



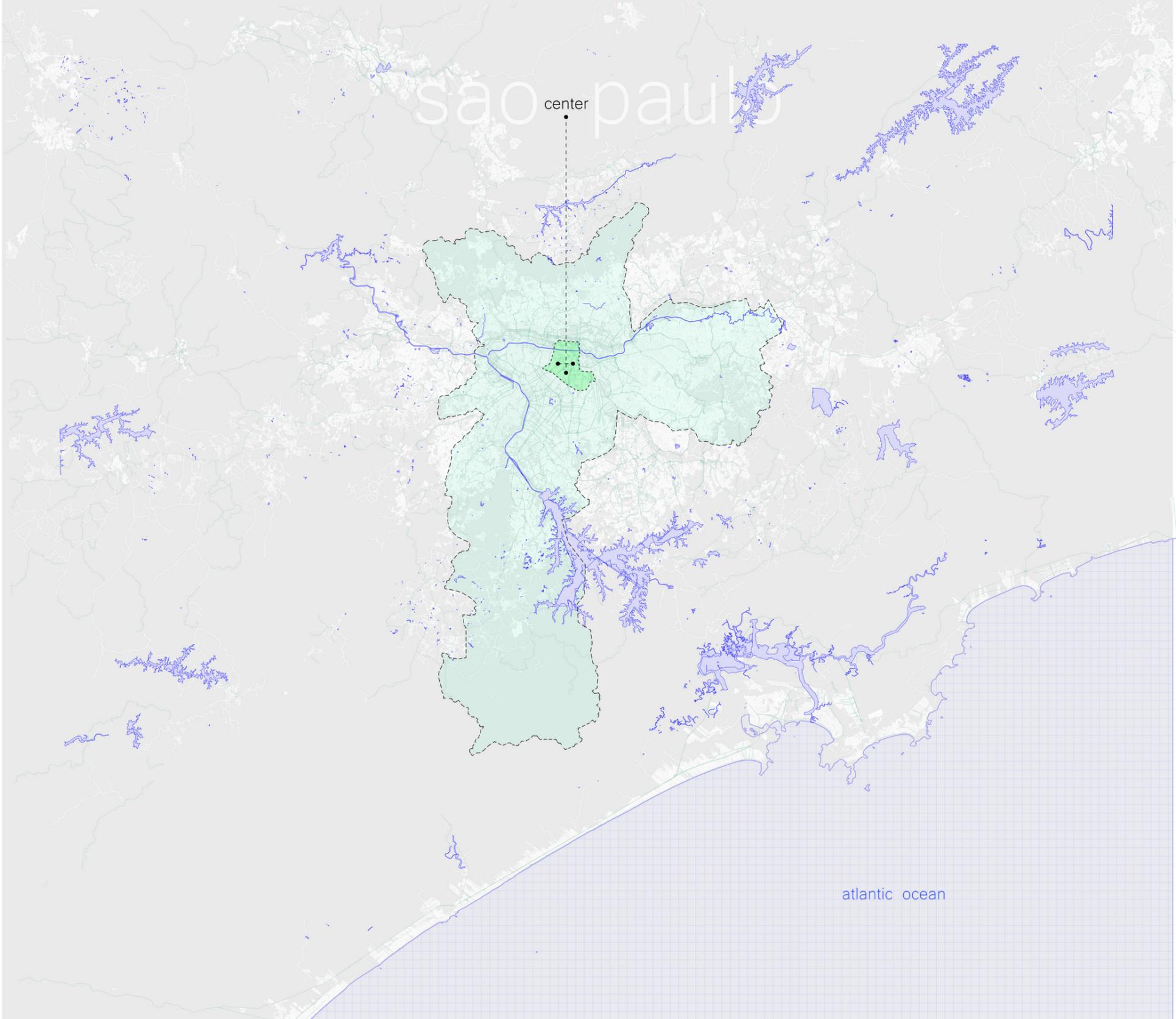
***_sense of place
within transience***

[reconfiguring permanence in states of precarity]

Sao Paulo, Brazil

10 November 2023 / P5

Angelina Torbica
5608376

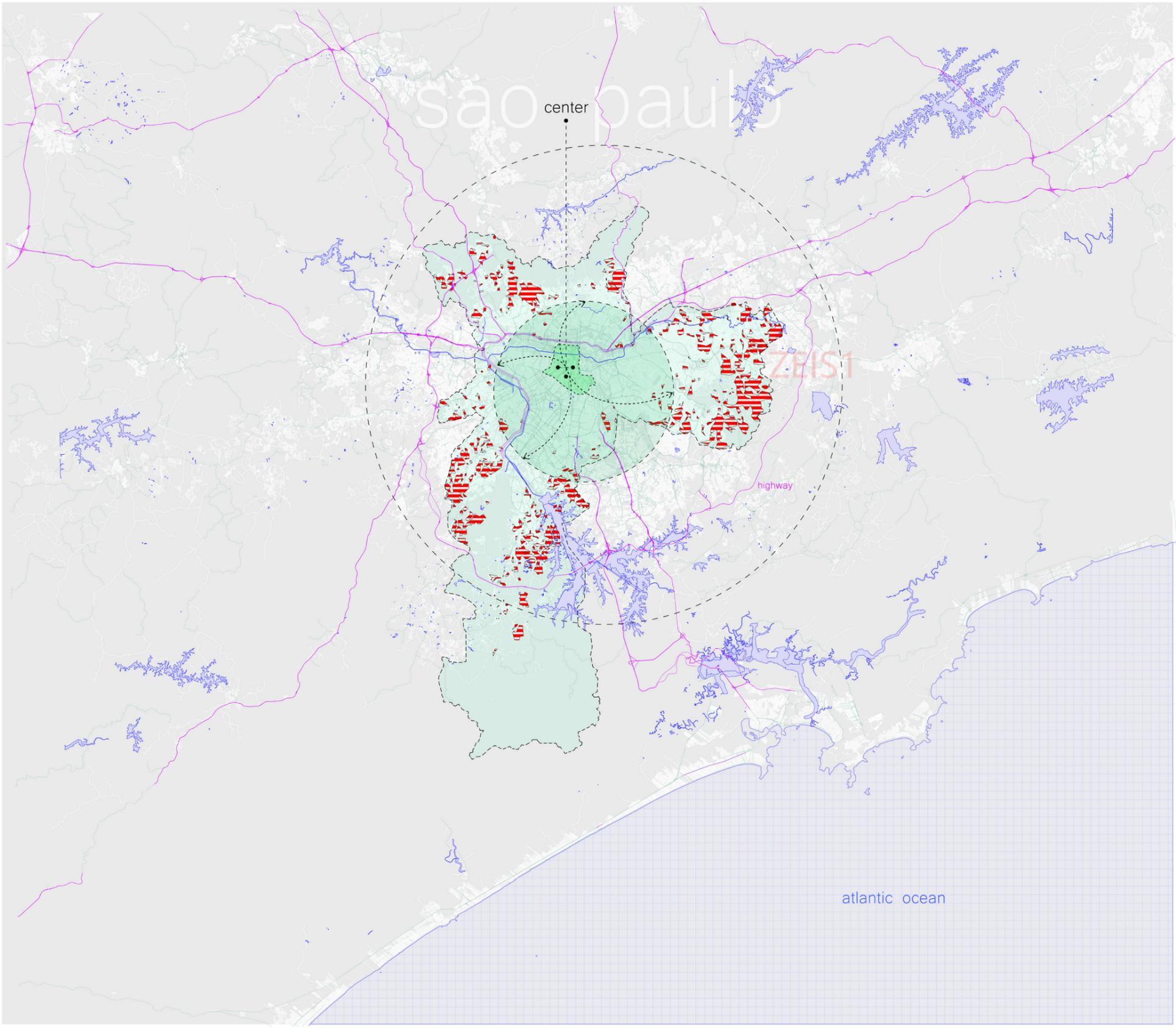


sao paulo
center

atlantic ocean

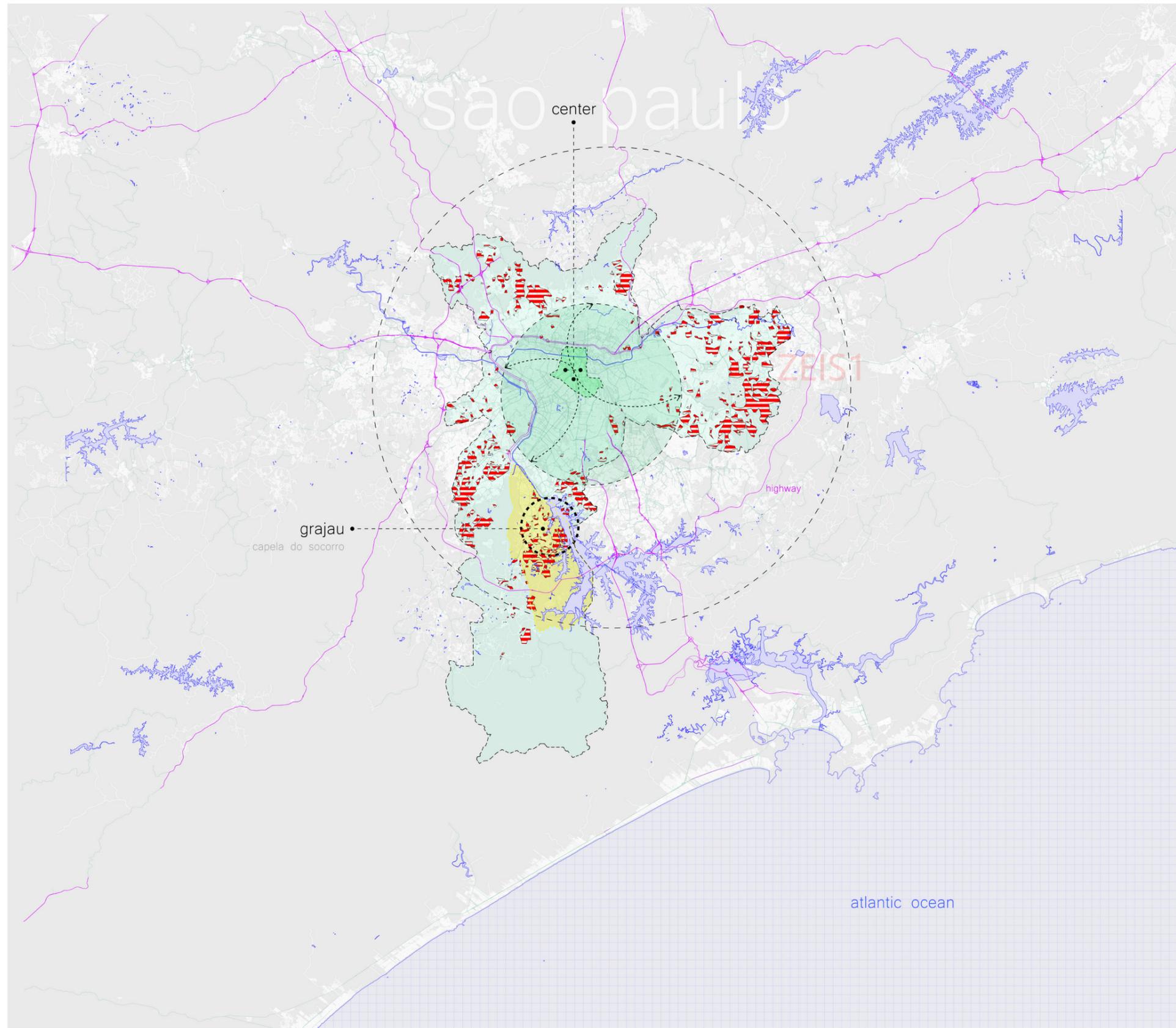
- central district
- sao paulo perimeter
- water body

