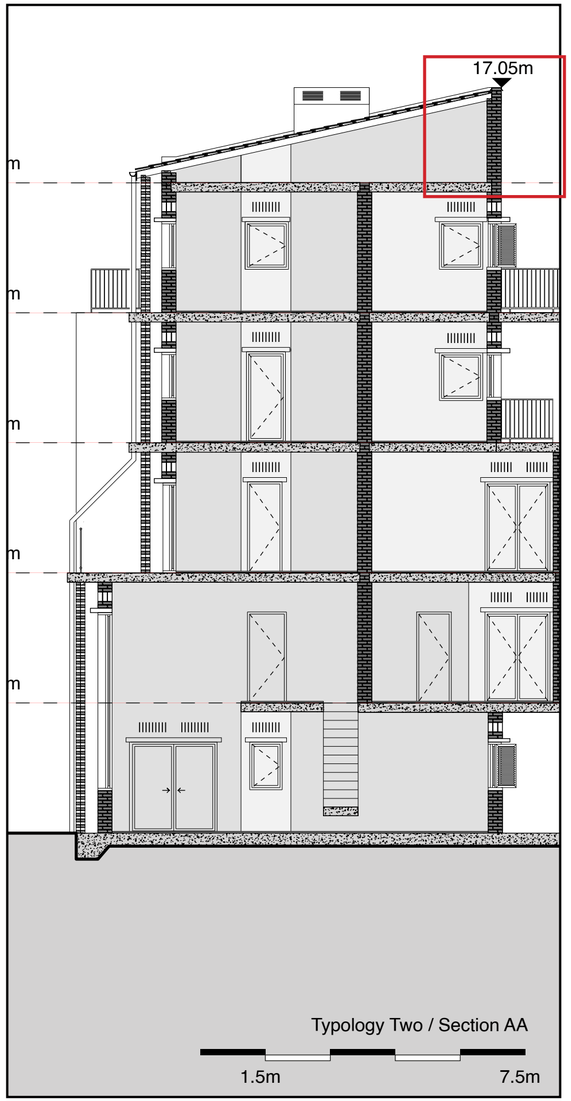
DETAILS



Detail One

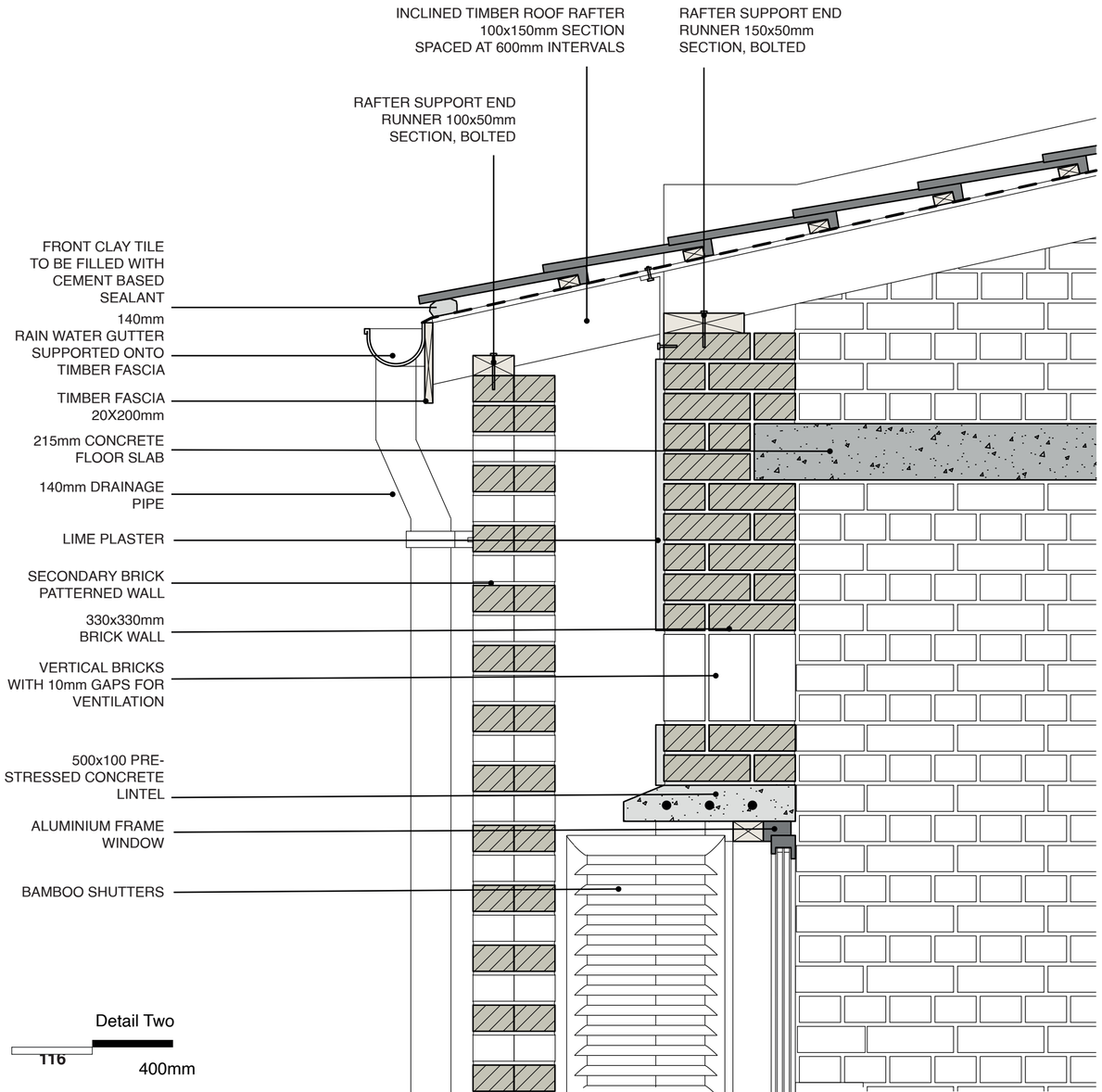
114

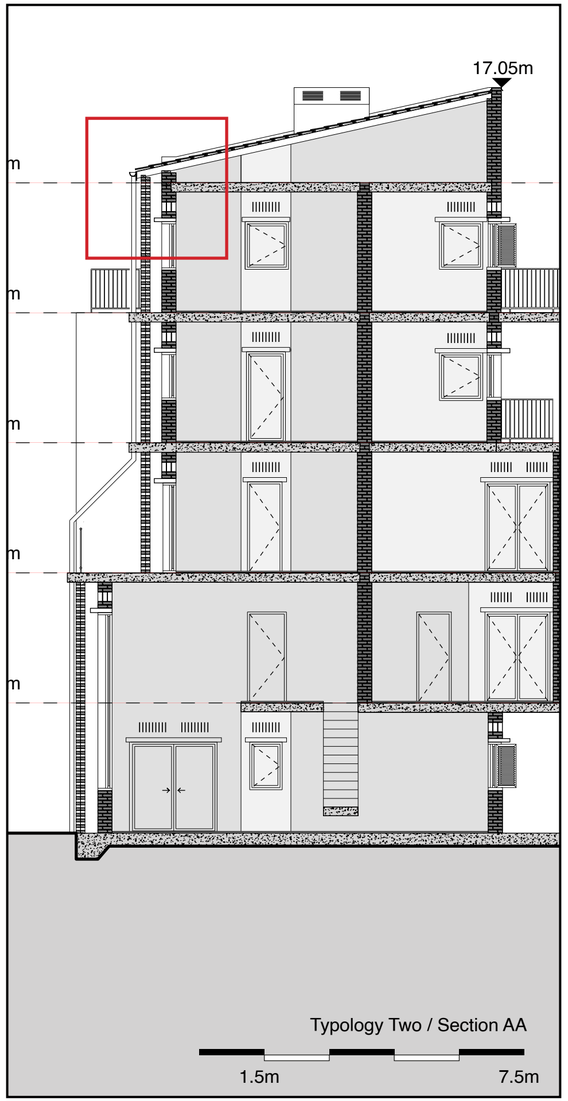
400mm



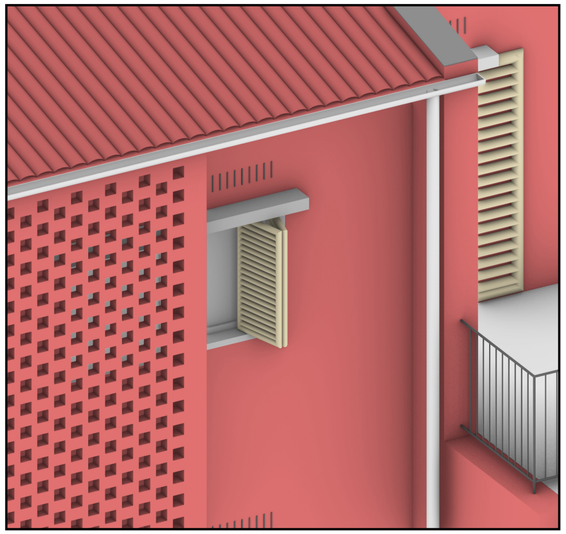
Detail callout

DETAILS





Detail callout



3D view

DETAILS

VERTICAL BRICKS
WITH 10mm GAPS FOR
VENTILATION

500x100 PRE-
STRESSED CONCRETE
LINTEL

ALUMINIUM FRAME
WINDOW

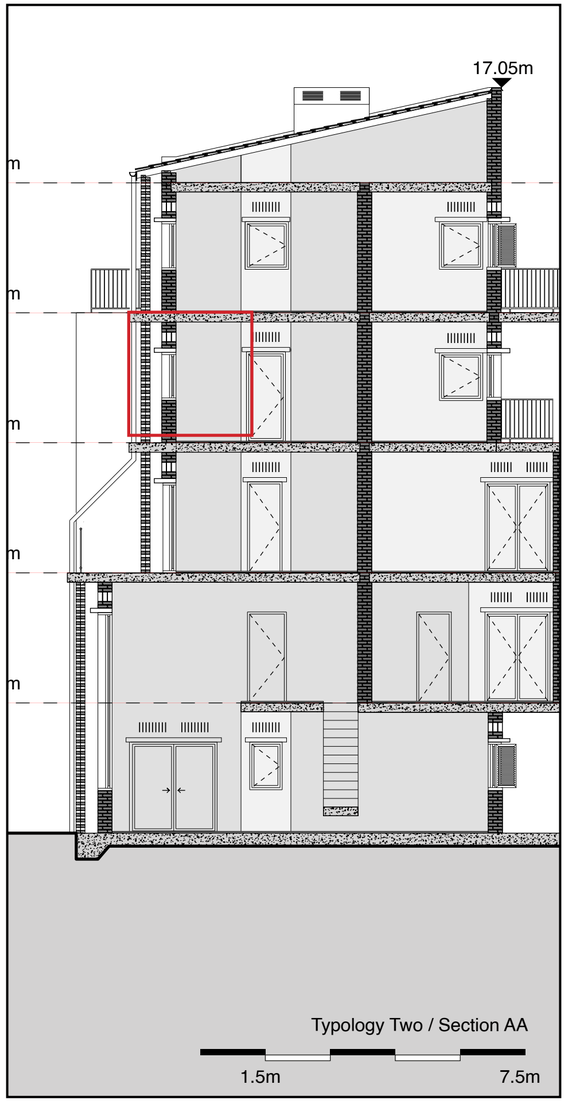
BAMBOO SHUTTERS

CONCRETE SILL

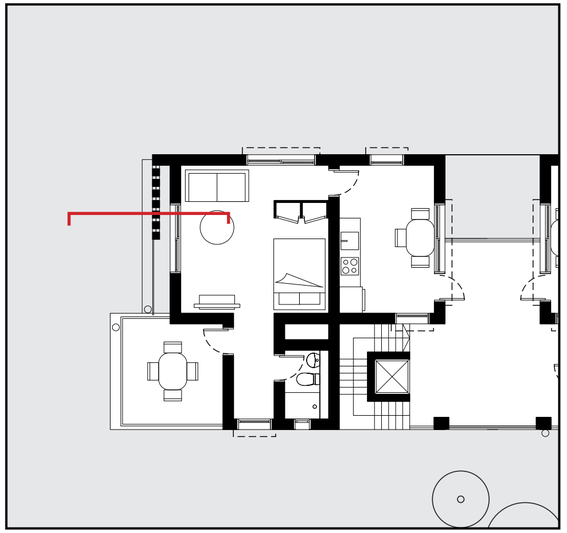
20mm CERAMIC TILES
20mm SCREED
10mm INSULATION MAT