sao paulo, brazil



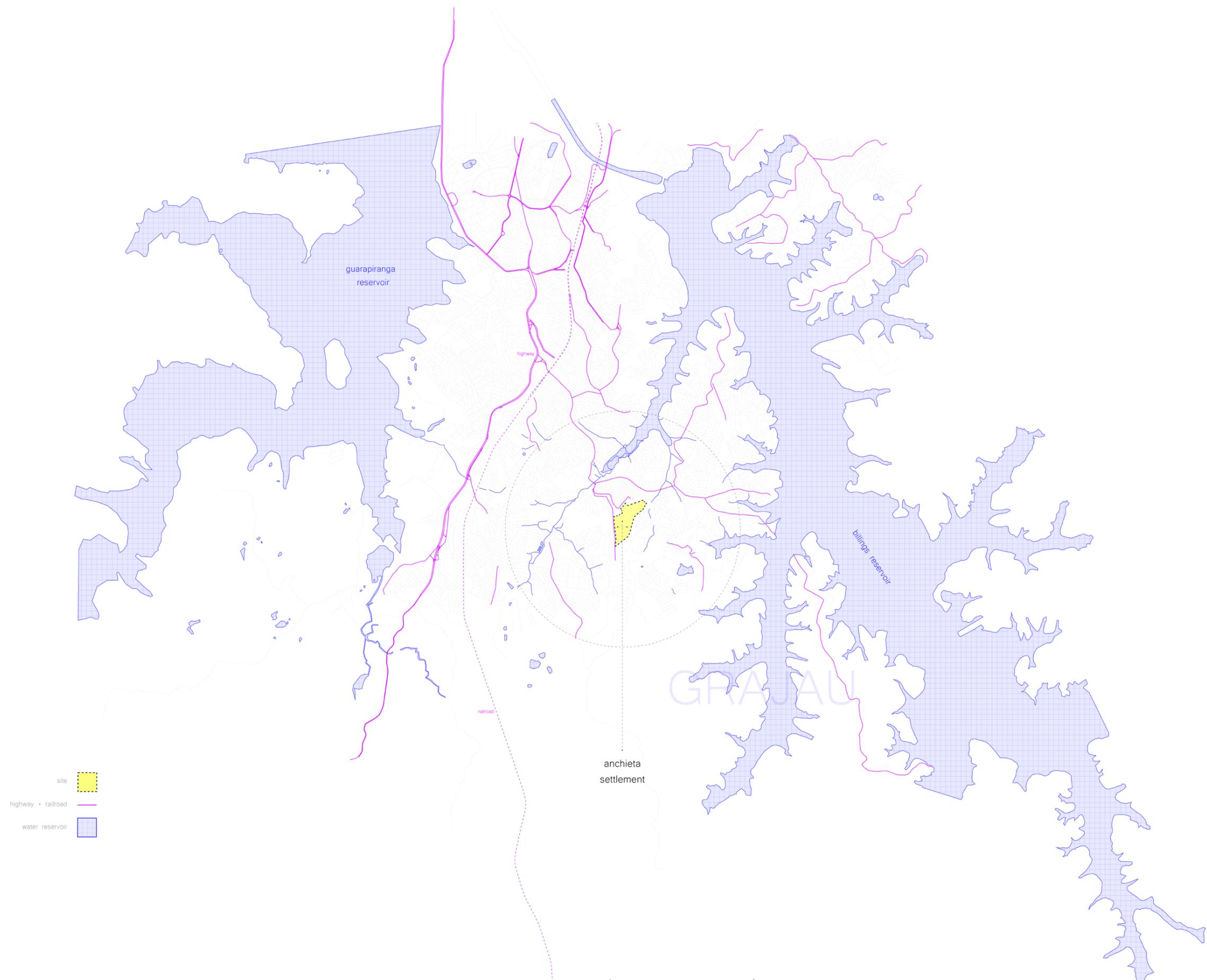
- ZEIS 1 
- highway 
- central district 
- sao paulo perimeter 
- water body 

ZEIS 1

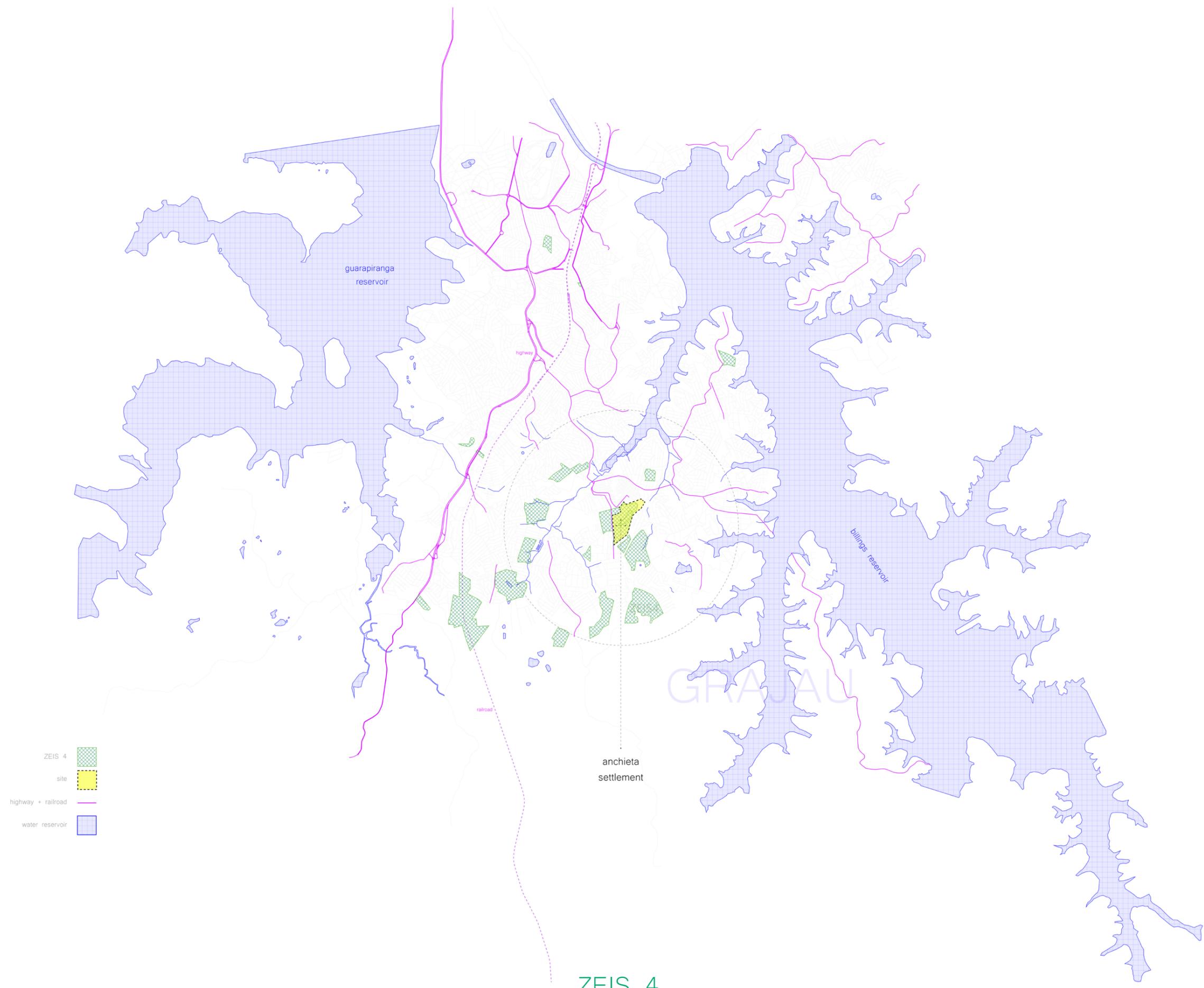


- capela do socorro district
- ZEIS 1
- highway
- central district
- sao paulo perimeter
- water body

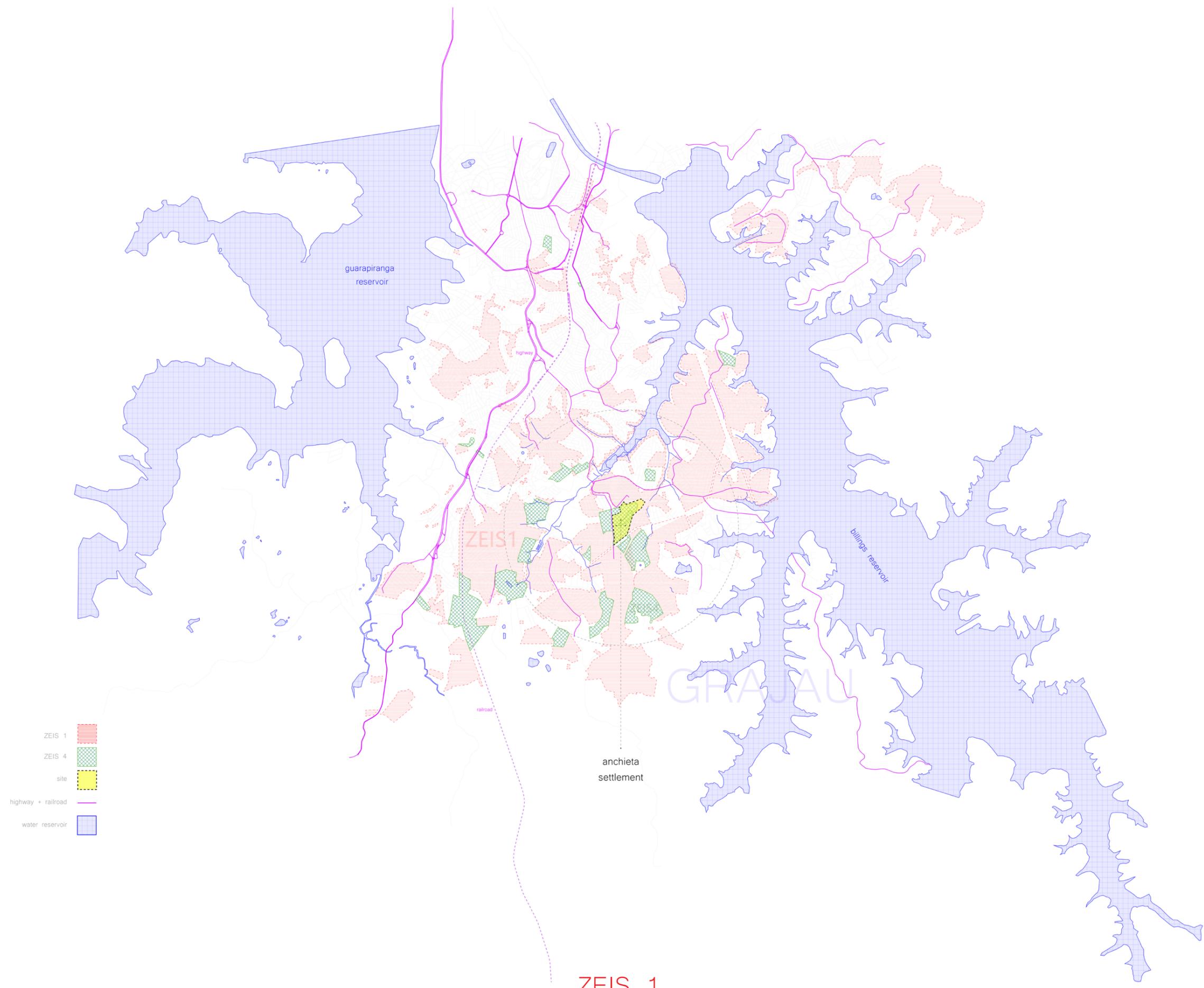
area of intervention



grajau, sao paulo



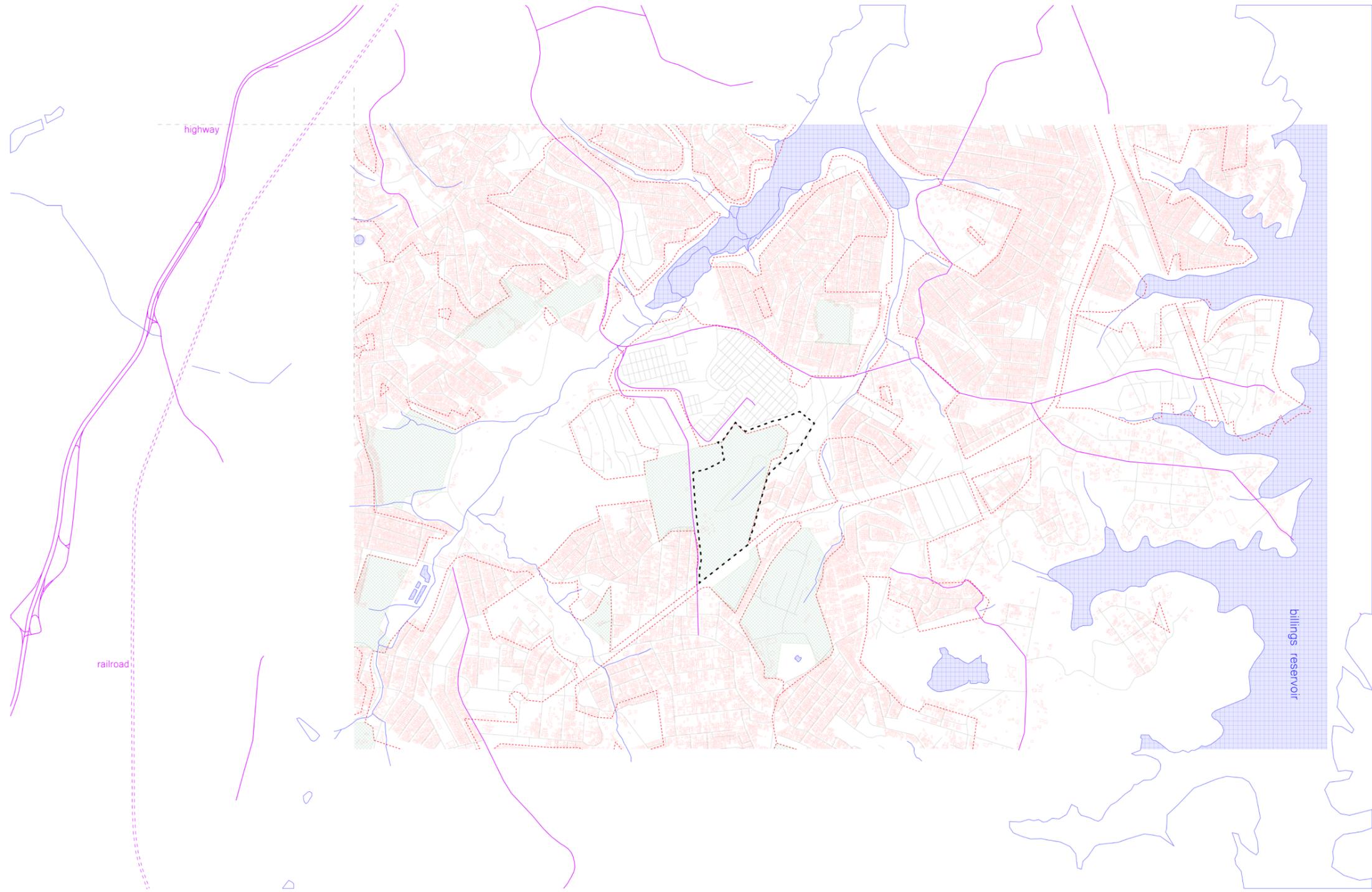
ZEIS 4



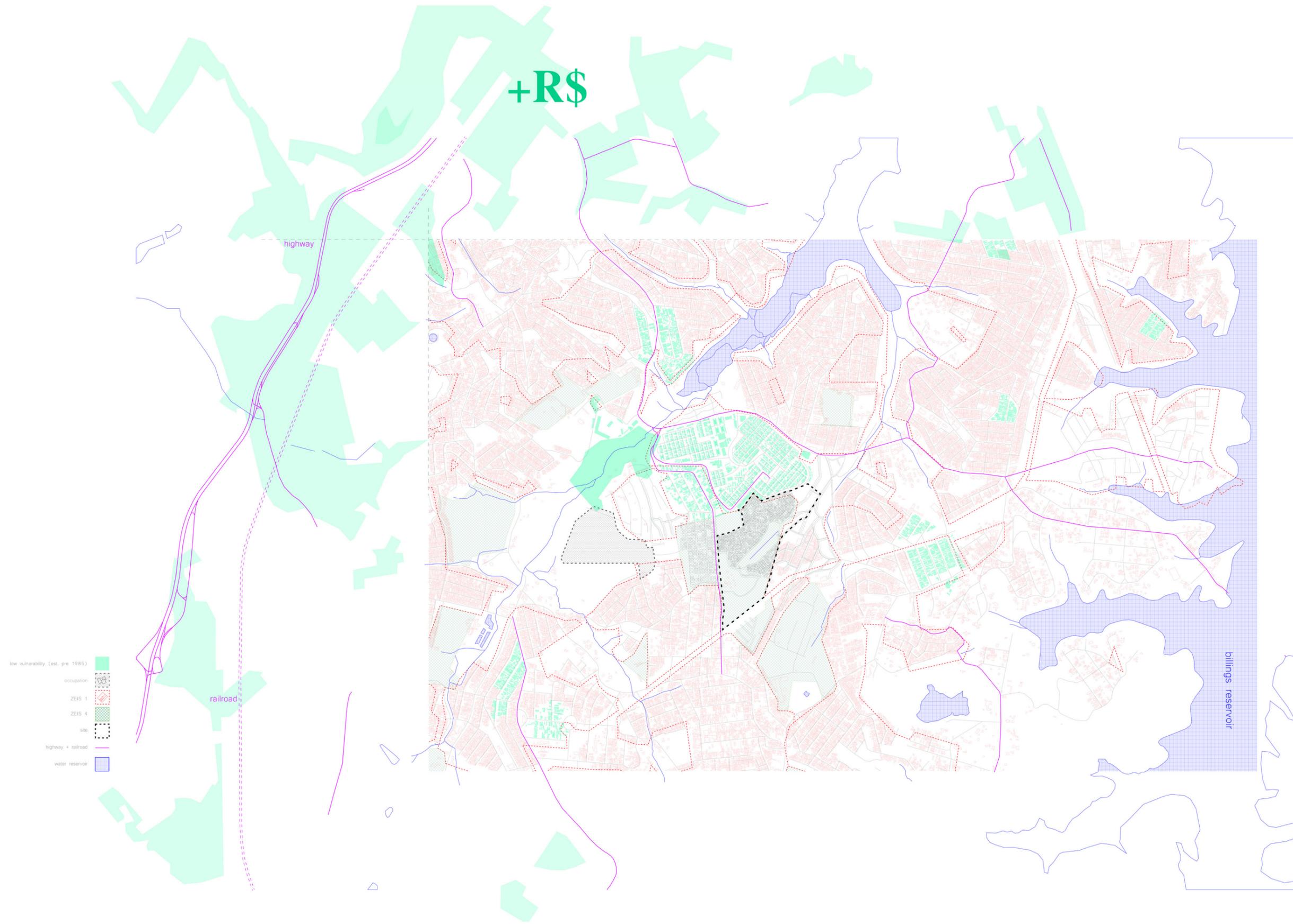
- ZEIS 1
- ZEIS 4
- site
- highway + railroad
- water reservoir