Detail Three

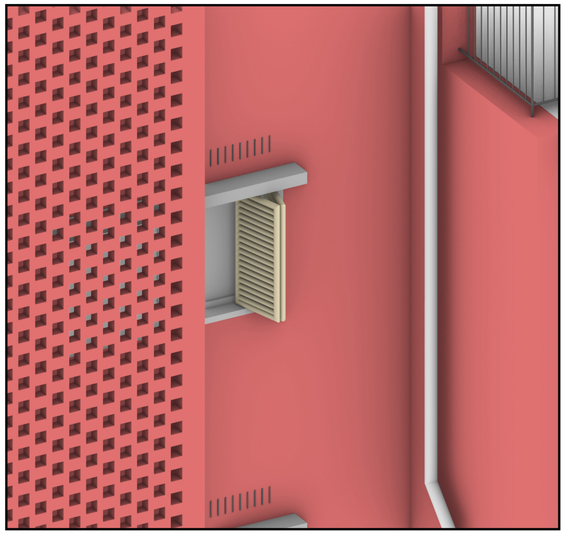
400mm



Detail callout

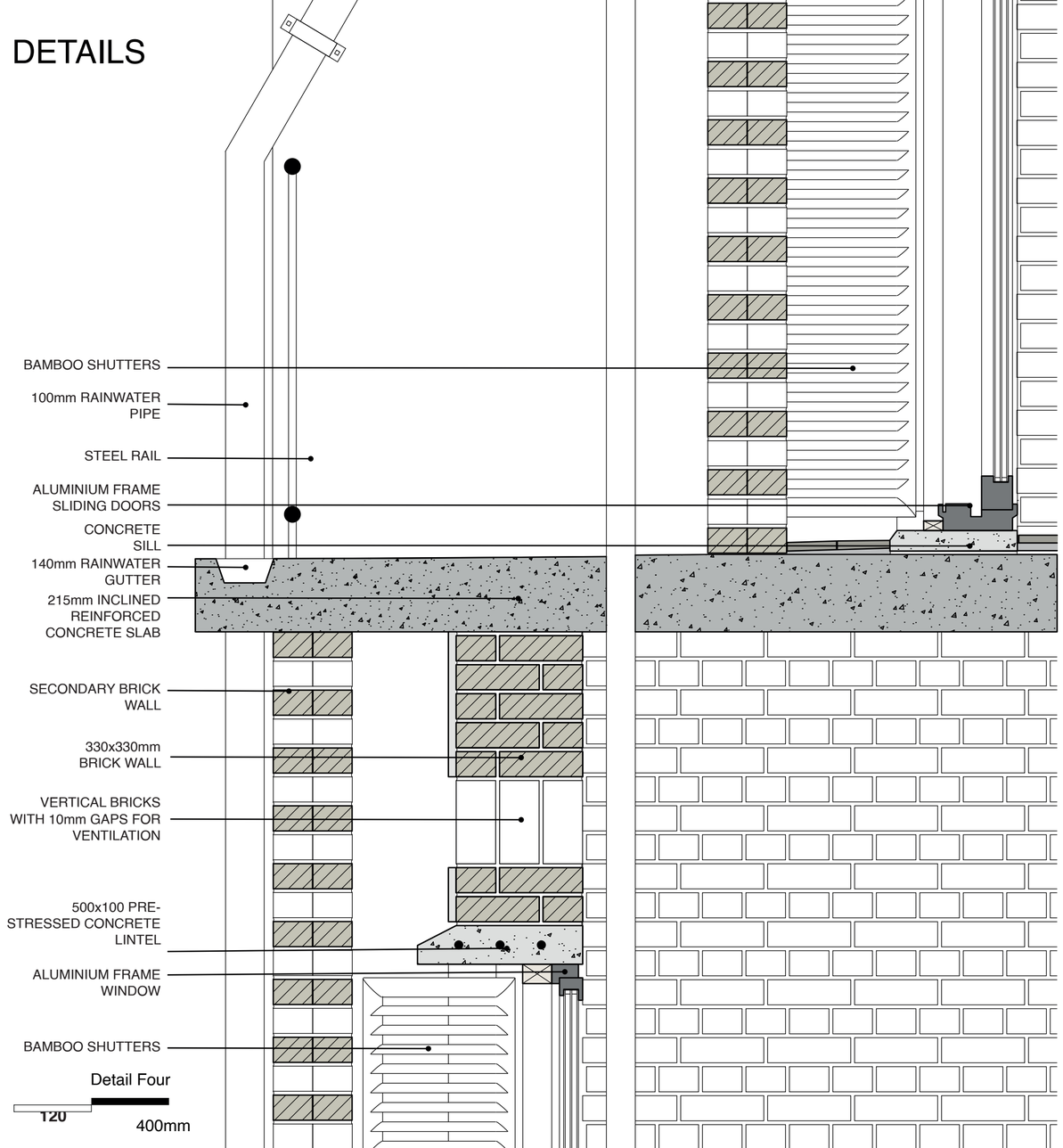


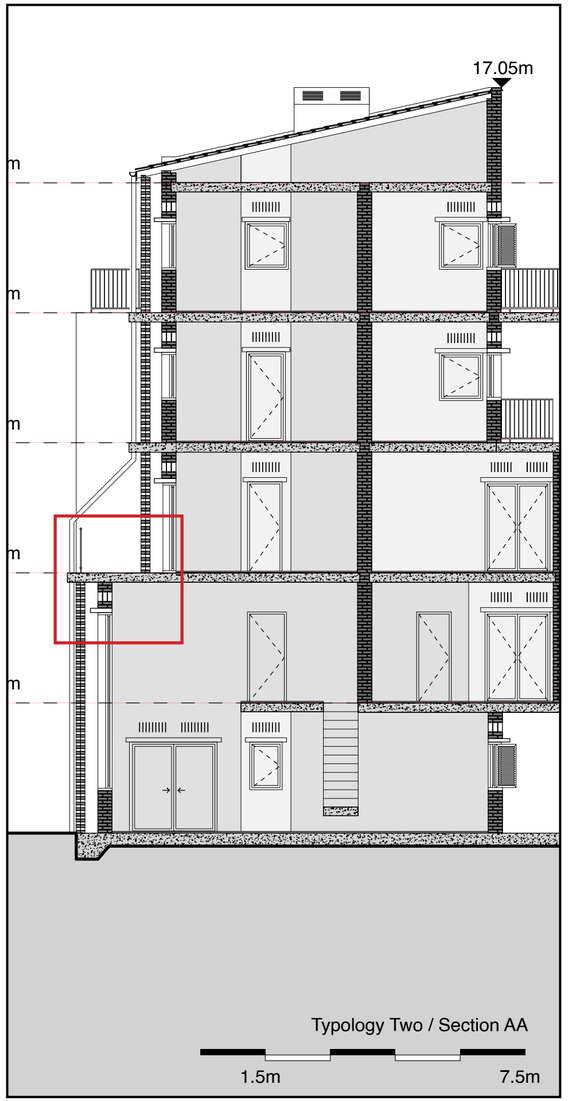
Detail section line



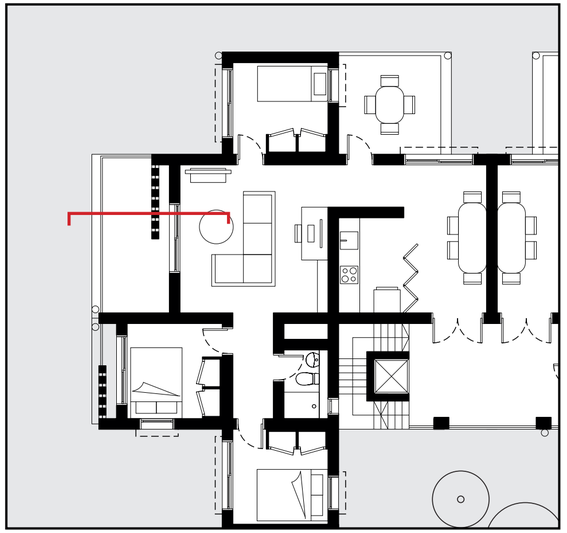
3D view

DETAILS

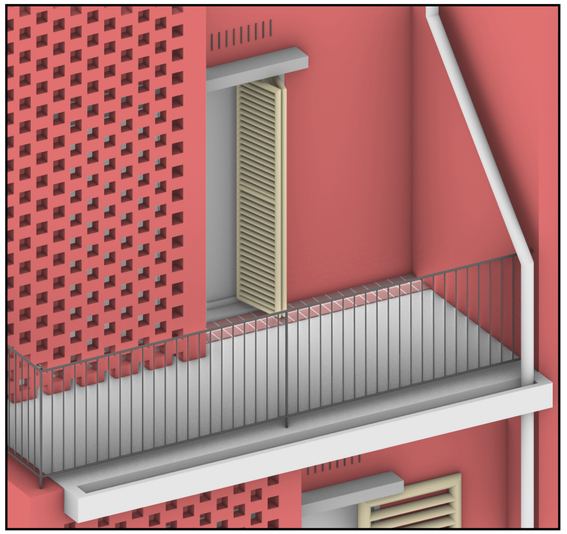




Detail callout

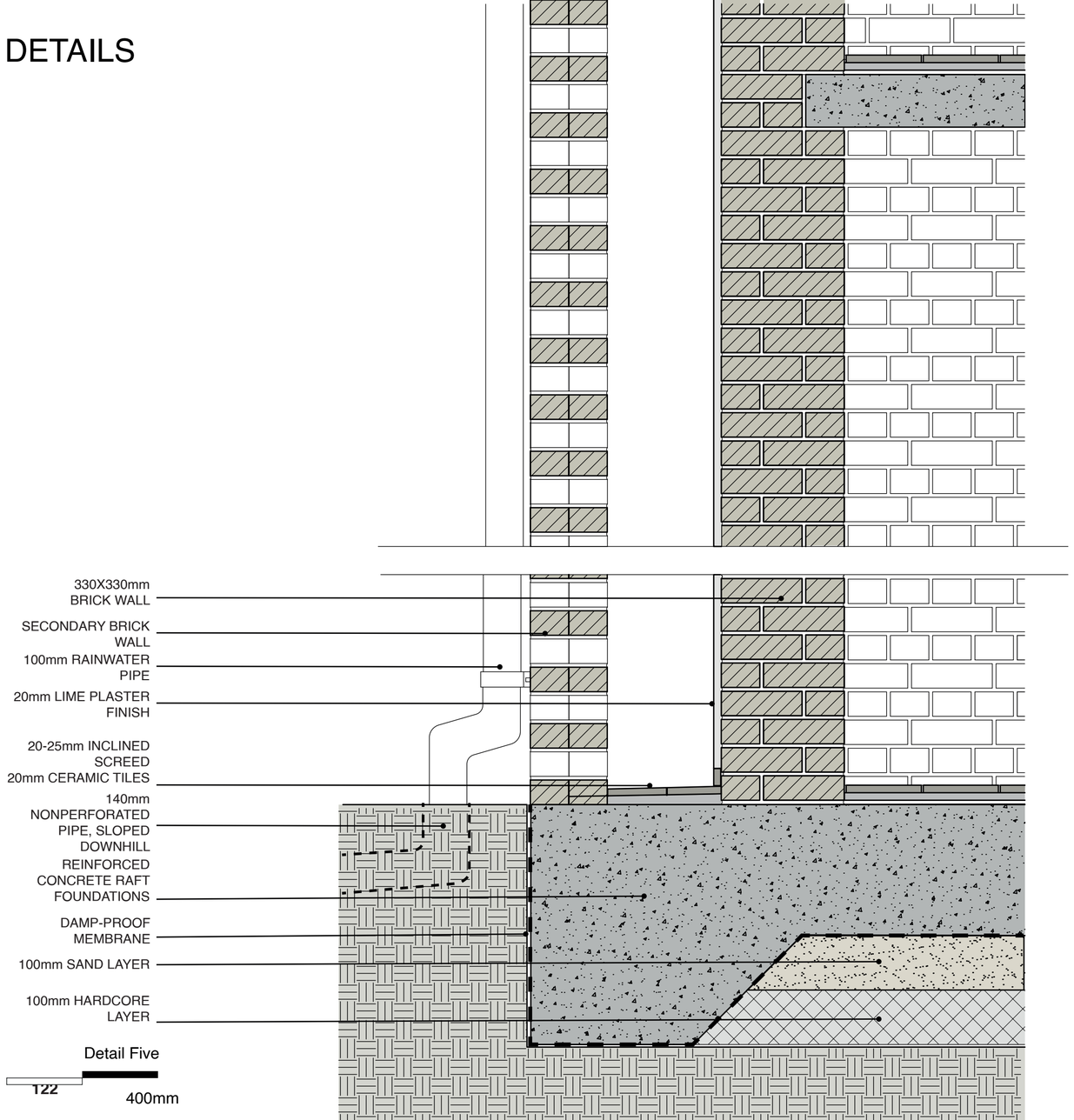


Detail section line



3D view

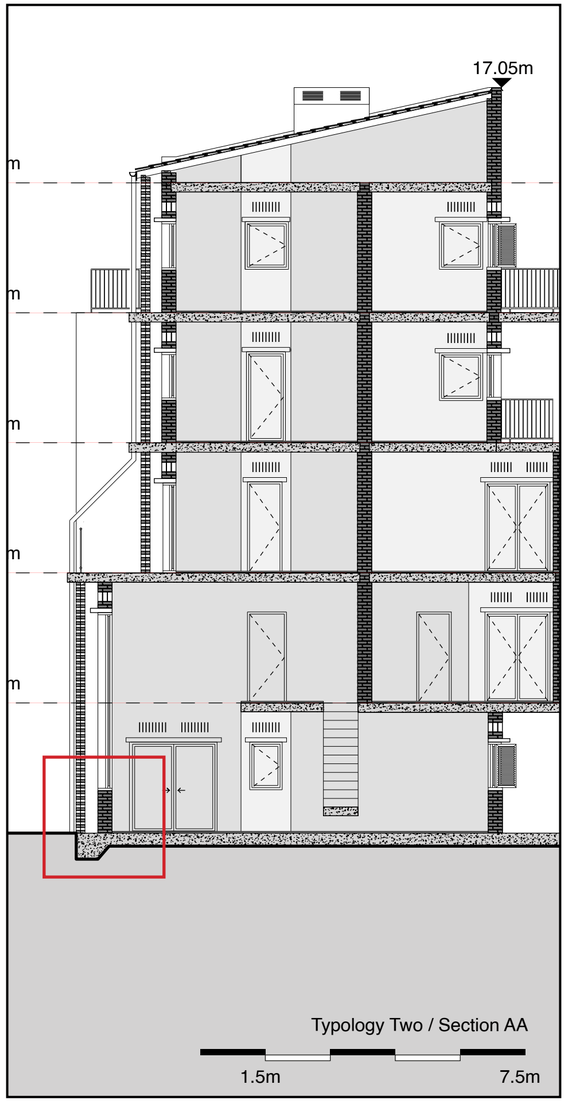
DETAILS



Detail Five

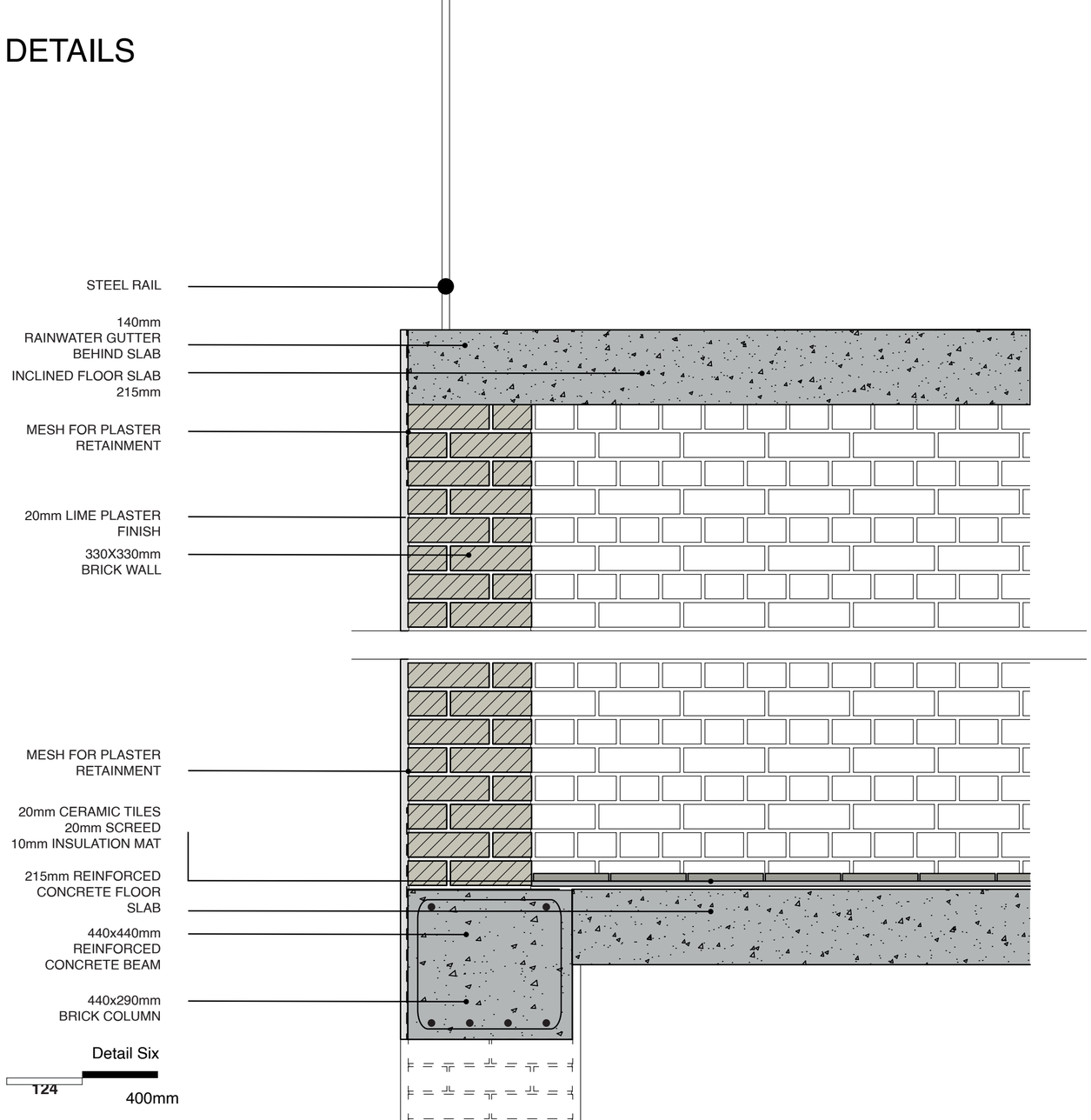
122

400mm



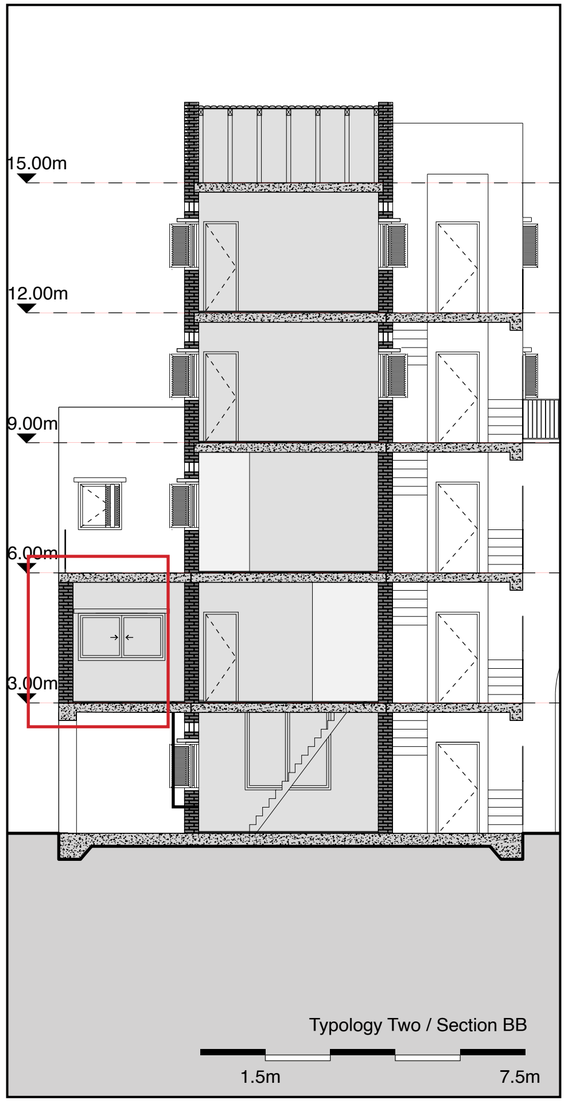
Detail callout

DETAILS



Detail Six

400mm

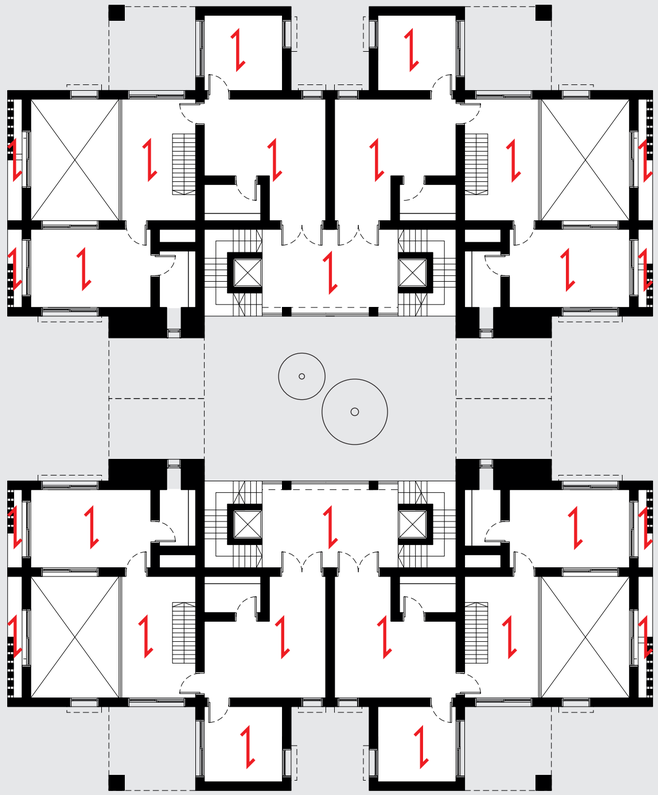


Detail callout

STRUCTURAL PLAN

N

- PARALLEL LOAD BEARING WALLS
- BEAM FOR EXTERNAL CORRIDOR



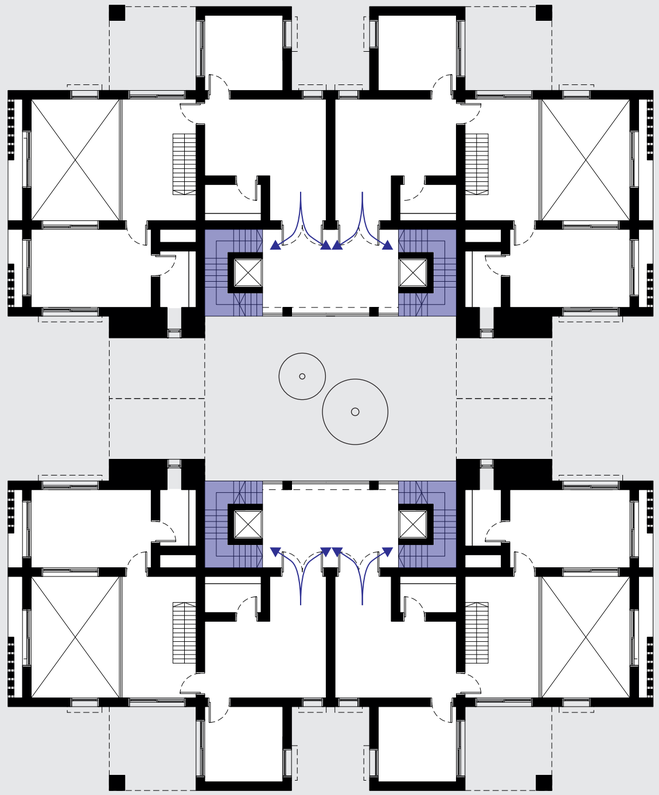
Typology Two / Level 1 Plan

3m 15m

ESCAPE PLAN

N

- 2 ESCAPE ROUTES AT ALL FLOORS



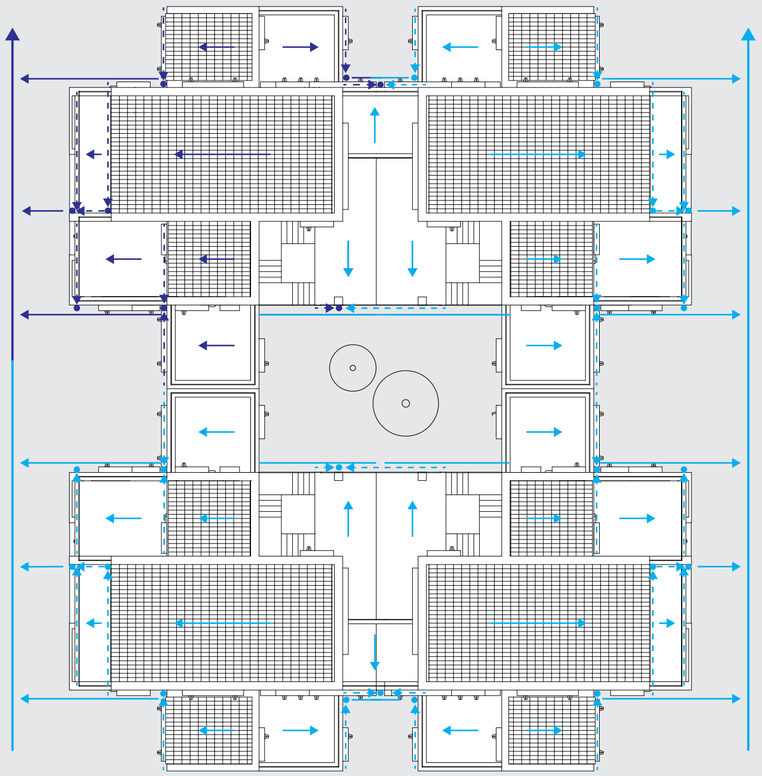
Typology Two / Level 1 Plan

3m 15m

RAINWATER DRAINAGE SCHEME

N

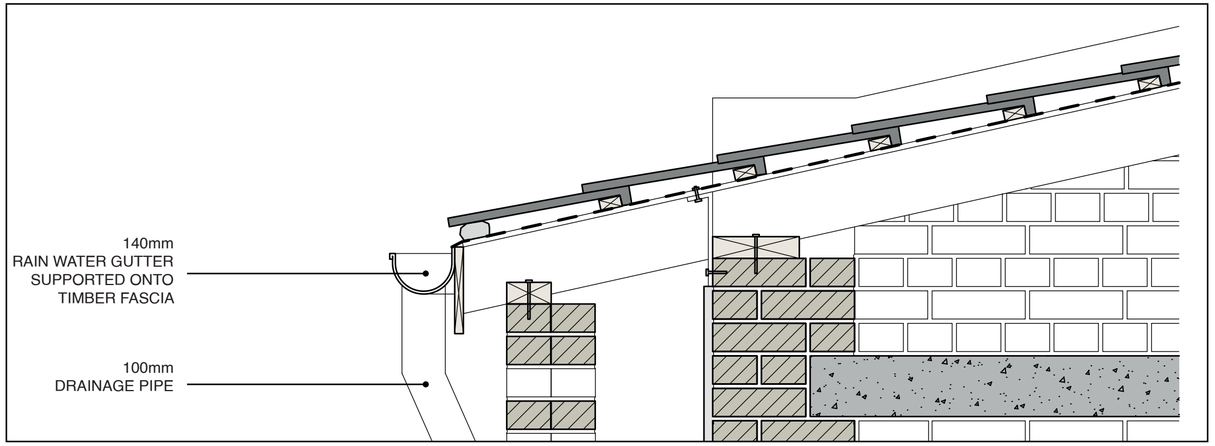
- SLOPED ROOFS AND FLOOR GUIDE WATER INTO GUTTERS & DOWNPIPES
- UNDERGOUND MAIN DRAINS UNDER THE NEW STREETS