ZEIS 1

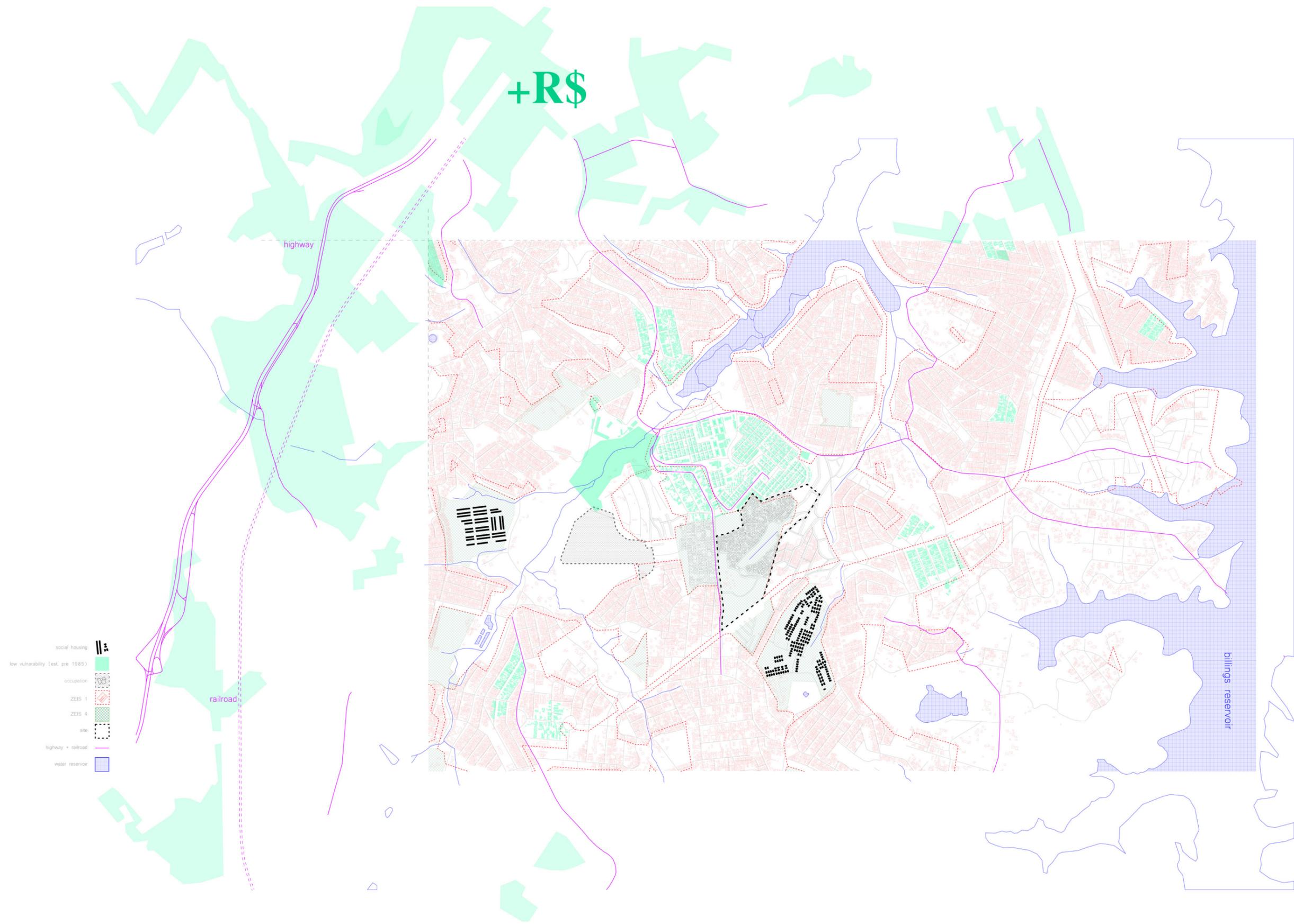
- ZEIS 1 
- ZEIS 4 
- site 
- highway + railroad 
- water reservoir 



site



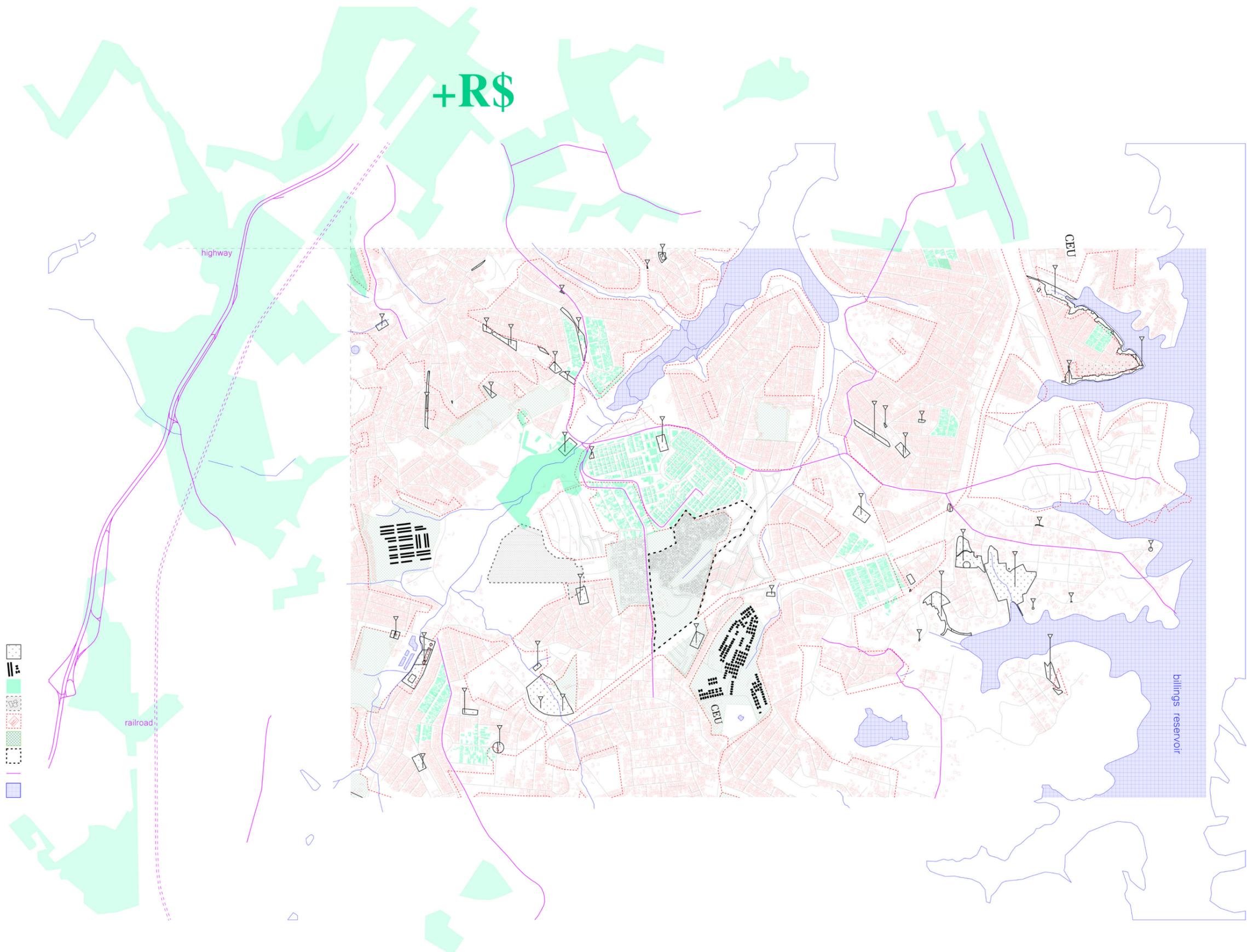
area of low vulnerability [pre-1985]



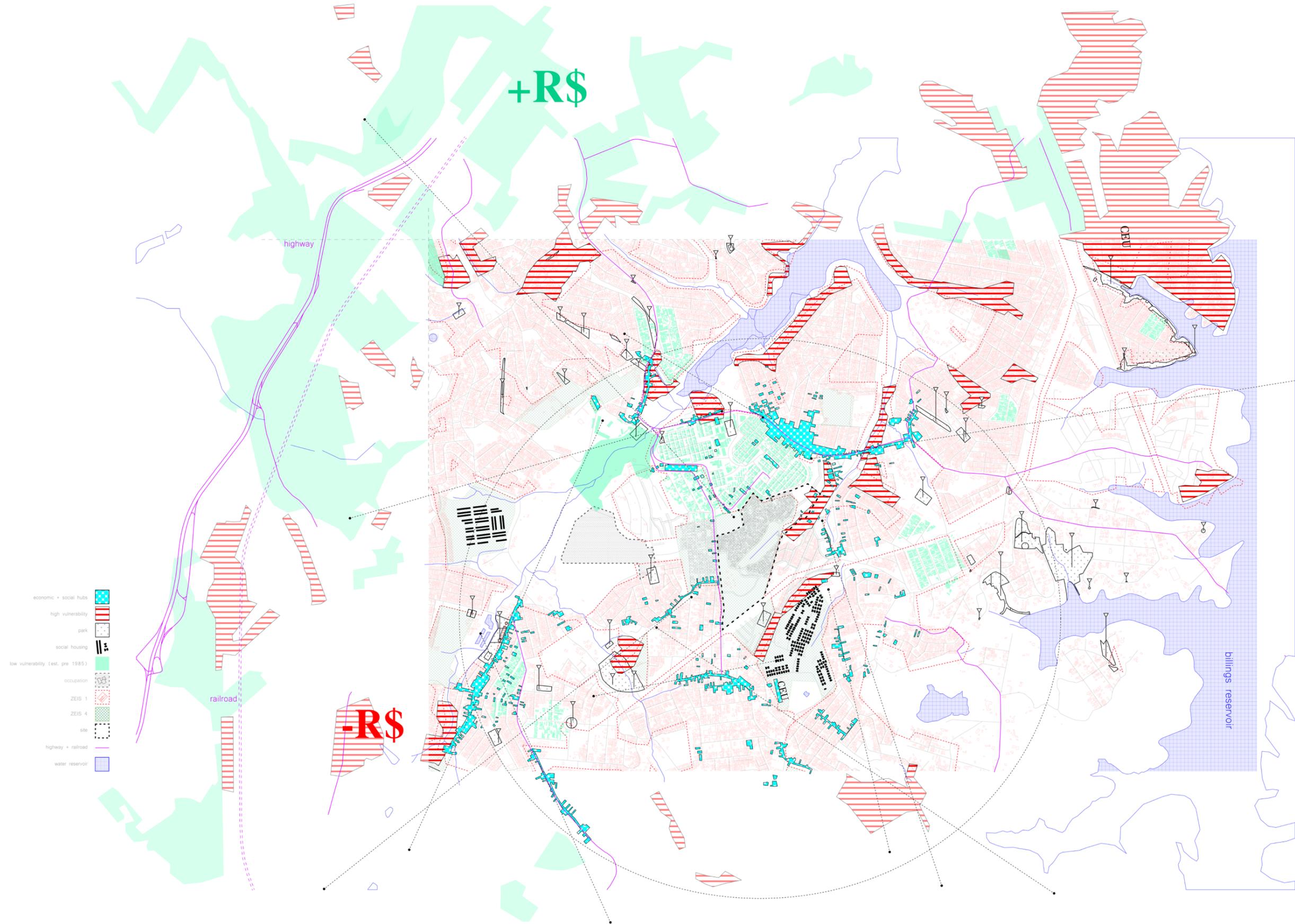
existing social housing

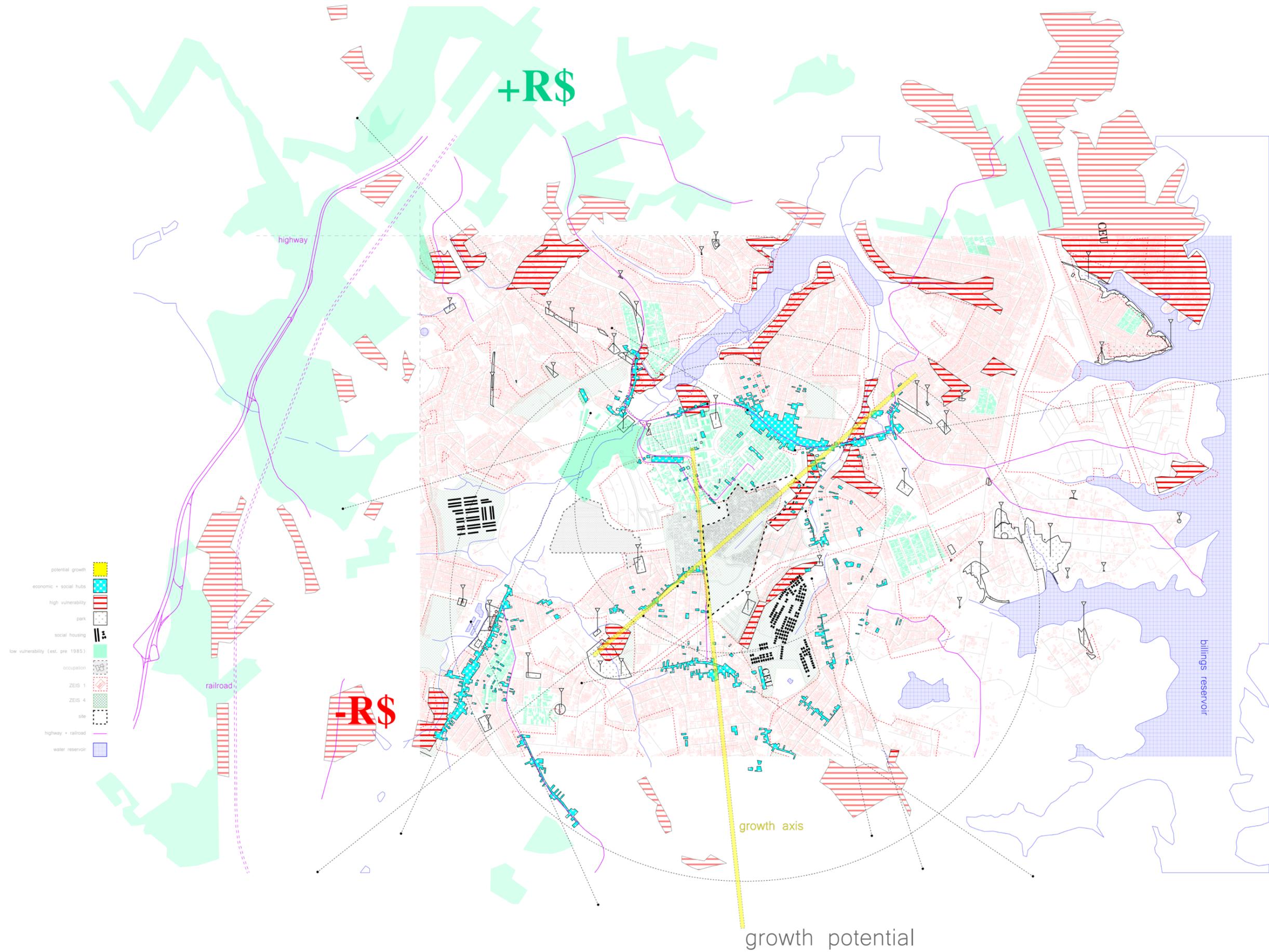
+R\$

- park
- social housing
- low vulnerability (est. pre 1985)
- occupation
- ZEIS 1
- ZEIS 4
- site
- highway + railroad
- water reservoir



parks & CEU





- potential growth
- economic + social hubs
- high vulnerability
- park
- social housing
- low vulnerability (est. pre 1985)
- occupation
- ZEIS 1
- ZEIS 4
- site
- highway + railroad
- water reservoir

+R\$

-R\$

CEU

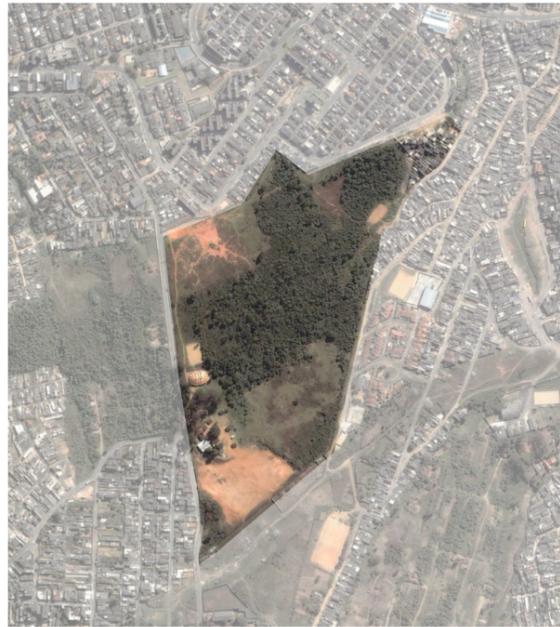
billings reservoir

growth axis

growth potential

highway

railroad



2004



2010



2013



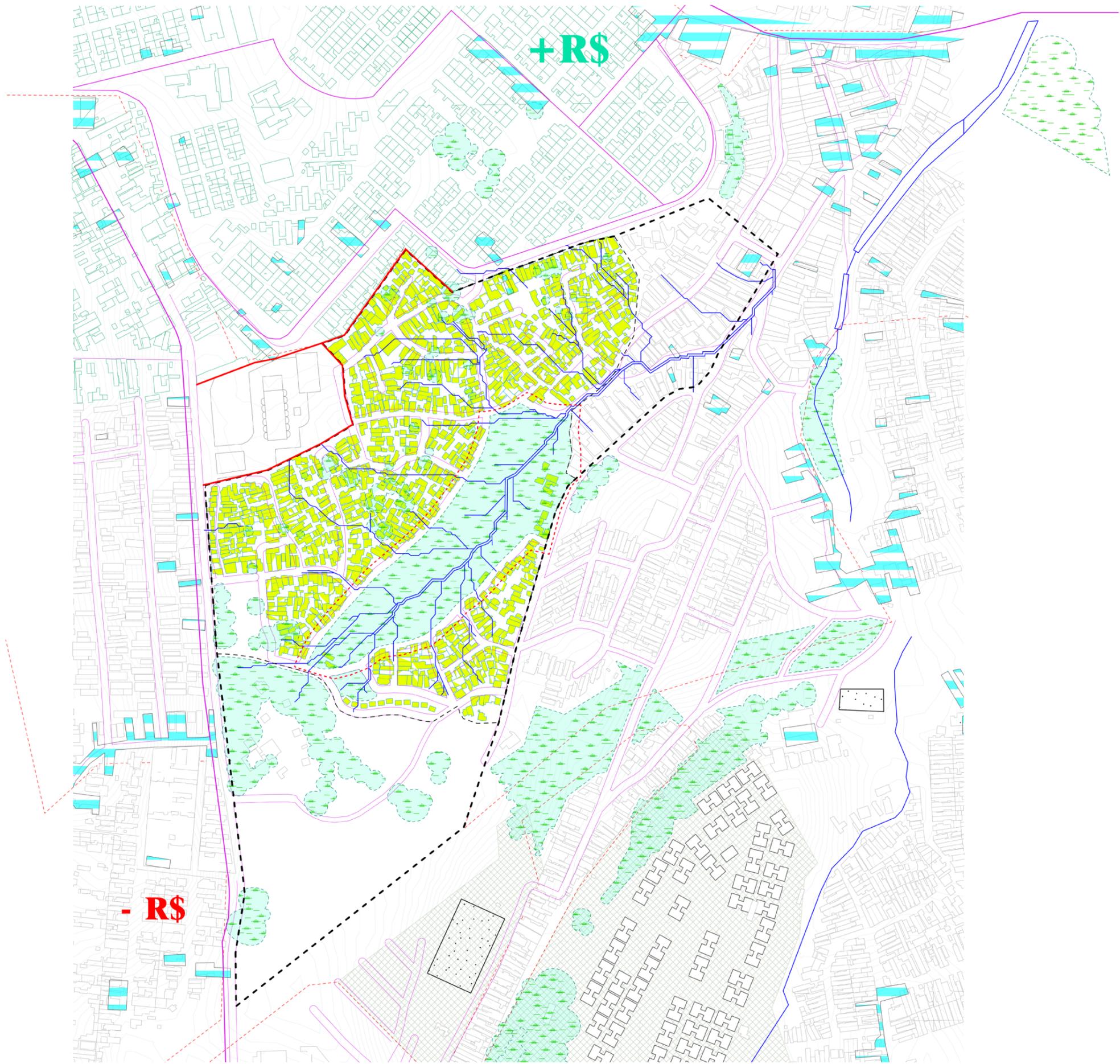
2015



2022

anchieta occupation

- wall —
- illegal occupation ■
- high vulnerability ▭
- low vulnerability (est. pre 1985) ▭
- social housing ▭
- 15m environmental protection zone ▭
- park •••
- economic + social hubs ▭
- vegetation ▭
- ZEIS 1 ▭
- ZEIS 4 ▭
- main road —
- site ▭

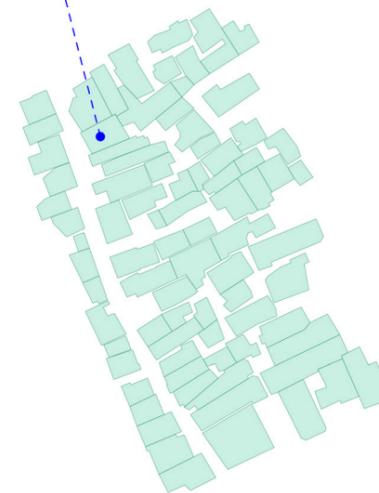
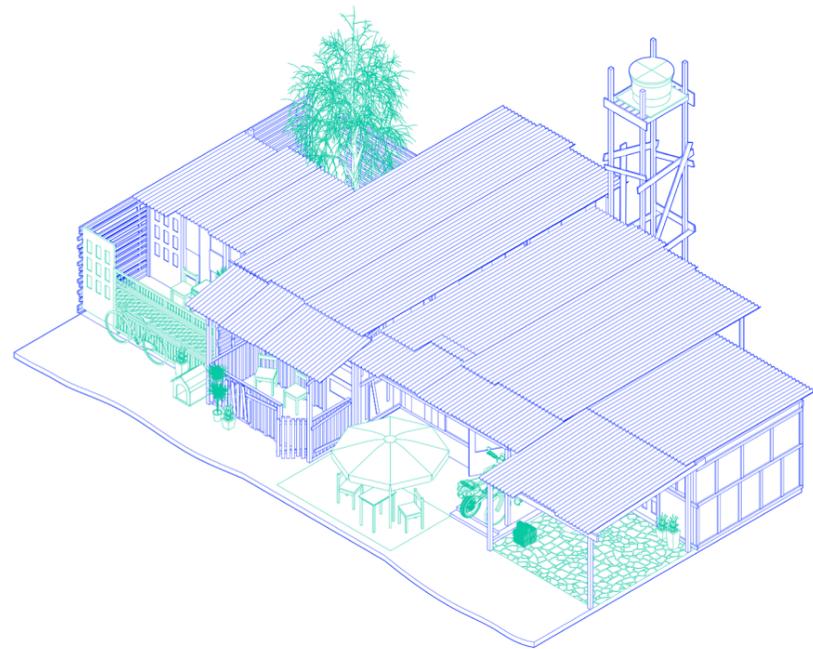