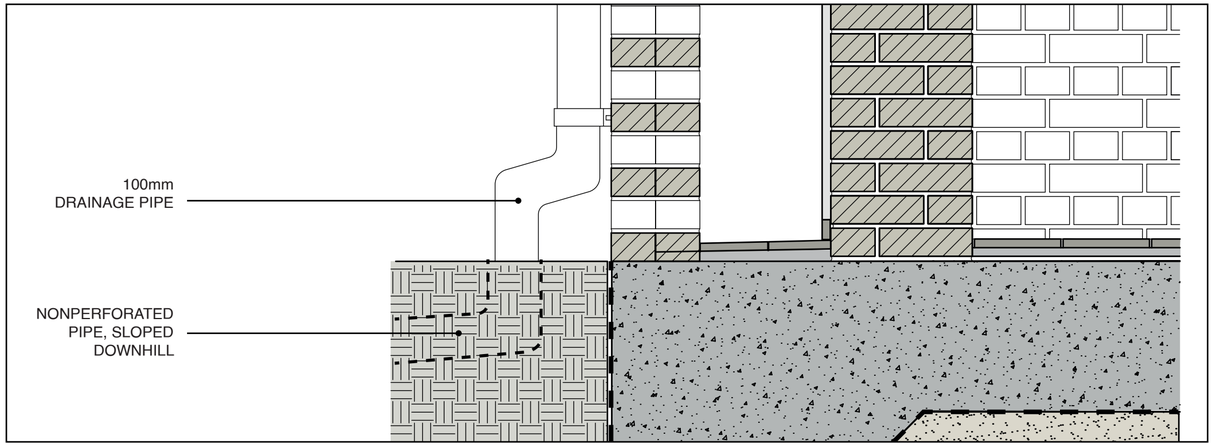
Typology Two / Roof Plan

3m 15m

DIMENSIONS OF GUTTER & RAINWATER PIPE AS PER DETAIL B



Gutter detail



Rainwater pipe detail

RAINWATER DRAINAGE SCHEME - URBAN SCALE

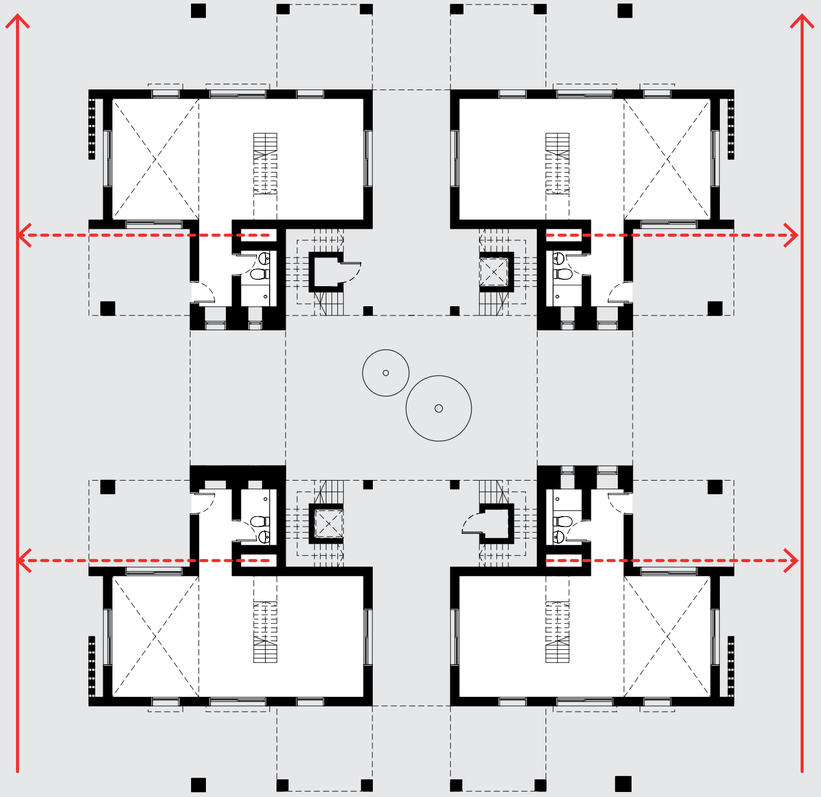
- DRAINS FOLLOW THE LANDSCAPE
- WATER RESERVOIRS & MANGROVES



SEWAGE SCHEME

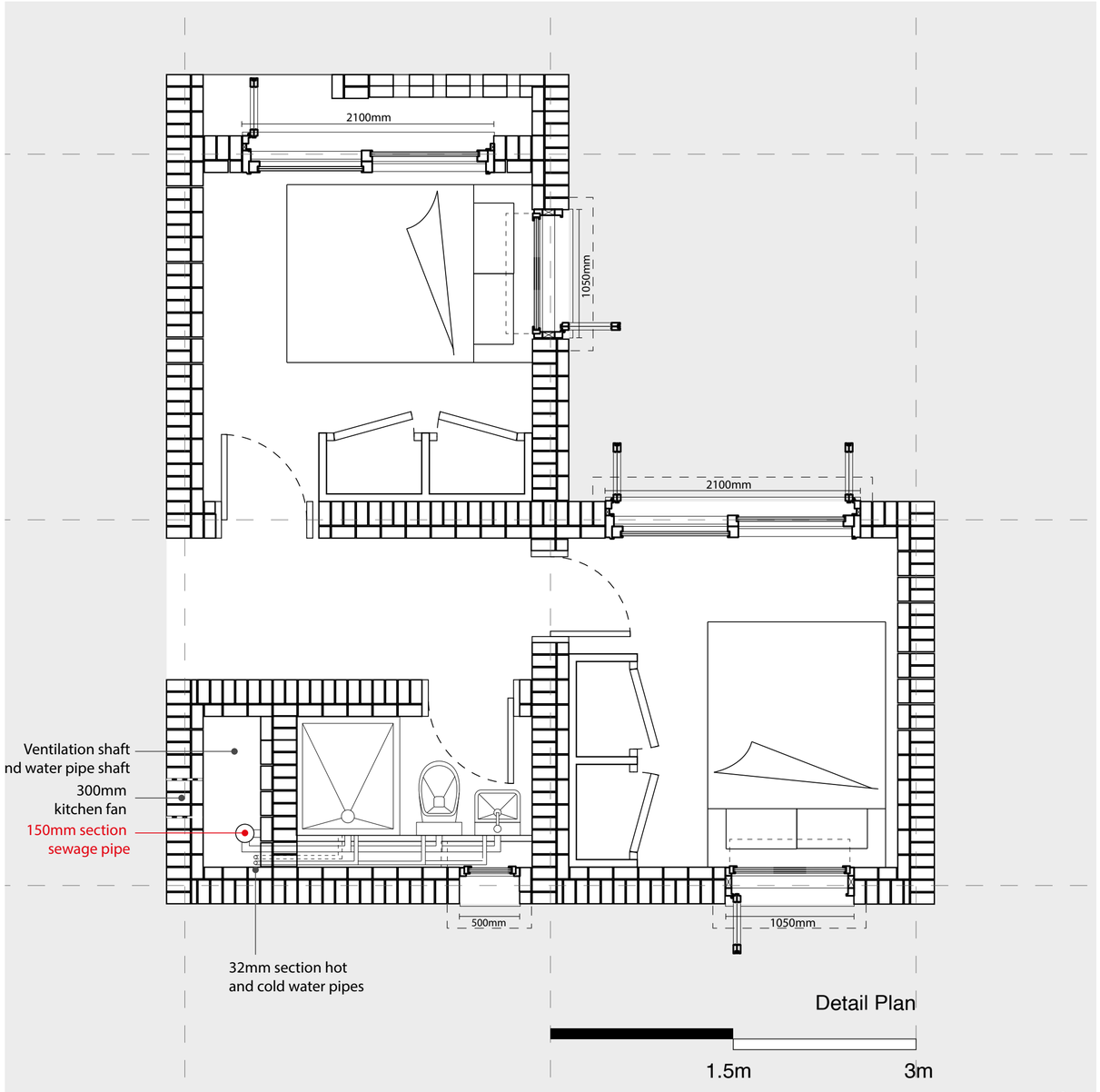
- FOLLOWS A SIMILAR LOGIC, PIPES RUNNING THROUGH THE SHAFTS

N



Typology Two / Level 0 Plan

3m 15m

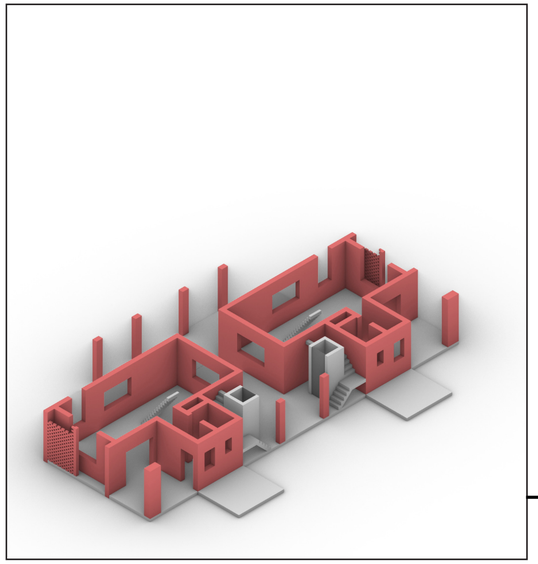


Detail Plan

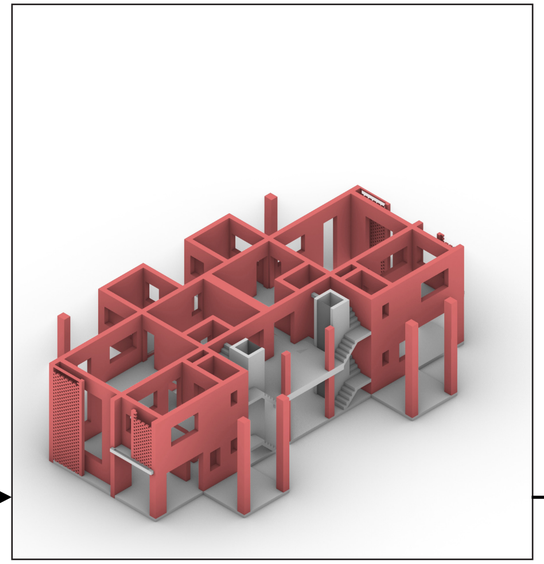
1.5m 3m

CONSTRUCTION SEQUENCE

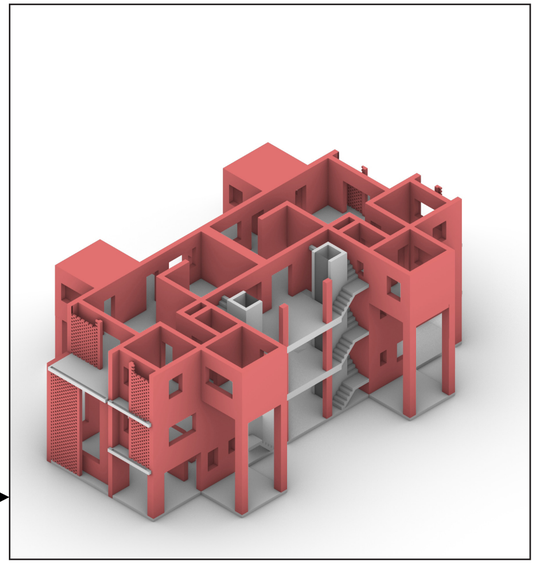
- FLOORS & WALLS PER FLOOR
- ROOFS
- WINDWOS, DOORS, RAILINGS, GUTTERS



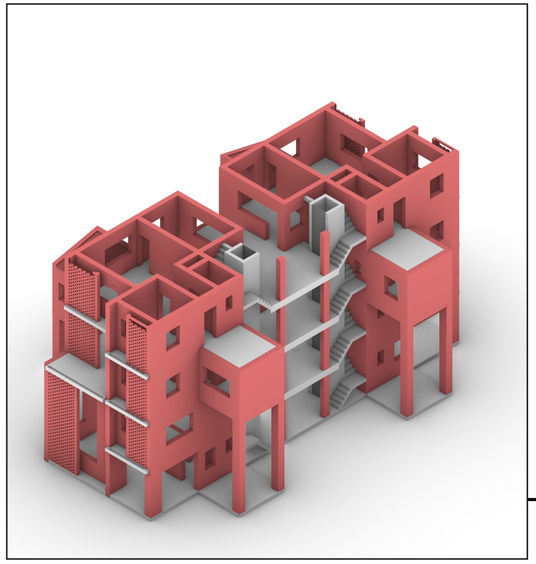
GROUND FLOOR - FOUNDATIONS & WALLS



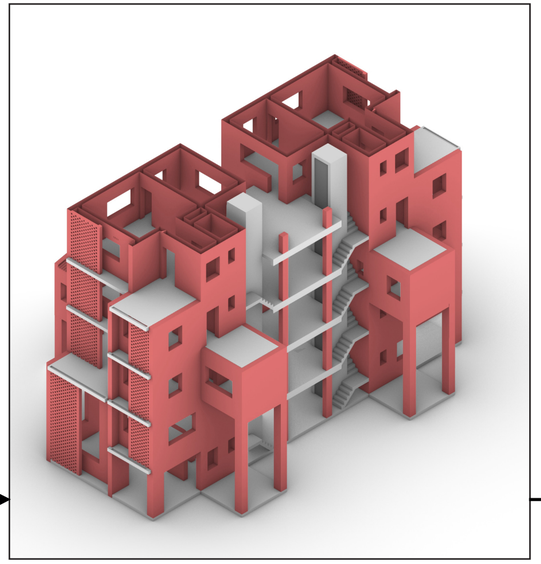
FIRST FLOOR - FLOOR & WALLS



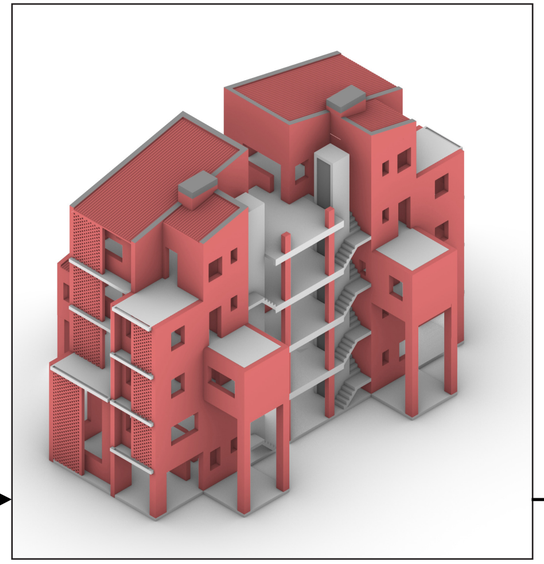
SECOND FLOOR - FLOOR & WALLS



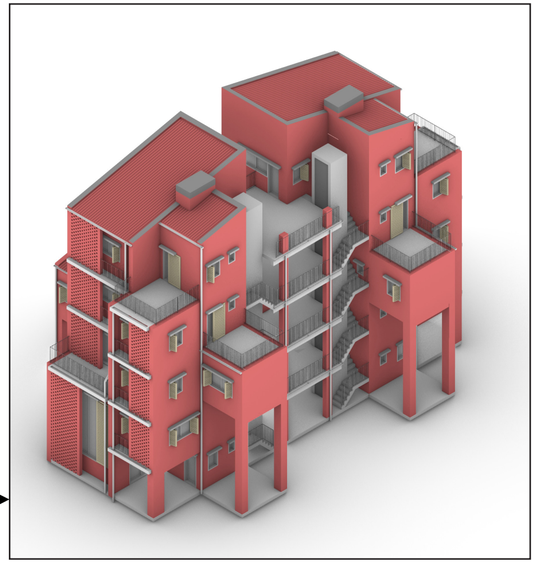
THIRD FLOOR



FOURTH FLOOR - FLOOR & WALLS

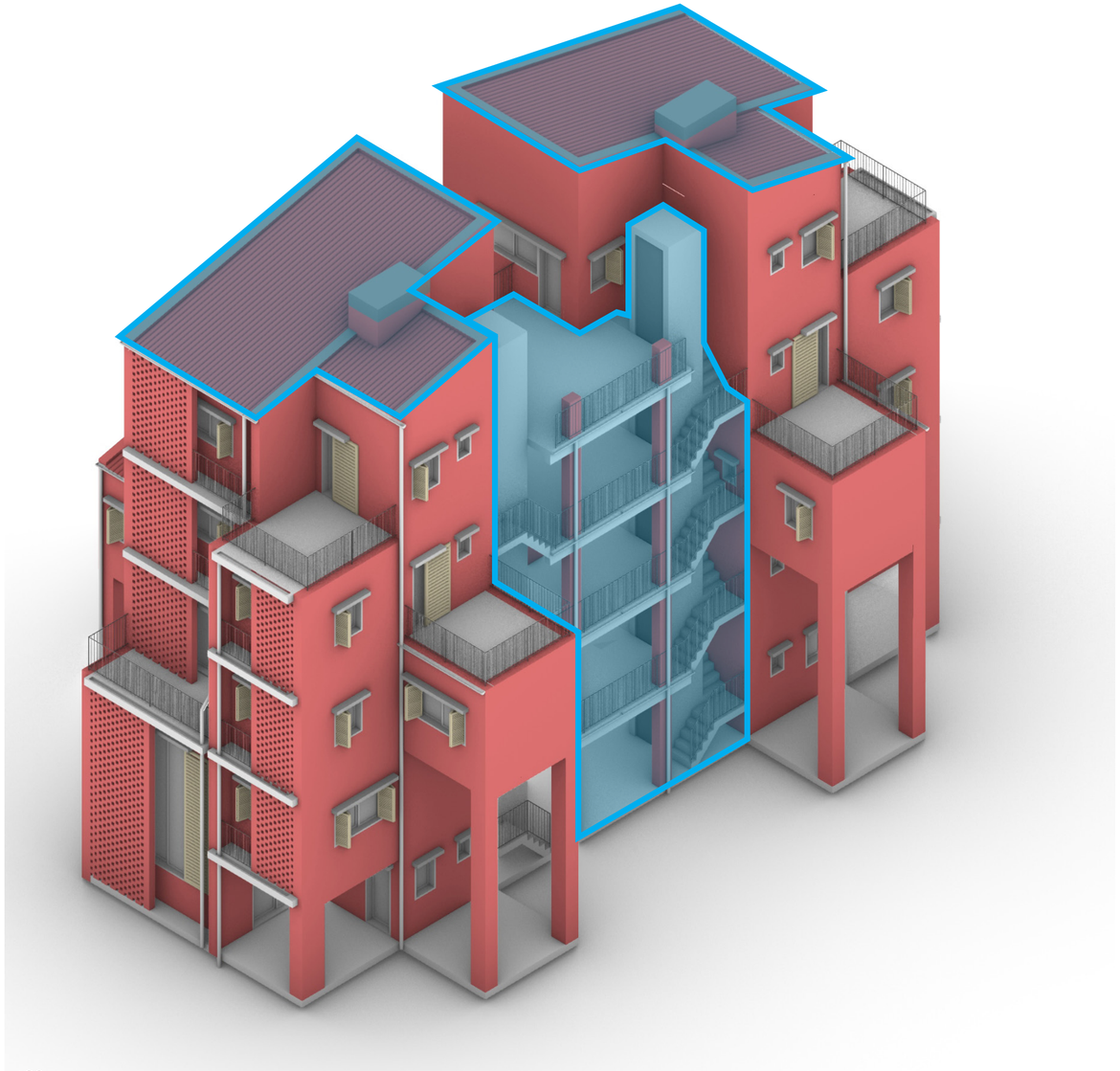