existing condition

site plan 1:4 100

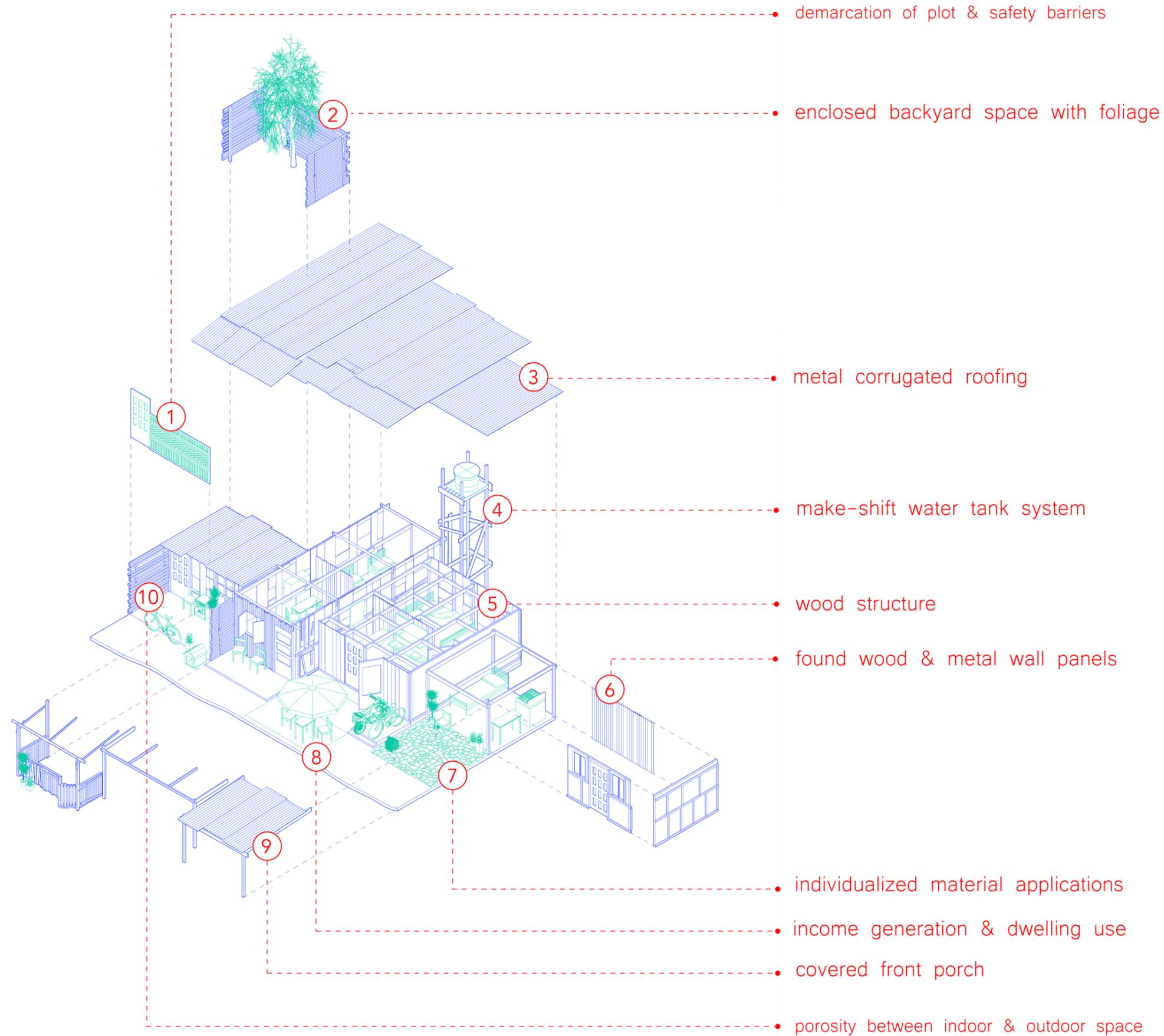




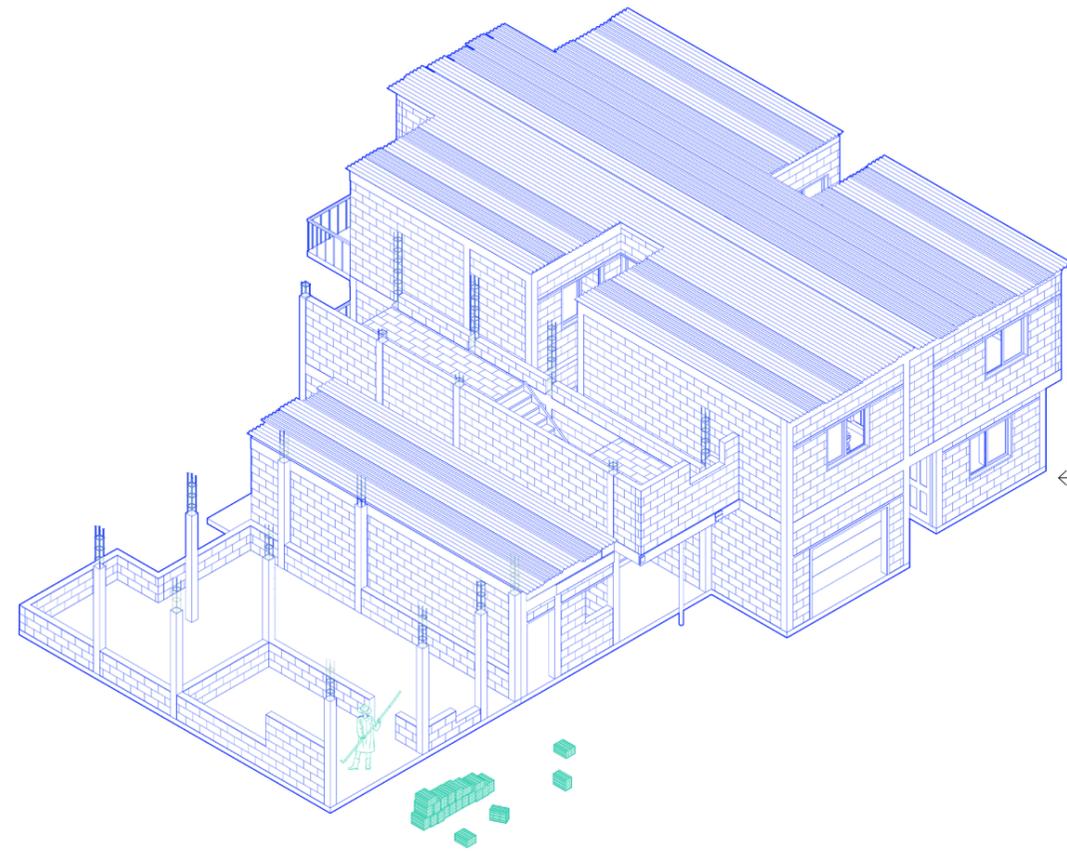


occupation approach

the informal shack



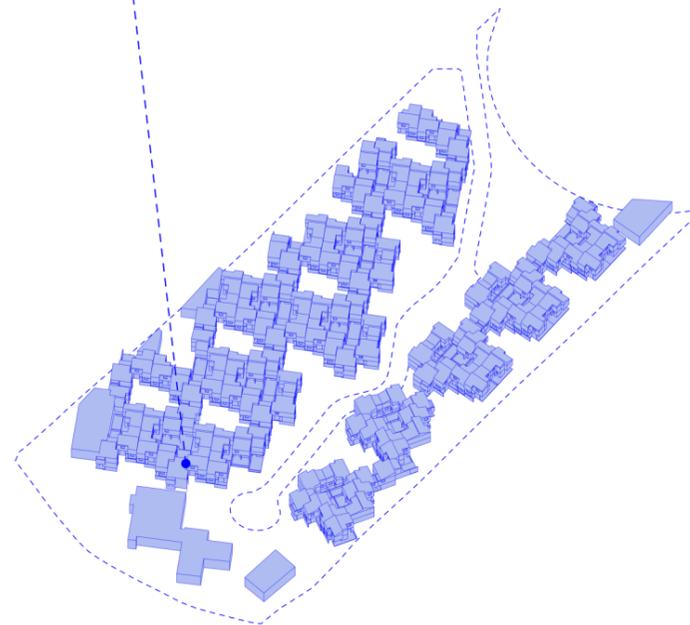
the informal shack



← drawing by Aleksandra Jodłowska

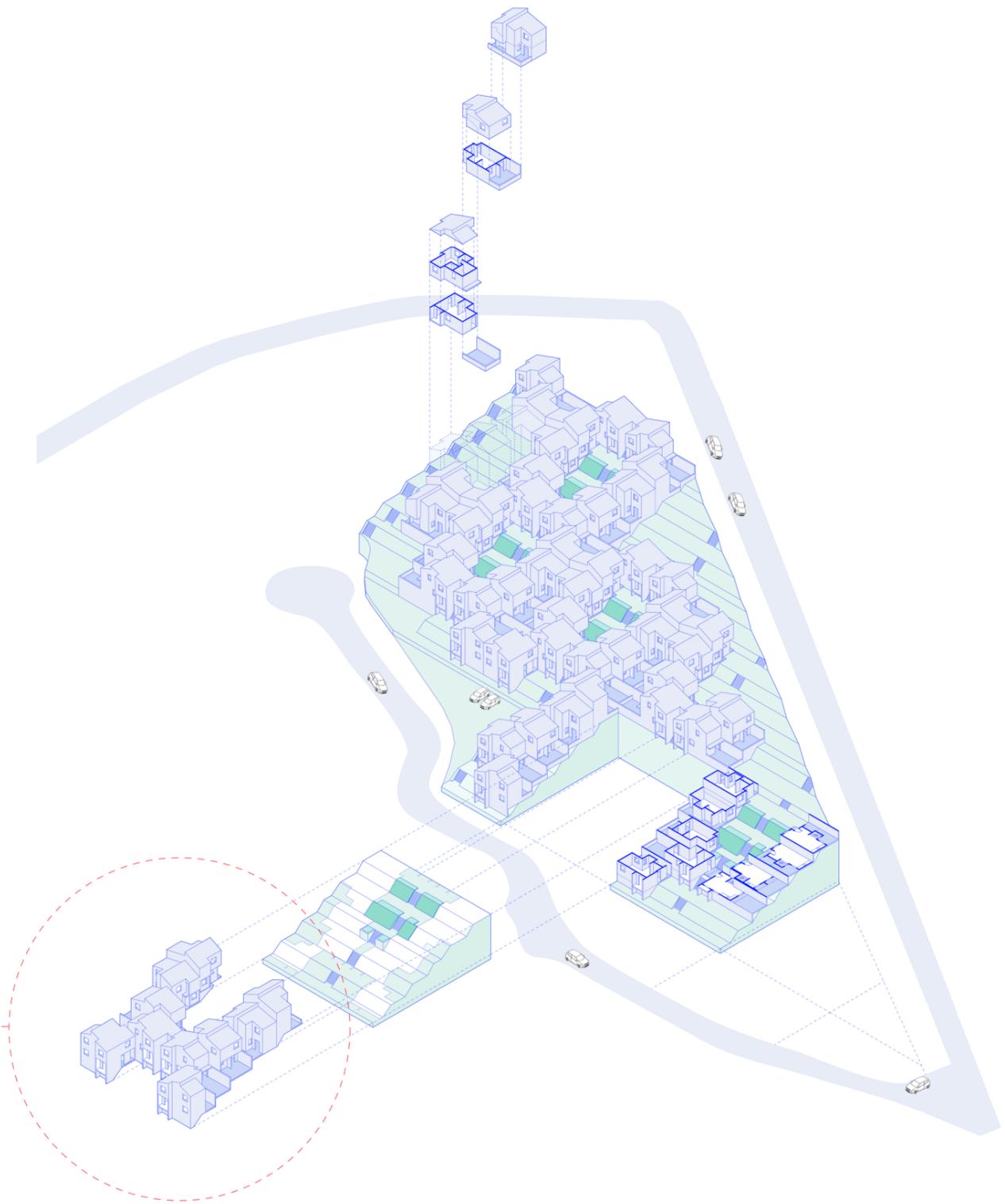
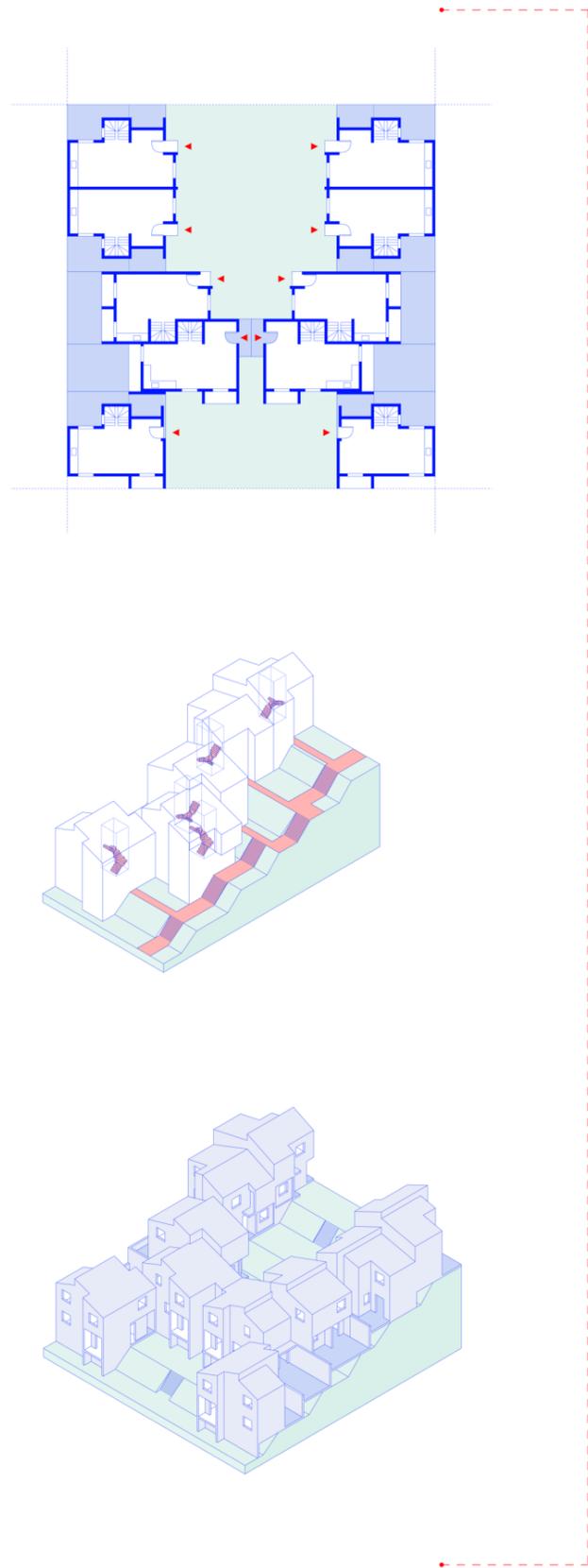
acupunctural approach

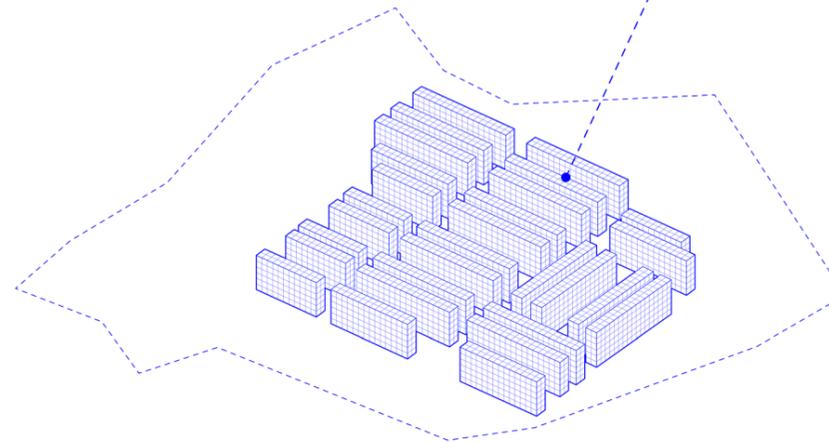
anchieta embryo housing



nucleic cluster approach

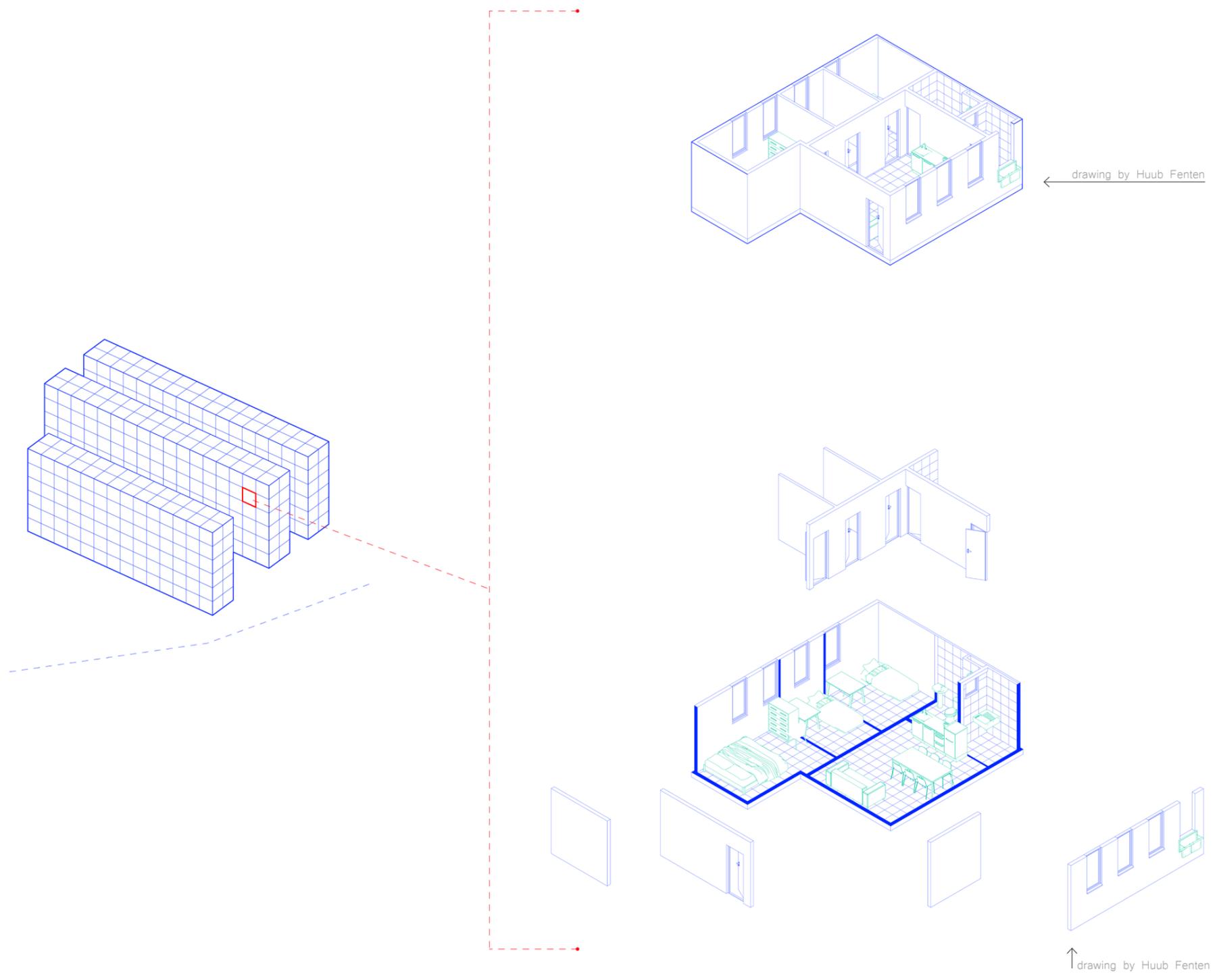
communa dom helder camara

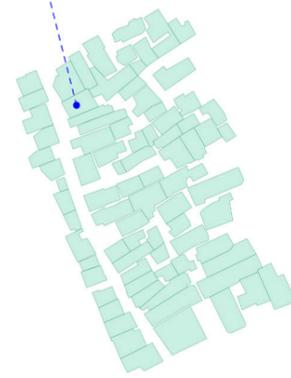




top-down approach

chacara do conde government housing





occupation approach

the informal shack



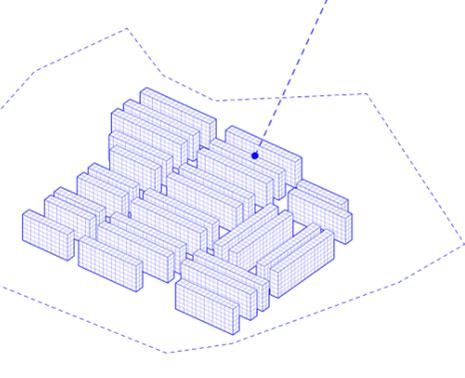
acupunctural approach

anchieta embryo housing



nucleic cluster approach

communa dom helder camara



top-down approach

chacara do conde government housing

spectrum of participation

research question:

How could a kit-of-parts approach marry the efficiency of a top-down approach & the resilience of a bottom-up approach to enable place-making in self-built settlements of Grajau?

sub questions:

- How can participatory process be a part of the planning process for social housing?
- What spatial structures help create/enable the development of social cohesion in self-built settlements?
- How can a catalogue of dwelling types adapt and meet community needs over time?