ROOFS



WINDOWS, DOORS, RAILINGS, GUTTERS

STAKEHOLDERS



Roofs, elevator, stairs & public terraces
under collective management per 2 blocks.




हनुमान मंदिर




d2h
Videocon






Videocon

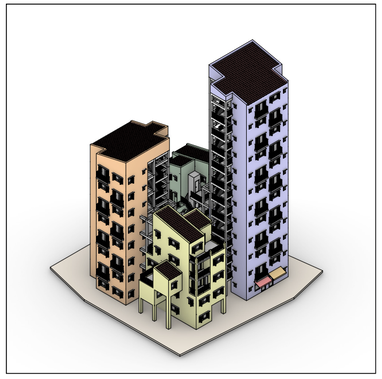


VILLAGE EDGE TYPOLOGY
- LEVEL 0 PLAN

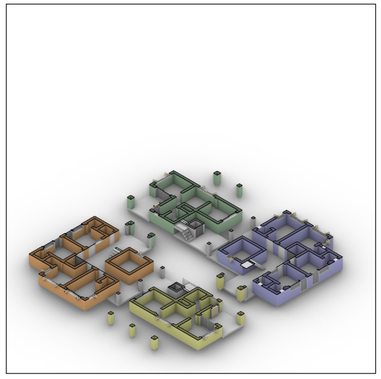
- FOUR BLOCKS, EACH PAIR CONNECTED WITH VERTICAL CIRCULATION
- SMALLER DWELLINGS THAN IN PREVIOUS APARTMENT
- COMMUNAL WASHROOMS & SHOPS ON THE GROUND FLOOR



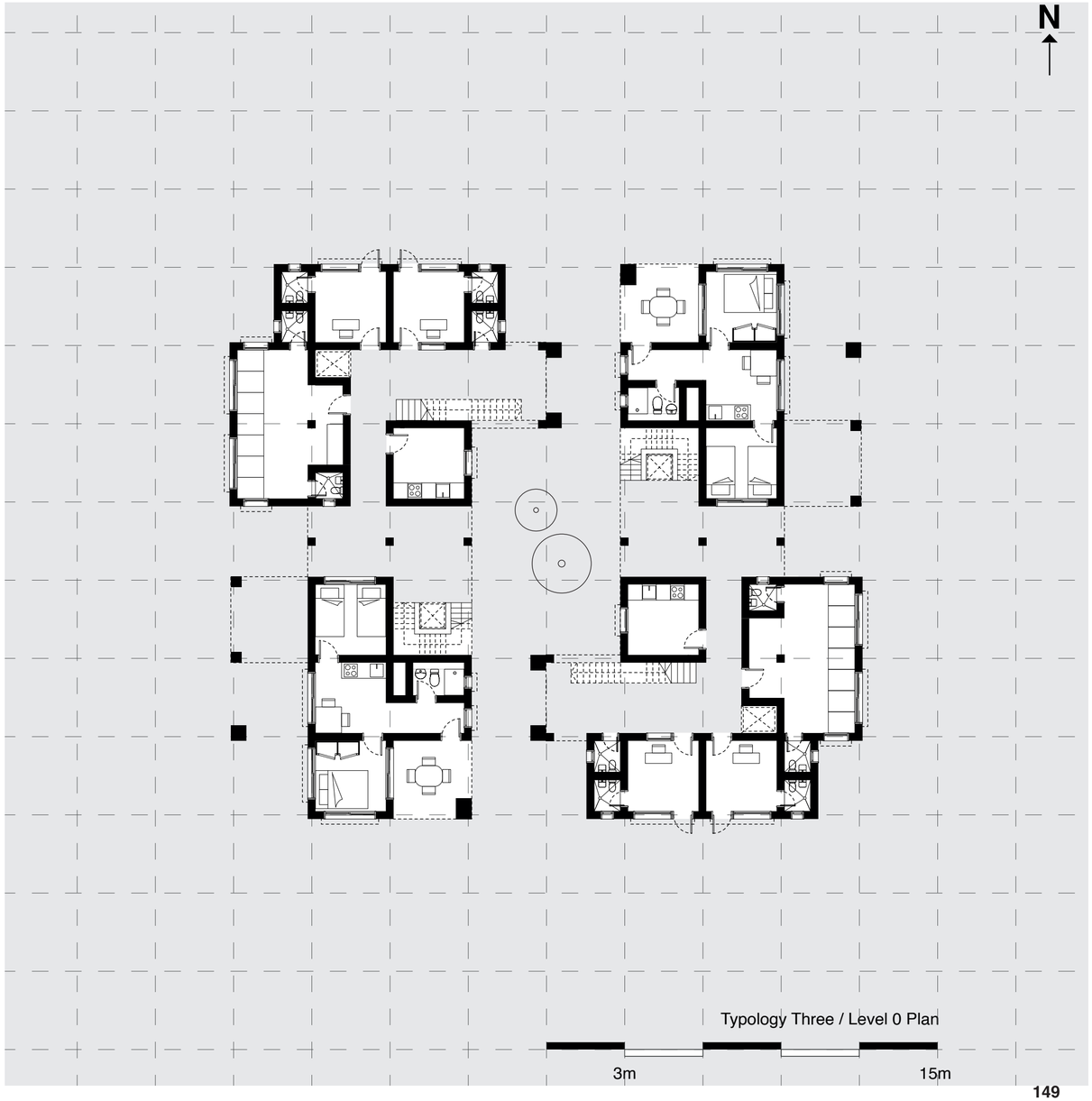
Urban plan



Axonometric



Floor axonometry

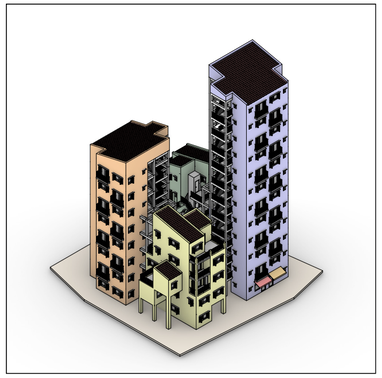


VILLAGE EDGE TYPOLOGY
- LEVEL 1 PLAN

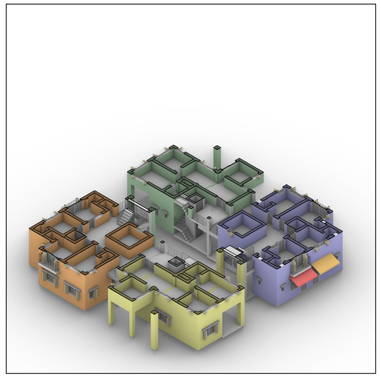
- STUDIOS TOP LEFT & BOTTOM RIGHT
- ONE COMMUNAL KITCHEN PER FLOOR
- VOID IN THE MIDDLE FOR A SMALL COURTYARD



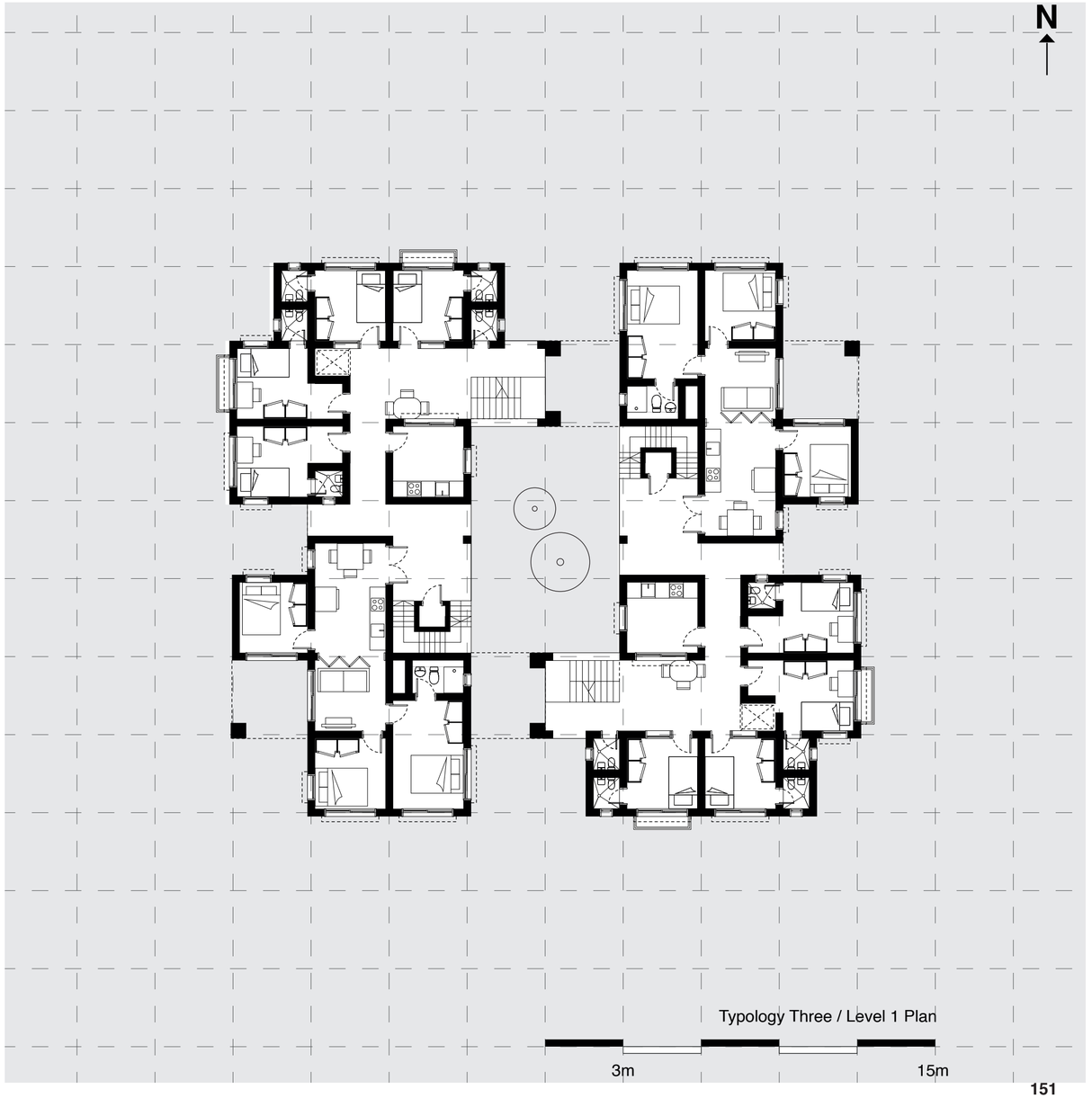
Urban plan



Axonometric



Floor axonometry

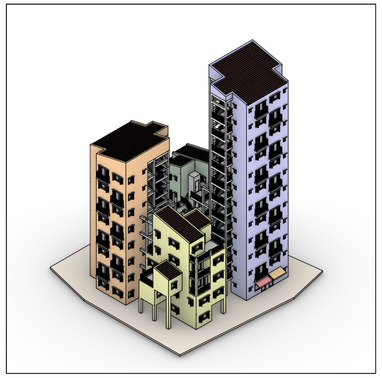


VILLAGE EDGE TYPOLOGY
- LEVEL 2 PLAN

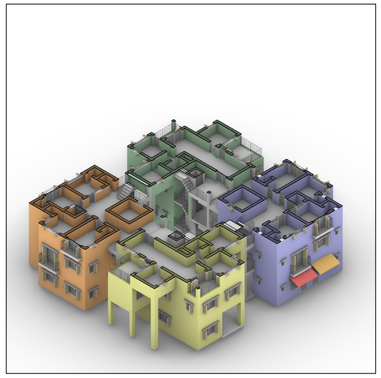
- VOLUMES FROM LOWER FLOORS BECOME TERRACES



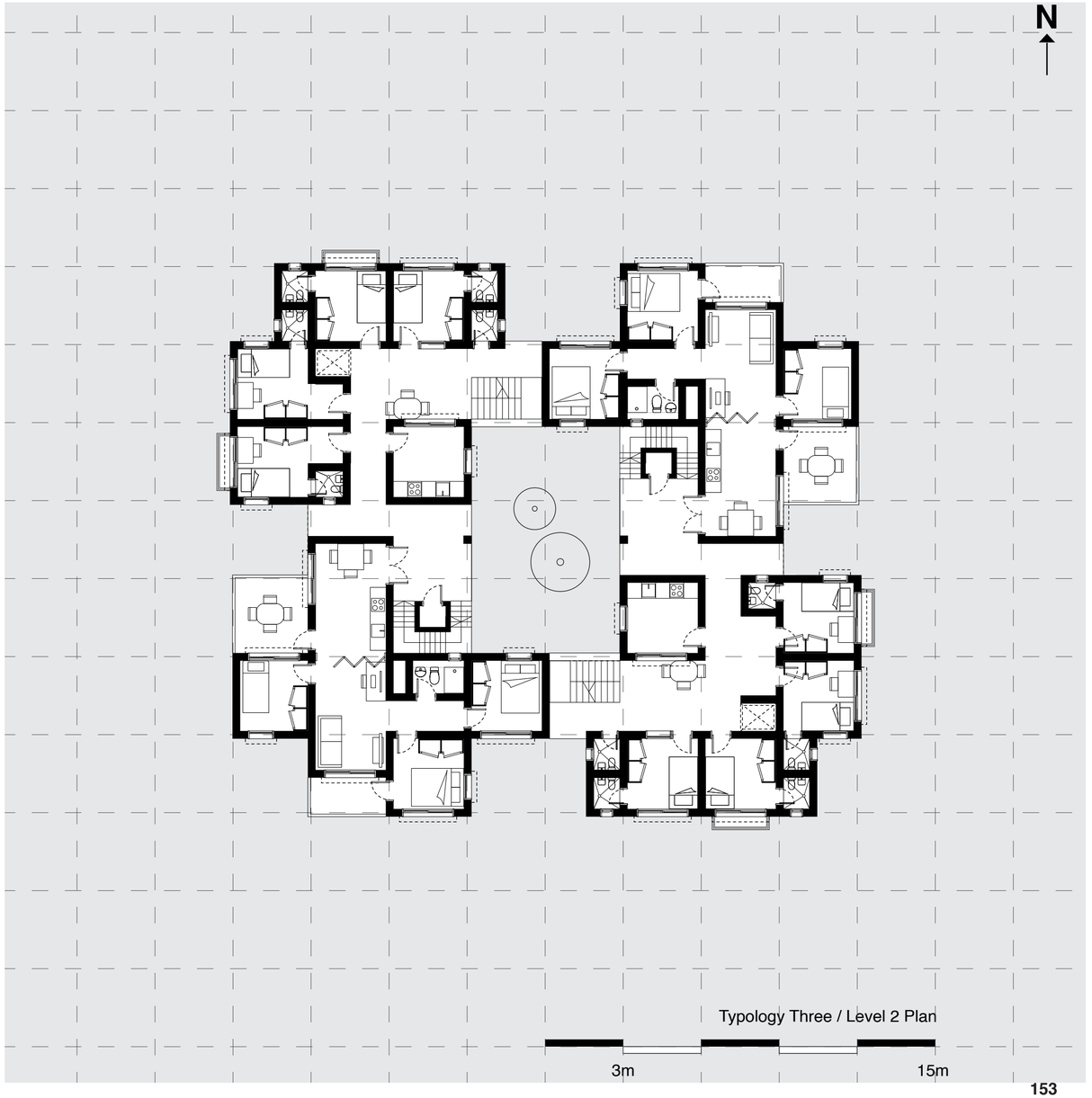
Urban plan



Axonometric



Floor axonometry

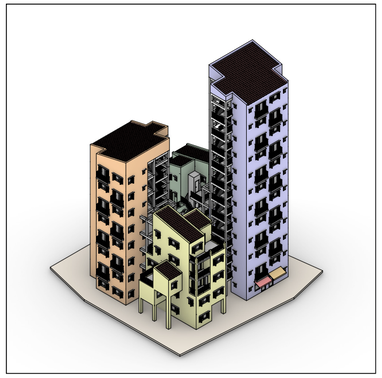


VILLAGE EDGE TYPOLOGY
- LEVEL 5 PLAN

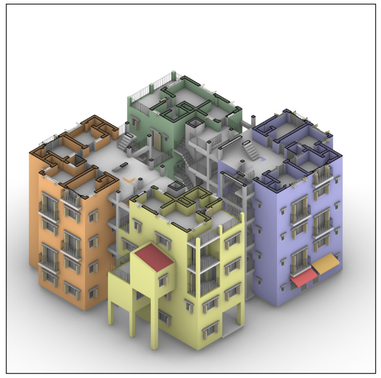
- 1 BEDROOMS APARTMENTS CONTINUE



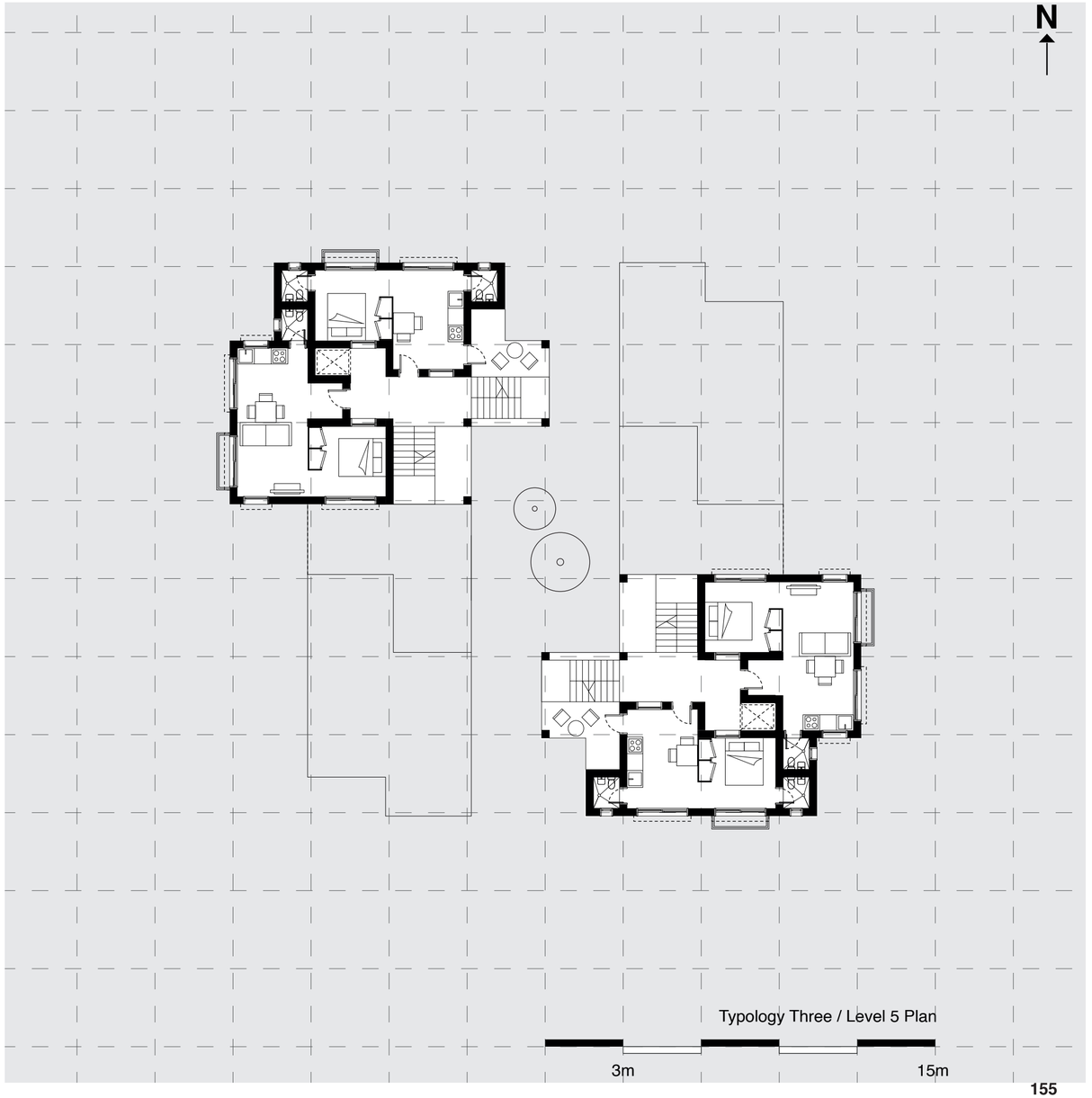
Urban plan



Axonometric



Floor axonometry




विनायक निवास

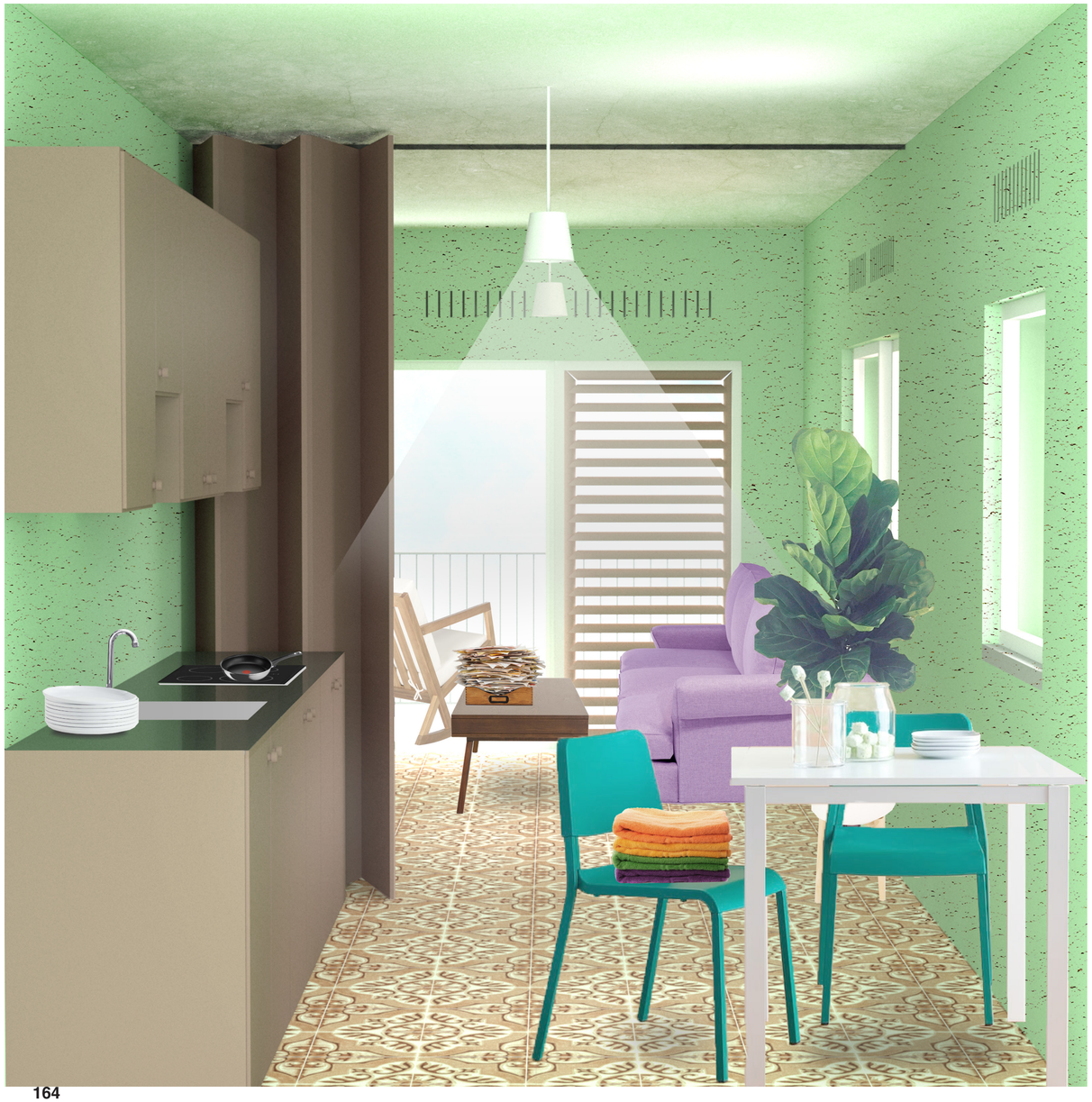








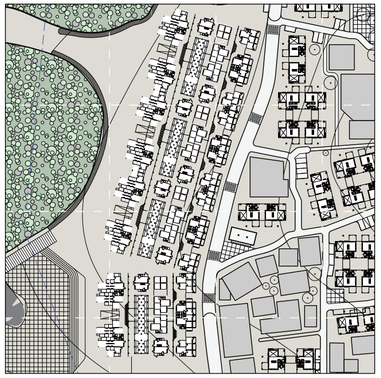

ATAN CHEMIST
Chemist & Druggist



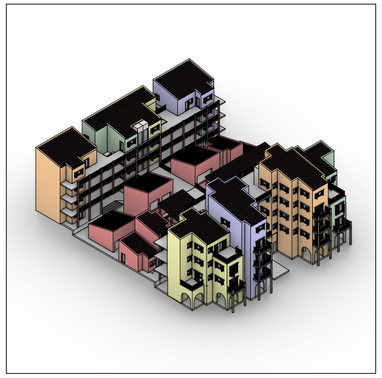


VILLAGE SEAFRONT TYPOLOGY
- LEVEL 0 PLAN

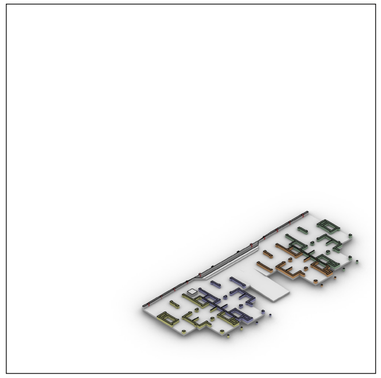
- FACING WEST TOWARDS THE SEA
- STORAGE SPACE & WORKING AREAS FOR FISHERMEN



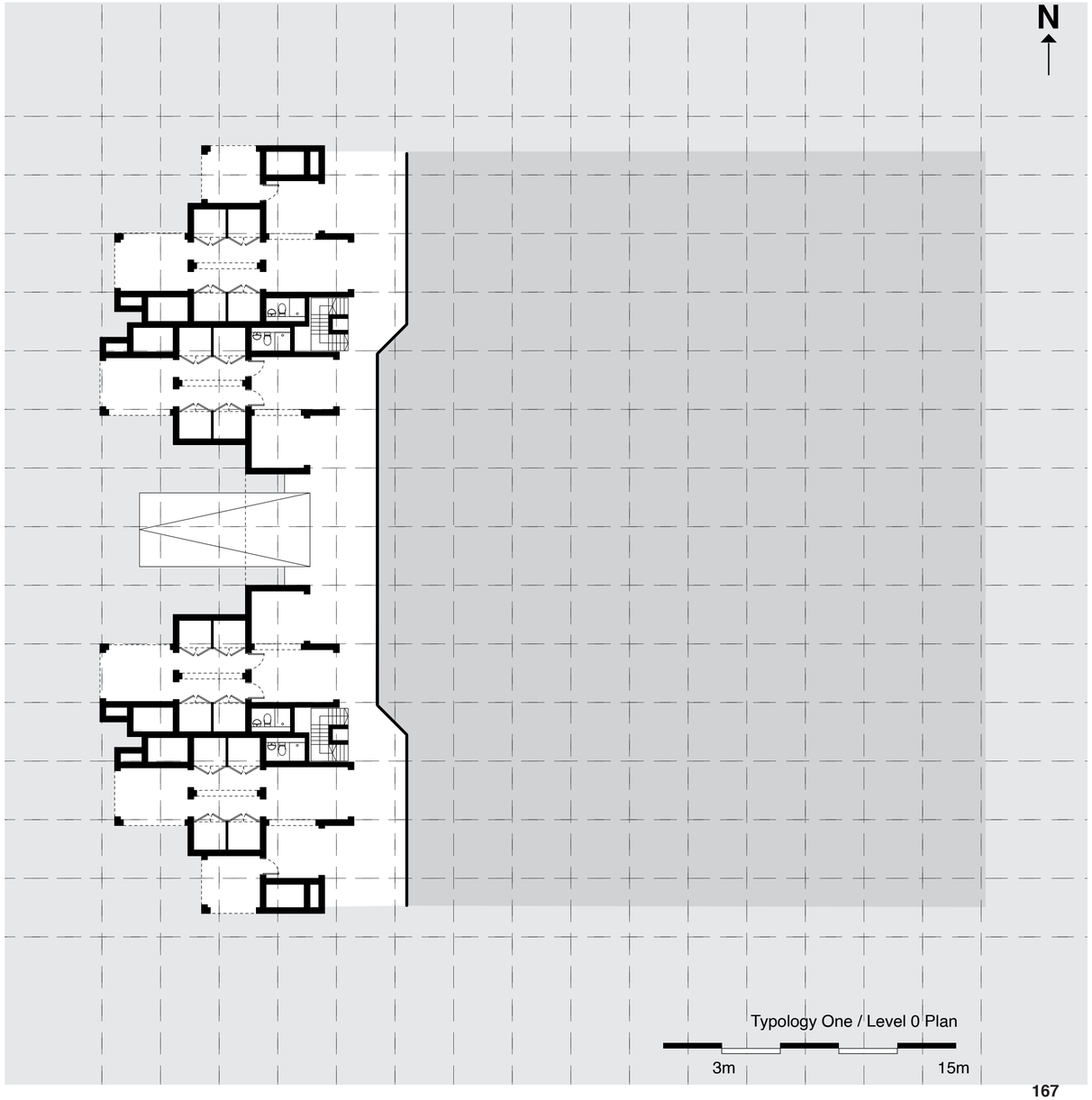
Urban plan



Axonometric

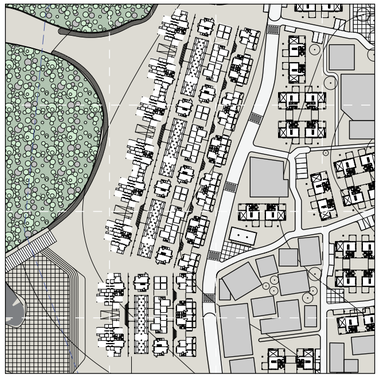


Floor axonometry

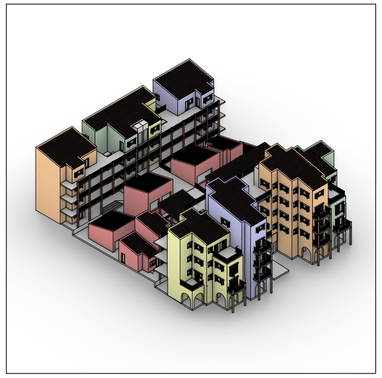


VILLAGE SEAFRONT TYPOLOGY
- LEVEL 0.5 PLAN

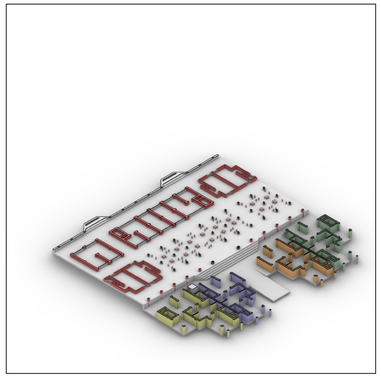
- FISH MARKET, PARTLY OPEN PLAN & SMALLS SHOPS



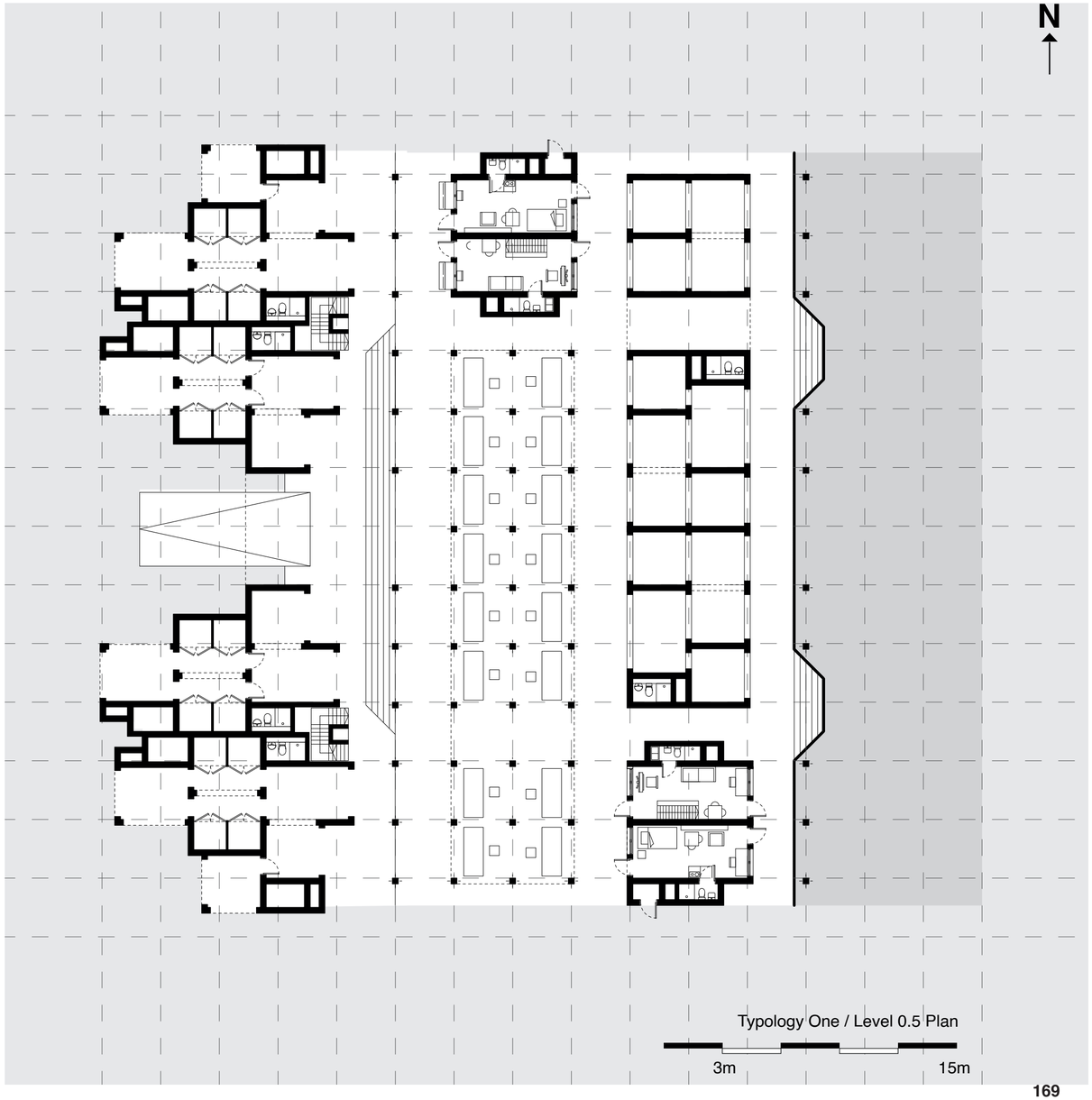
Urban plan



Axonometric

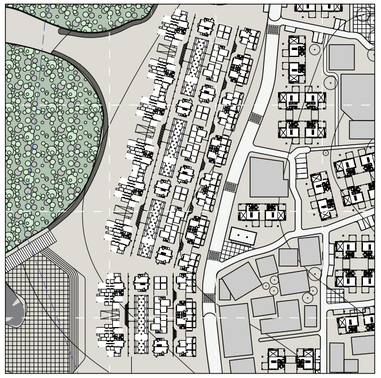


Floor axonometry

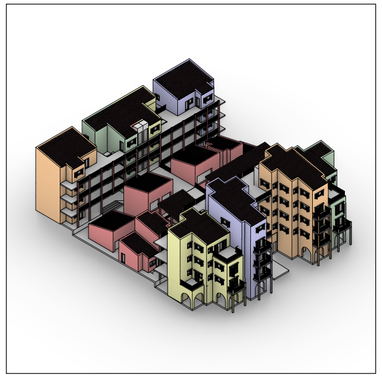


VILLAGE SEAFRONT TYPOLOGY
- LEVEL 1 PLAN

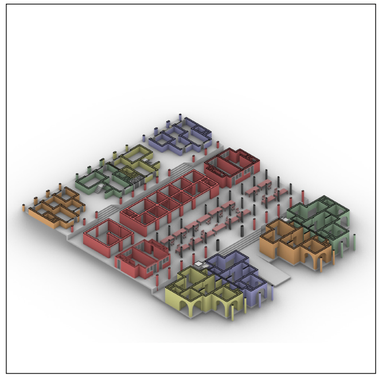
- OFFICES, RESTAURANTS & SHOPS



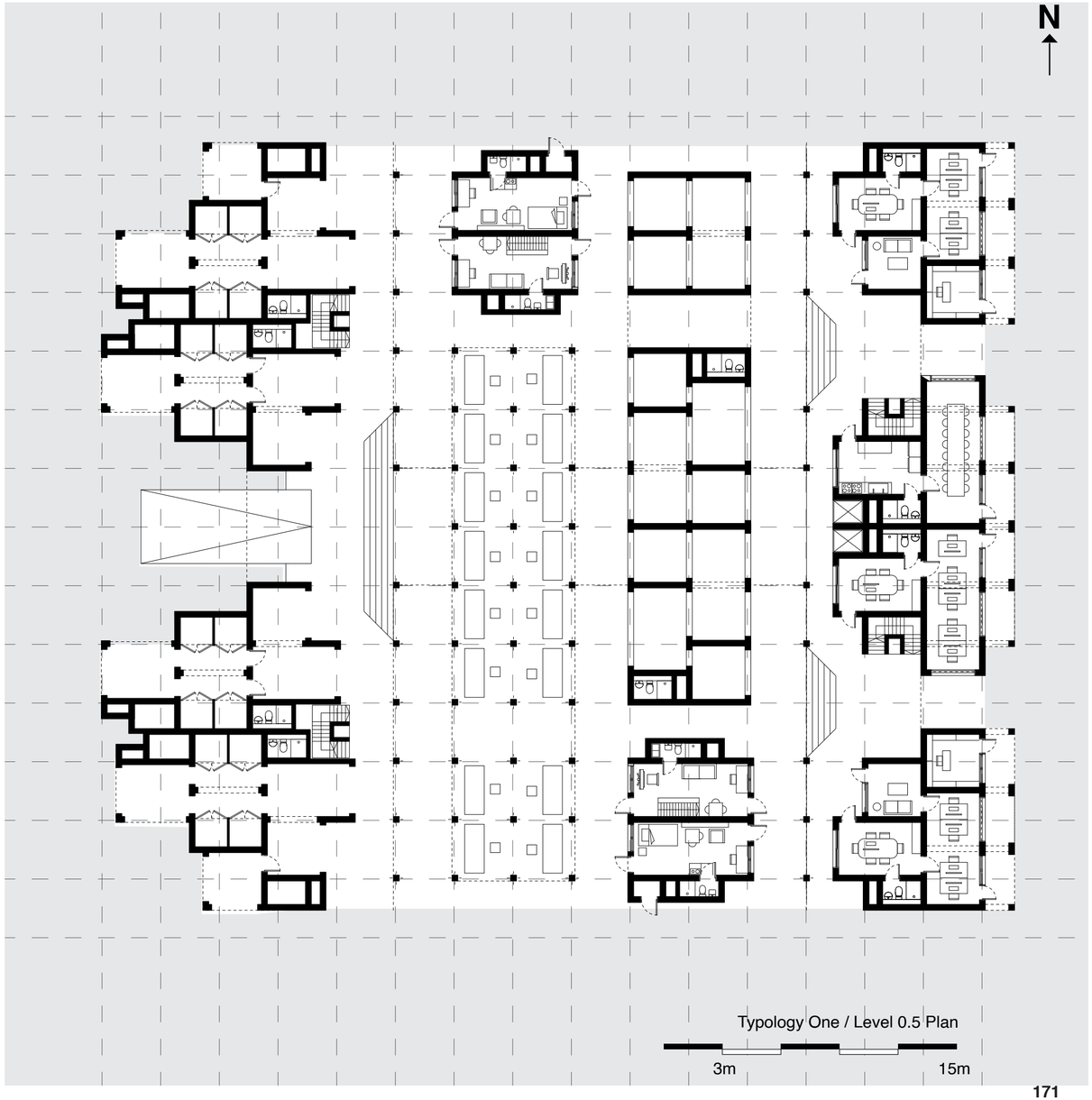
Urban plan



Axonometric

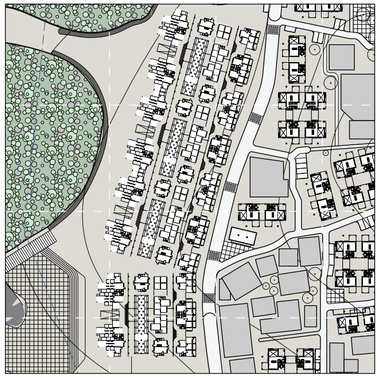


Floor axonometry

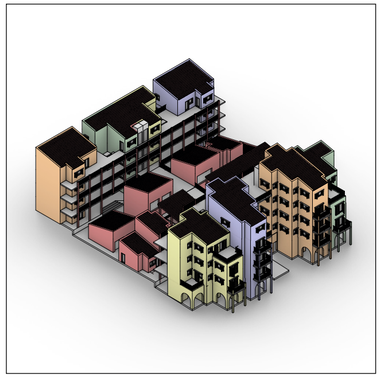


VILLAGE SEAFRONT TYPOLOGY
- LEVEL 2 PLAN

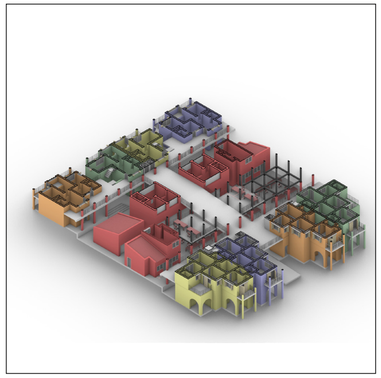
- FISH MARKET CONTINUES SURROUNDED BY DWELLINGS
- A RAMP CONNECTS EVERYTHING
- DWELLINGS INTENDED FOR MIDDLE INCOME FAMILIES
& YOUNG PROFESSIONALS



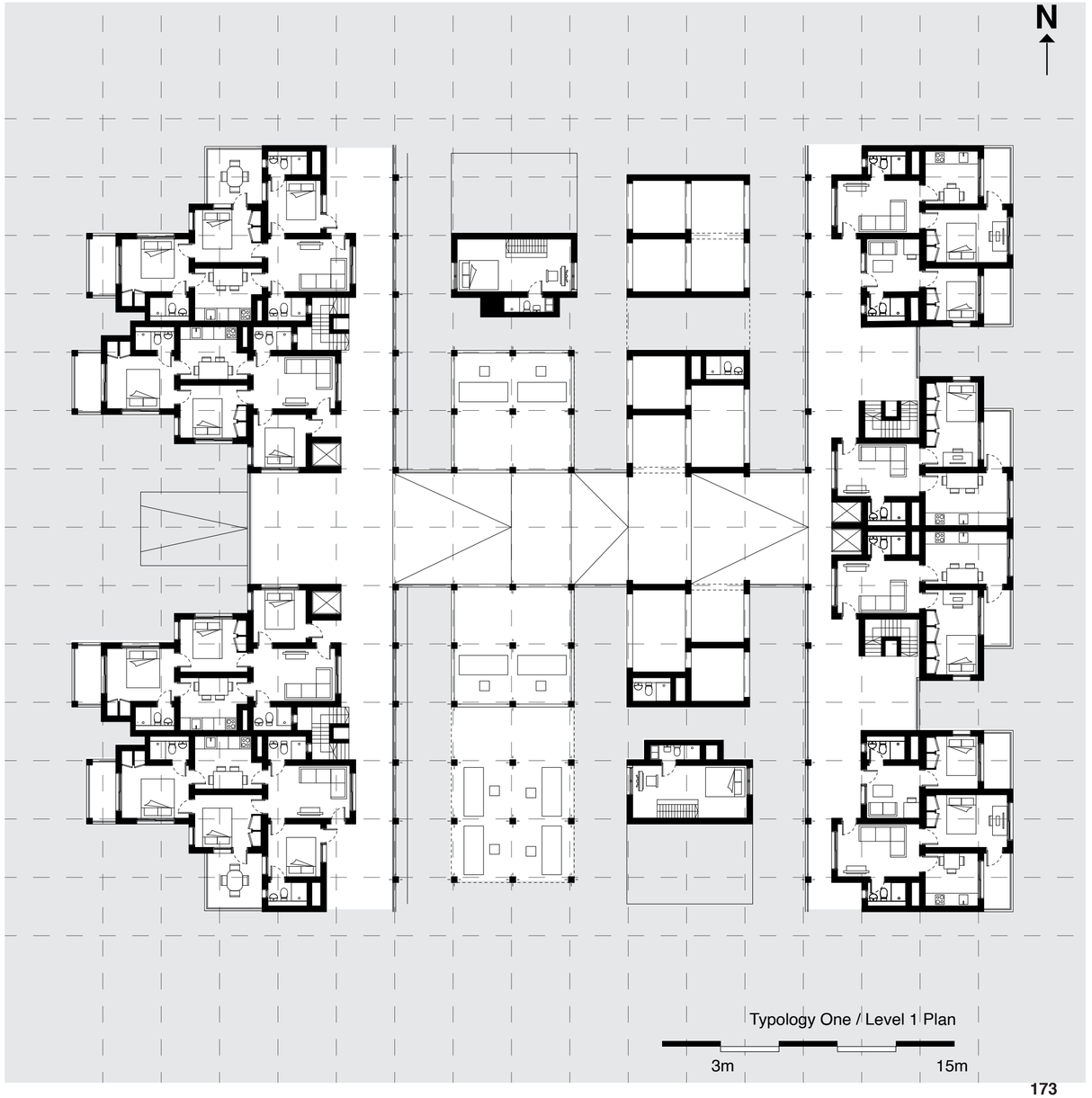
Urban plan



Axonometric

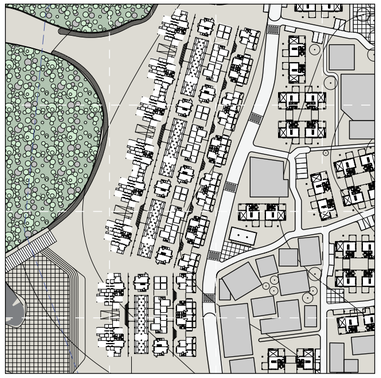


Floor axonometry

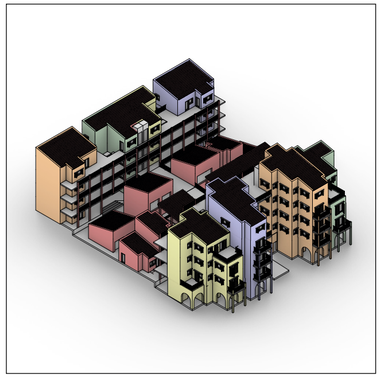


VILLAGE SEAFRONT TYPOLOGY
- LEVEL 3 PLAN

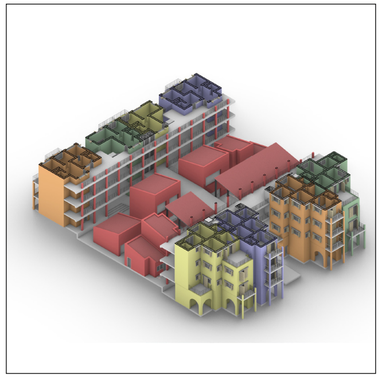
- ONLY DWELLINGS REMAIN



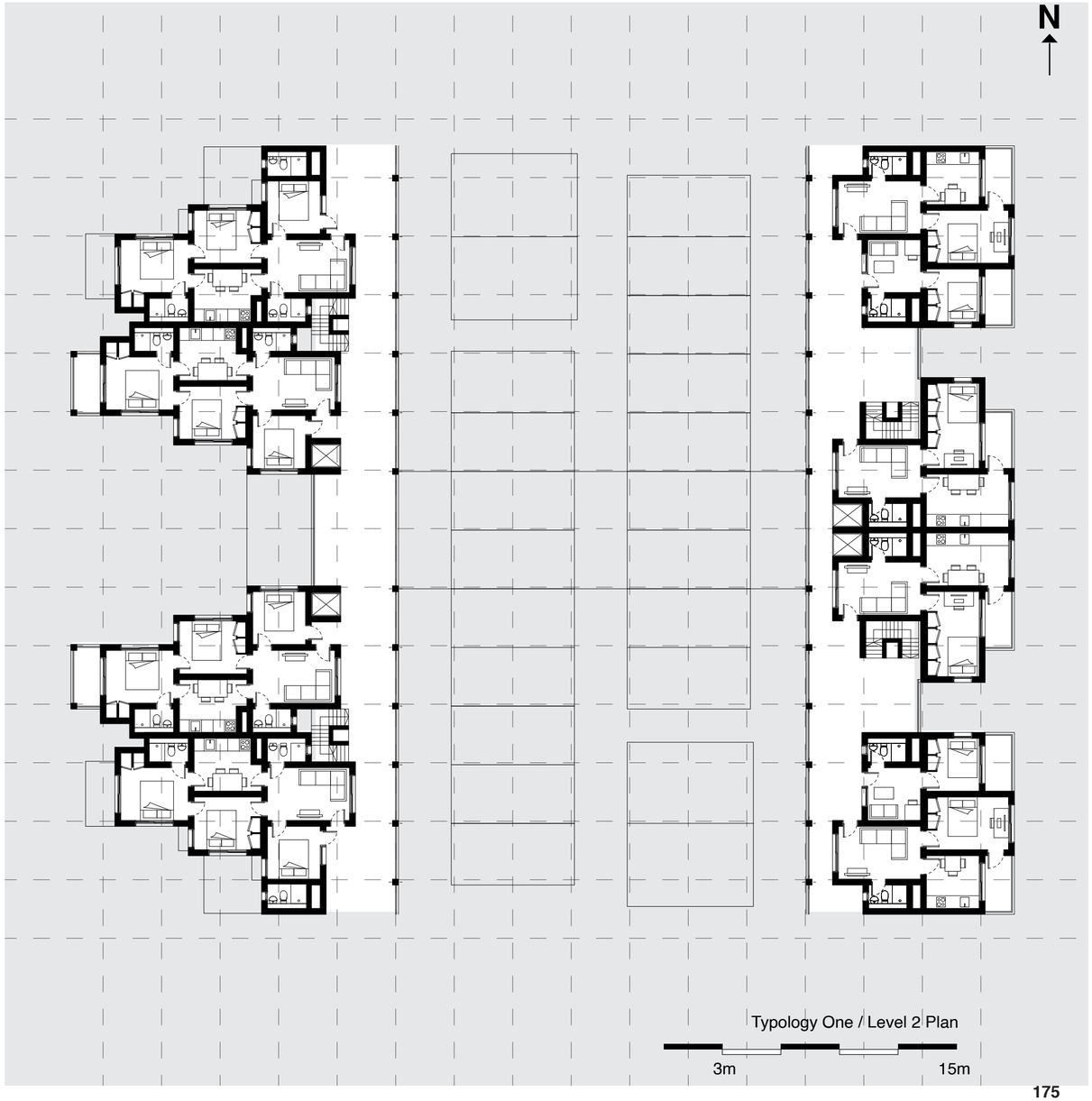
Urban plan



Axonometric

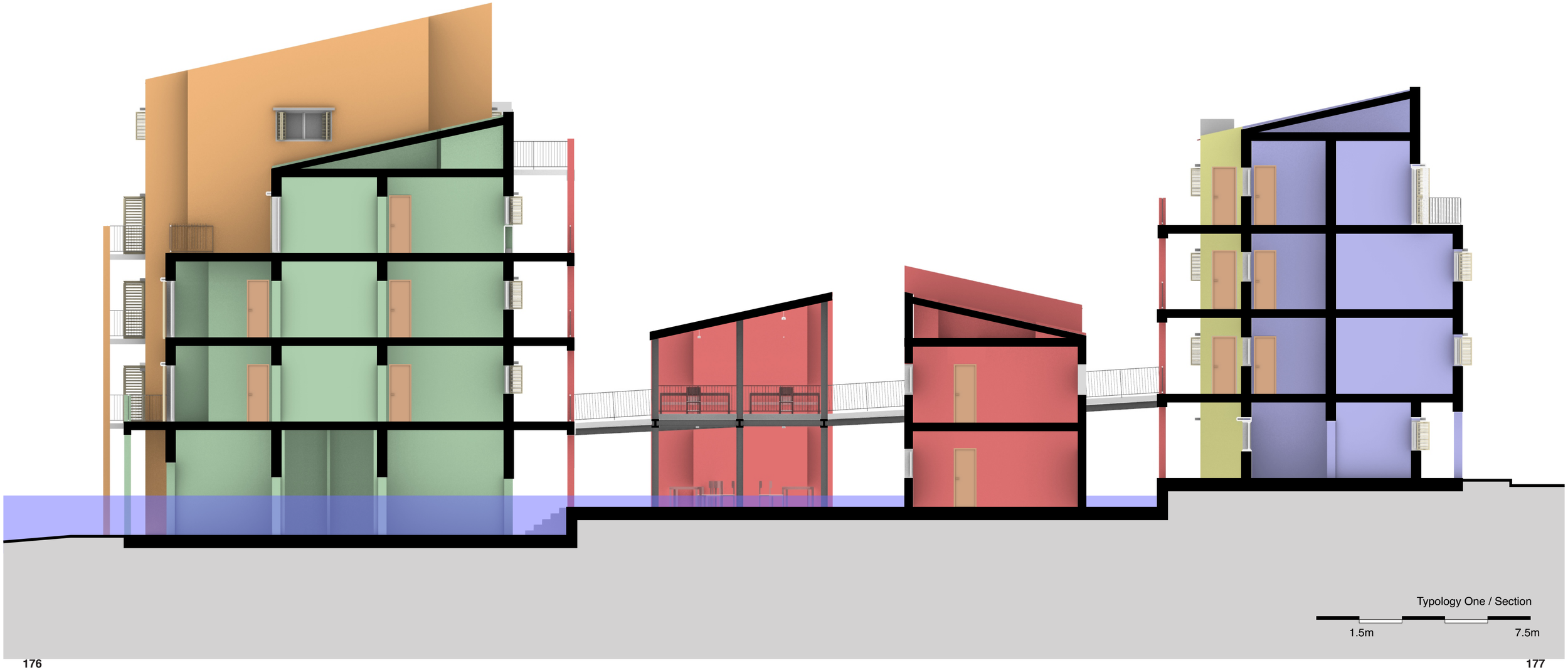


Floor axonometry



VILLAGE SEAFRONT TYPOLOGY
- SECTION

- FLOODING DURING MONSOON




पत्रीवाला
कुंवरजी आणि कं.
and Cooverji & Co.








VIZAG
Opticians

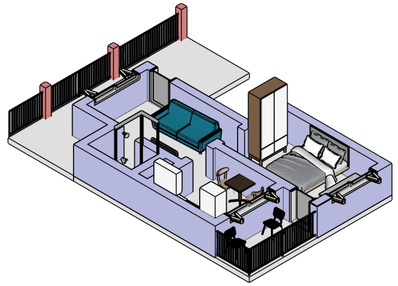




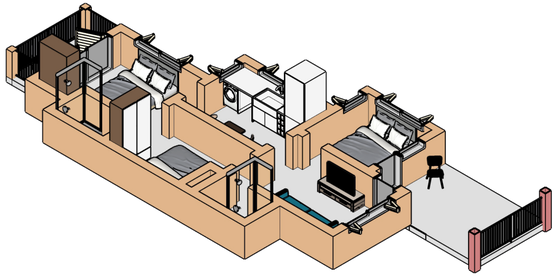


APARTMENTS PER TYPOLOGY

- DIFFERENT USERS
- MIDDLE INCOME FOR SEAFRONT
- EXISTING LANDOWNERS FOR CENTRE
- NEWCOMERS FOR EDGE

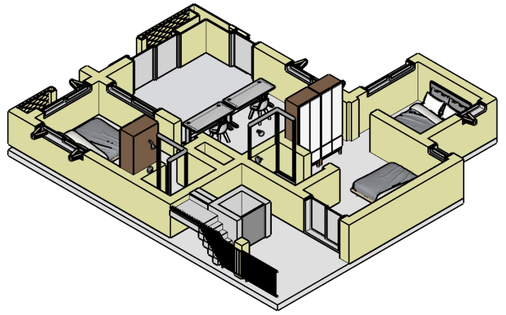


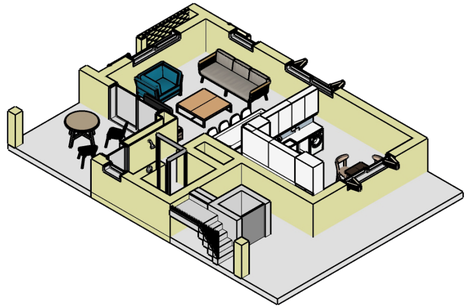
Apartment A
Area: 36.7m2
Bedroom: 1
User: Young couple



Apartment B
Area: 55.4m2
Bedrooms: 3
User: Family (commuters)

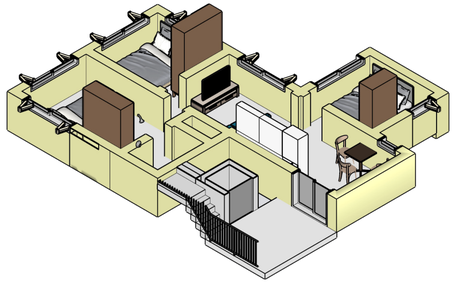
TYPOLOGY VILLAGE
SEAFRONT



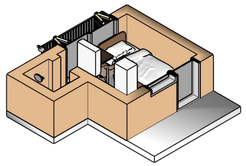


Duplex A
Area: 109.8m2
Bedrooms: 3
User: Family (existing landowners)

TYPOLOGY VILLAGE
CENTRE



Apartment A
Area: 52.4m2
Bedrooms: 3
User: Family

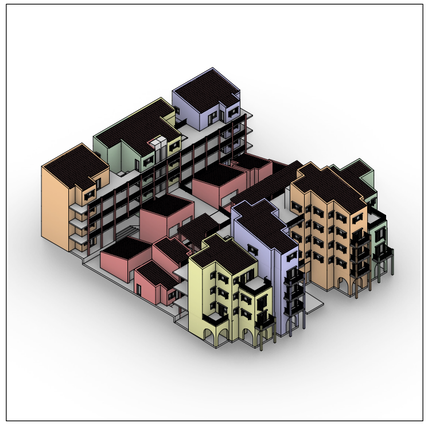


Apartment B
Area: 10.4m2
Bedrooms: 1
User: Rural migrants, Students

TYPOLOGY VILLAGE
EDGE

DENSITY BENCHMARKS

- CALCULATION OF AREAS



AXONOMETRIC

Typology Village Seafront

Types of dwellings

8 x Type A 1Bed (22sqm)
≈ 176sqm
8 x Type B 1Bed (40sqm)
≈ 320sqm
16 x Type C 1Bed (45sqm)
≈ 720sqm
14 x 3Bed (75sqm)
≈ 1050sqm

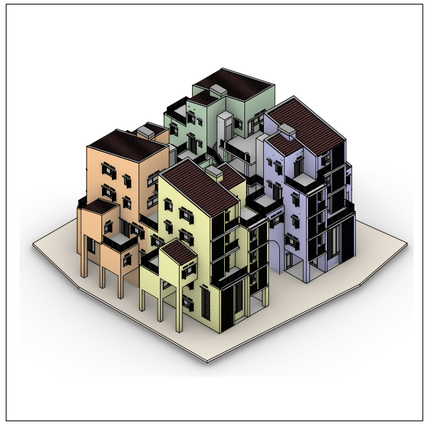
Total Area of Dwellings
≈ 2270sqm (60%)

Total Number of Dwellings
= 46

Non-Residential Area
≈ 800sqm (21%)

Additional Area
≈ 675sqm (18%)

Total Built Area
≈ 3745sqm



AXONOMETRIC

Typology Village Centre

Types of dwellings
4 x Type 1Bed (40sqm)
≈ 160sqm
4 x Type 2Bed (60sqm)
≈ 240sqm
4 x Type A 3Bed (90sqm)
≈ 360sqm
4 x Type B 3Bed (120sqm)
≈ 480sqm

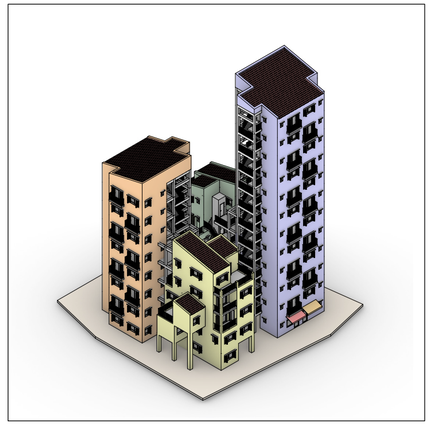
Total Area of Dwellings
≈ 1240sqm (92%)

Total Number of Dwellings
= 16

Non-Residential Area
= 0sqm (0%)

Additional Area
≈ 100sqm (8%)

Total Built Area
≈ 1340sqm



AXONOMETRIC

Typology Village Edge

Types of dwellings
16 x Type A Studios (11sqm)
≈ 176sqm
16 x Type B Studios (14sqm)
≈ 224sqm
48 Type A 1Bed (30sqm)
≈ 1440sqm
2 x Type B 1Bed (40sqm)
≈ 80sqm
2 x 2Bed (50sqm)
≈ 100sqm
2 x Type A 3Bed (60sqm)
≈ 120sqm
2 x Type B 3Bed (75sqm)
≈ 150sqm

Total Area of Dwellings
≈ 2290sqm (71%)

Total Number of Dwellings
= 88

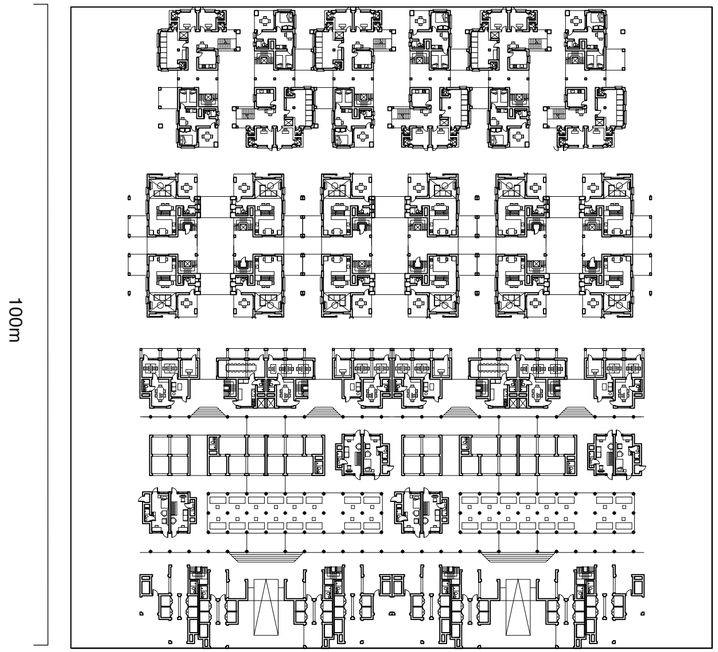
Non-Residential Area
≈ 200sqm (6%)

Additional Area
≈ 760sqm (23%)

Total Built Area
≈ 3250smq

DENSITY BENCHMARKS

- CALCULATION OF DW/HA, FSI, GSI



LAYOUT USED FOR CALCULATIONS

DW/HA breakdown

Typology Village Seafront
2 x 46(Dwellings) = 92
Typology Village Centre
3 x 16(Dwellings) = 48
Typology Village Edge
3 x 88(Dwellings) = 264

Total = **404 DW/HA**

FSI breakdown

Typology Village Seafront
2 x 3745sqm (Built Area) = 7490sqm
Typology Village Centre
3 x 1340sqm (Built Area) = 4020sqm
Typology Village Edge
3 x 3250sqm (Built Area) = 9750sqm

Total Area = 21260sqm/10000
= **2.1 FSI**

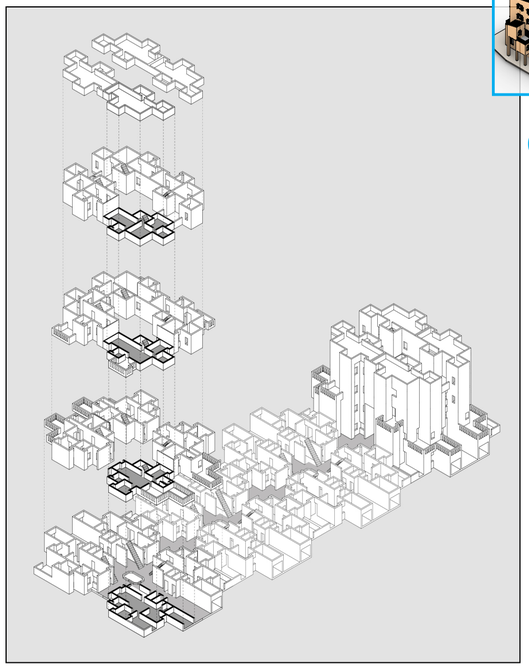
GSI breakdown

Typology Village Seafront
2 x 1152sqm (Ground Floor) = 2304sqm
Typology Village Centre
3 x 360sqm (Ground Floor) = 1080sqm
Typology Village Edge
3 x 342sqm (Ground Floor) = 1026sqm

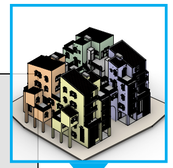
Total Area = 4410sqm/ 10000
= 0.44 GSI

CONCLUSIONS - DENSITY COMPARISON

- GSI CLOSE TO SHEIK SARAI & FSI OF MASS HOUSING
- DWELLINGS CLOSE TO CIDCO MASS HOUSING
- DIFFERENT KINDS OF DWELLINGS HOWEVER, EG. STUDIOS
- CORROBORATES DESIGN HYPOTHESIS



POST-INDEPENDENCE VILLAGE
LOW-RISE - 'HIGH-DENSITY'



0.44 *GSI:* **0.4**

GSI: **0.14**



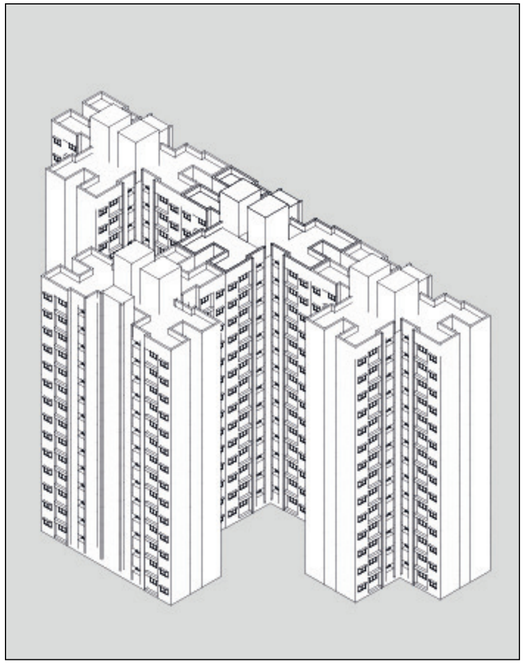
FSI: **1.1**

FSI: **2.1**



DW/HA: **145**

404 *DW/HA:* **410**



CIDCO MASS HOUSING BLOCKS
HIGH-RISE, HIGH-DENSITY

URBAN PLANNING

1. An urban plan should be first worked out in order to manage the specific location problems and characteristics eg. flooding.
2. Plots should be defined based on existing streets. New streets bring safety, accessibility, water drains & sewage pipes.
3. Space and buildings should be dedicated to the local industries, fishing in our example.
4.Some heritage buildings should be preserved.
5. Proximity to transport infrastructure must be taken into consideration.
6. Clever allocation of functions other than residential according to context.

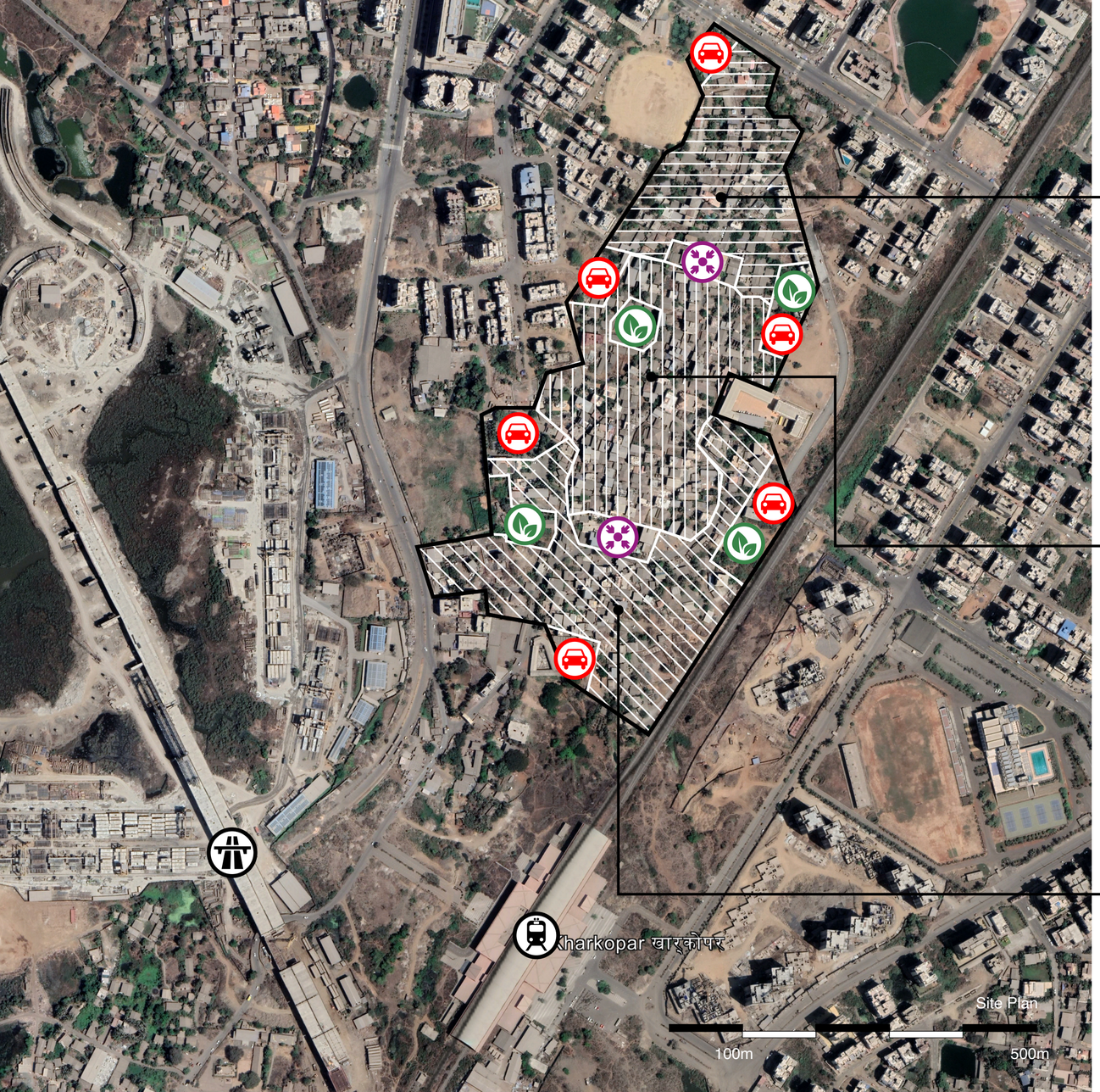
STAKEHOLDERS

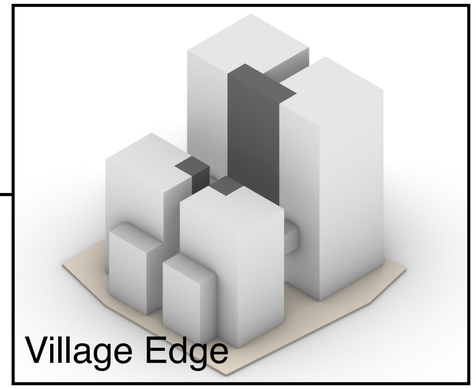
1. The community council or other authority should mediate between landowners and contractors, manage communal land and raise money from rent and taxes for its services.
2. Landowners should receive property according to the amount of land they own and an estimation of the property they would own based on individual development.
3. Contractors receive property as reward payment for their services.

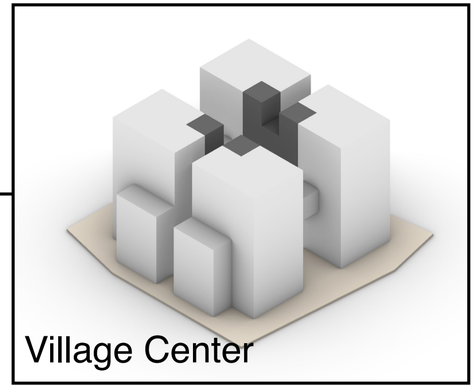
RESIDENTIAL

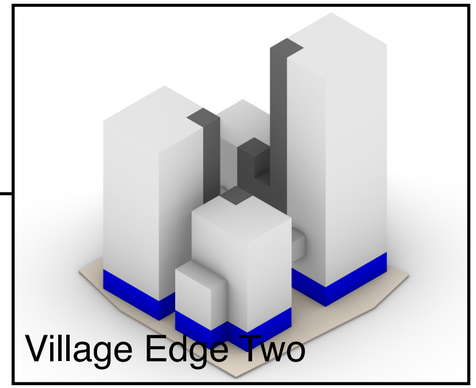
1. Residential typologies should be cleverly allocated to achieve a balance between wanted density and maintenance of the urban village character.
2. Different kinds of dwellings should be provided according to who is aimed at inhabiting them.
3. Village intimacy and scale should be achieved through organised developement with ‘compact’ designs.
4. Higher densities should be achieved with mid-rise but also higher-rise buildings, without compromising the intimate street conditions and remaining competitive to the mass housing schemes.
5. It is ideal that buildings remain porous and accessible for pedestrians replicating the urban village street character.
6. Ground floors should include other functions where it is appropriate in order to support vibrant streets.

PRINCIPLES APPLICATION
- SAI MANDIR VILLAGE




Village Edge


Village Center


Village Edge Two



DESIGN HYPOTHESIS

To design an appropriate strategy and housing typologies for the currently urbanising villages that can provide better quality of life for all future residents, while respecting their ancestral lifestyle.

If the design proposal is deemed promising this would signify that urbanising villages can be worthily pursued as sites of providing afforable and quality housing for the urban poor; an alternative to the aspired model of the mass housing schemes of high-rise buildings.

Housing Typologies

Affordable and of good quality

Support different purposes and urban conditions

Fishing, village life, densification

Pragmatic sizes follow the competitive housing market

Question Mass Housing Scheme

As a model for housing the urban poor

As aspiration stemming from marketisation of housing for NRI's and other foreign investors

Problematic model for a number of reasons we are familiar in the West

Mass housing does not reach EWS anyway

Urban Planning

Community benefits as a whole

Supports healthy planned growth

Follows the concept and spirit of Navi Mumbai

Supports healthy informal development (sites and services approach) infrastructure is provided

Heritage

Respect heritage buildings and preserve them

Managed alongside other communal space by the grassroots authority

Community

Usually excluded from participation politically, disregarded in urban planning

Problematically find support in regionalist party Shiv Sena

Support New Influx of Residents

Existing grassroots community taken care of first

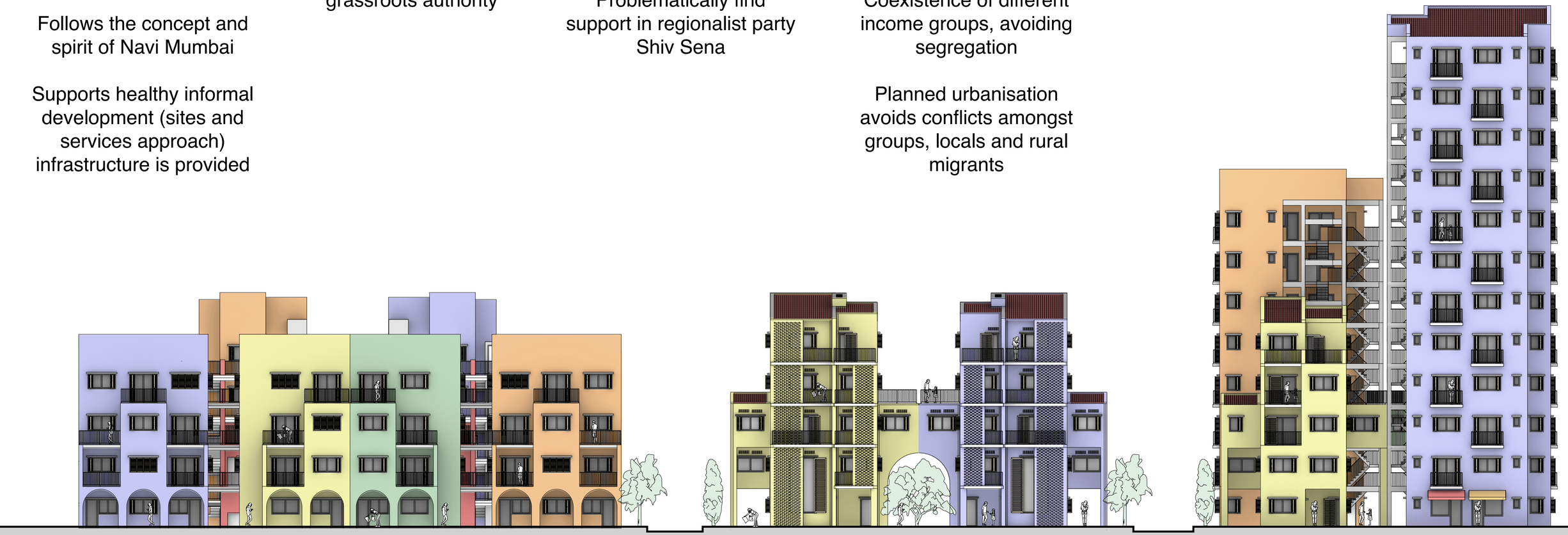
Coexistence of different income groups, avoiding segregation

Planned urbanisation avoids conflicts amongst groups, locals and rural migrants

Density

Contest mass housing schemes

Create vibrant neighborhoods



Informal economy - fishing

Respects ancestral lifestyle

Non destructive for the ecosystem

Employment of both men and women of the community

Support the ecosystem

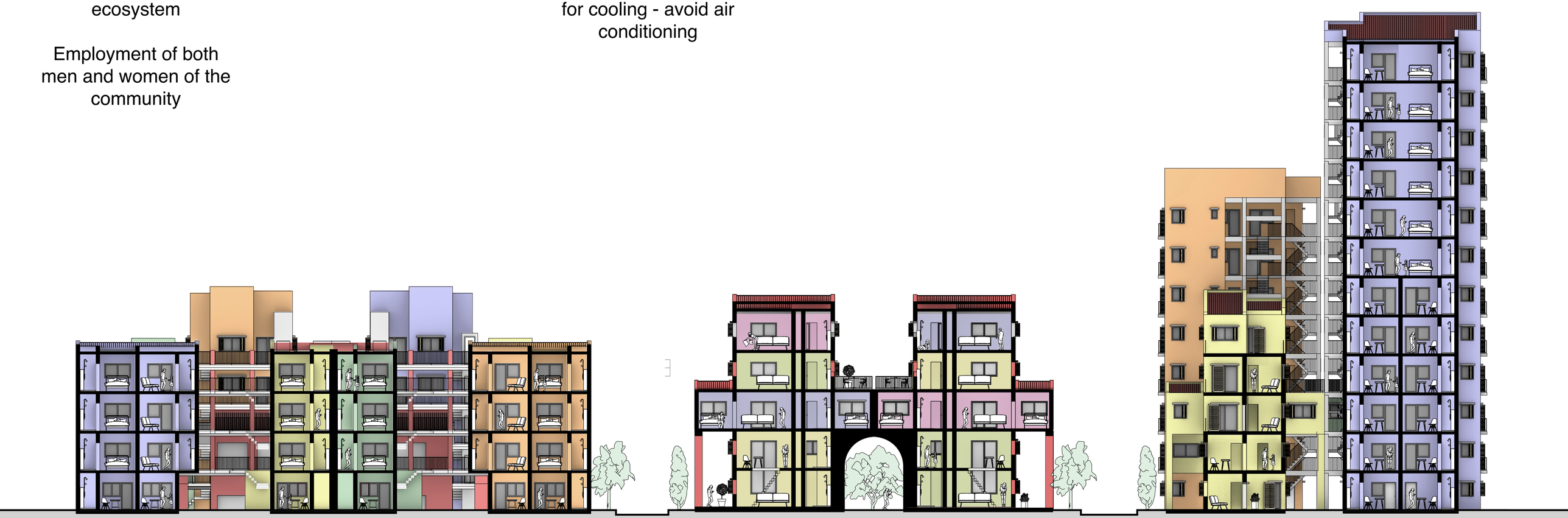
Respect and increase the mangrove area

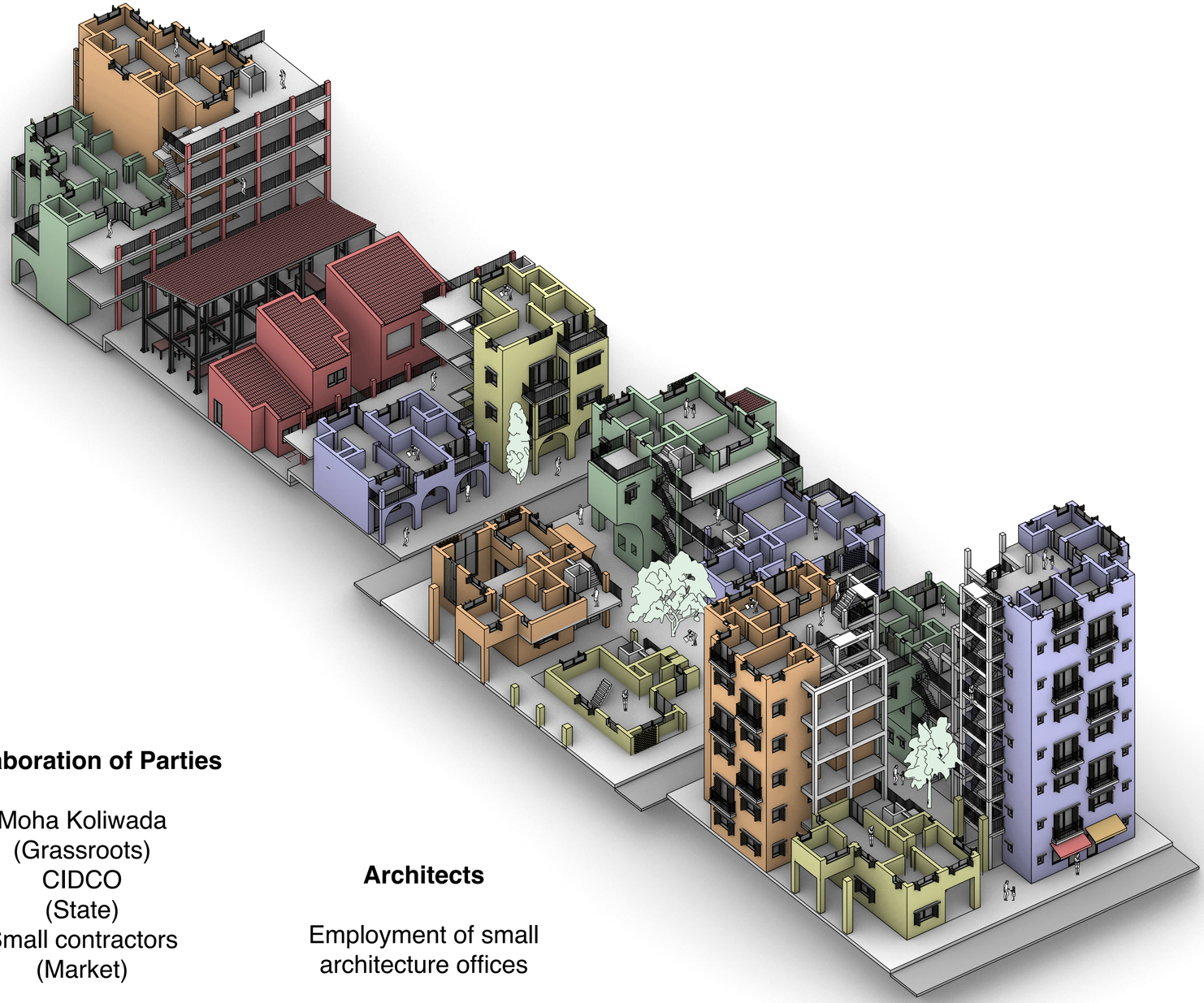
Incorporate trees and vegetation

Sustainability

Use of materials friendly to the environment as much as possible

Use of natural ventilation for cooling - avoid air conditioning





Inspiration from India

Inspiration from Indian modernism for housing typologies

New stakeholders involved to address grassroots groups and different political and economical reality

Collaboration of Parties

Moha Koliwada
(Grassroots)
CIDCO
(State)
Small contractors
(Market)

Architects

Employment of small architecture offices

Colour

Part of the aesthetics of the community and celebrated

Part of the aesthetics of numerous low income communities around the world

Criticise black and white aesthetics found in academia

Informality

Basis of new planned developments, eg. existing streets, functions

Coexists with planned developments within the villages

Lesson to plan for mixed-use developments

Inspiring but should not be romanticised by our Western eyes as ideal

Address its problems



Association with the Formal City

Urbanised villages that grow alongside the city

Not leftover from planned city and just informally developed

Avoid their eradication as much as possible, there is space for them and they can contribute to the city

Thank you