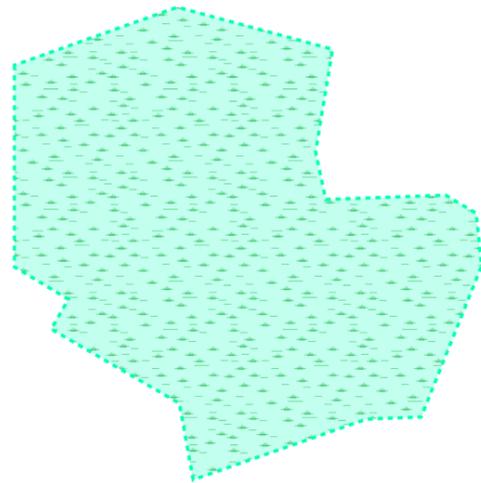
anchieta occupation [context]

drawing by: Angelina Torbica, Aleksandra Jadowska, Beatrijs Kostelijk

DESIGN APPROACH

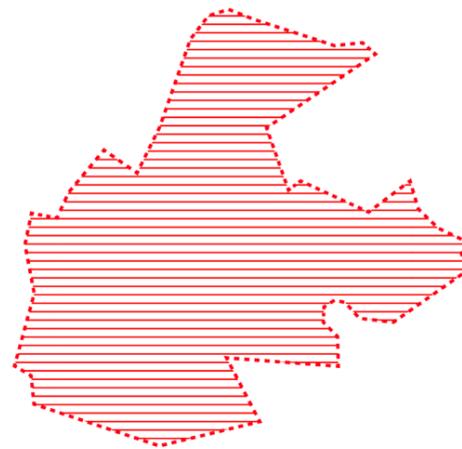
[01 – MANAGERIAL PROCESS]

grajau housing need: **scenarios of intervention**



ZEIS 4

(empty land)
city or privately-owned



ZEIS 1

(occupied land)
precarious living conditions



ZEIS 1 & ZEIS 4

(privately owned)
(illegally occupied land)
(environmentally protected)

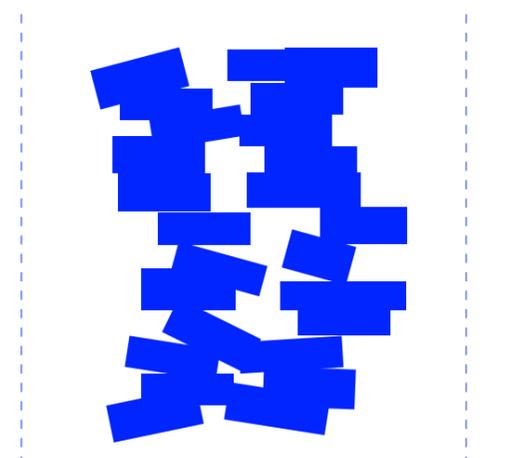
preventative scenario

reactive scenario

grajau housing need: waitlist eligibility

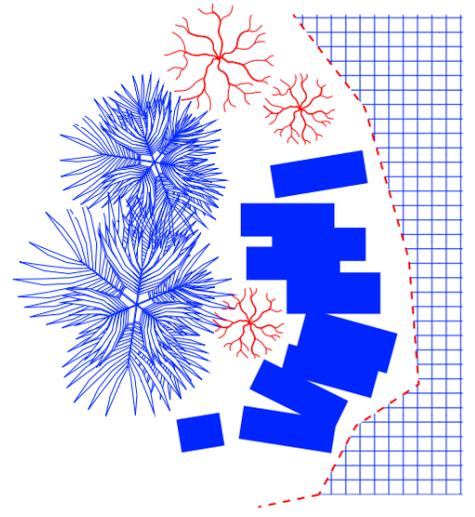
- low income:
HMP (6-10 minimum wages)
- social interest groups:
HIS1 + HIS2 (1-6 minimum wages)
- G3 (R\$733/month)
- G2 (R\$427/month)
- G1 (R\$113/month)

limited income groups



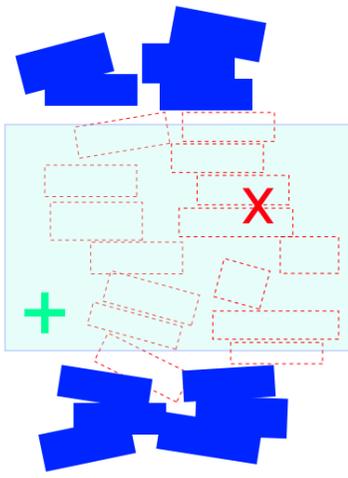
precarious living environment

(favela, corticos, young occupation)



enviornmental risk

(areas protected by Federal Forest Code)

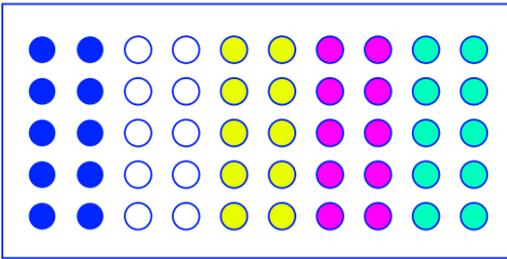


eminent domain

(development of special interest projects)



government level pre-planning



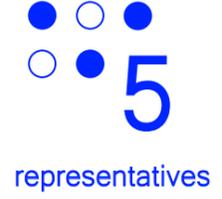
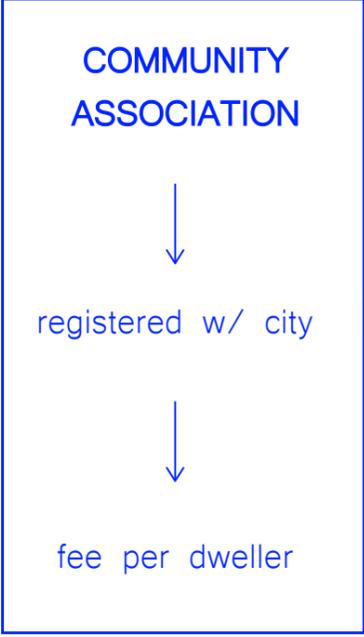
50 families

(10 families = 1 cluster)

- HIS1
- HIS2
- G1
- G2
- G3

=

+



representatives

+

COMMUNITY LAND TRUST (CLT)

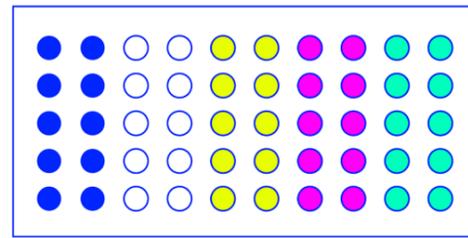
(board of directors per cluster)

grajau housing need: site planning

(privately owned land)



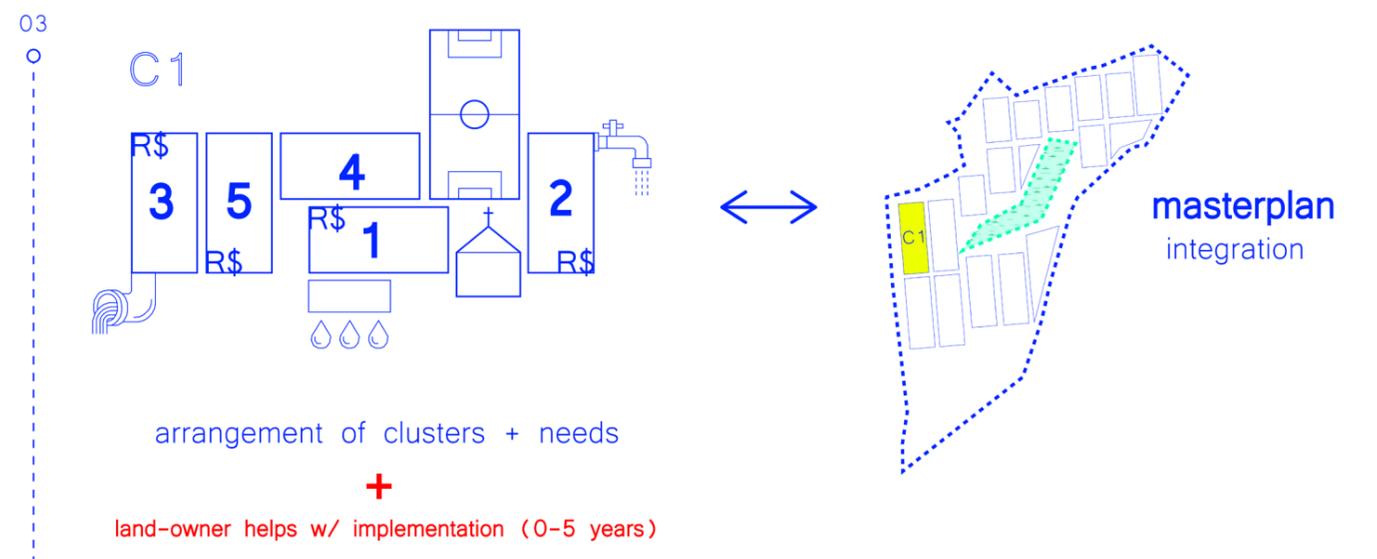
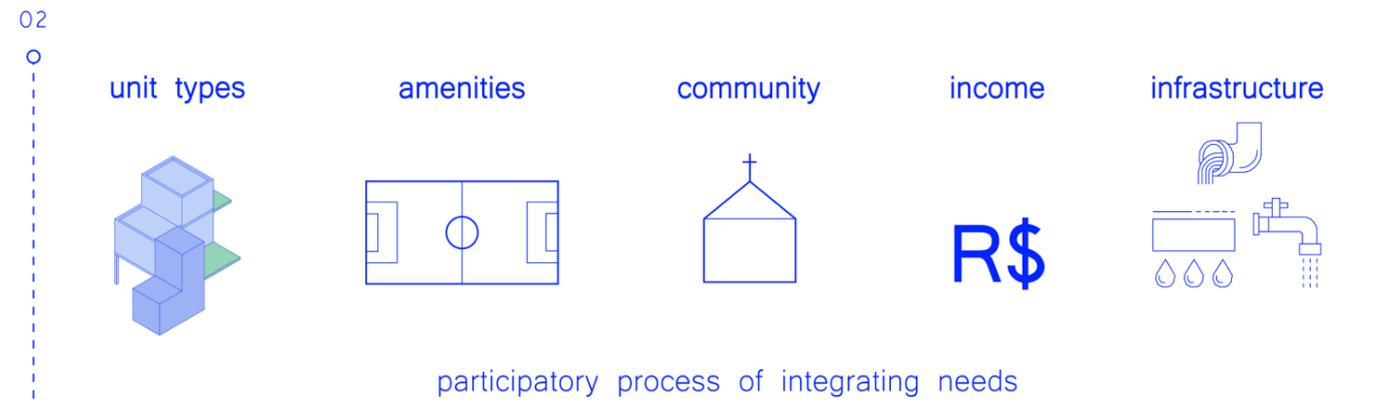
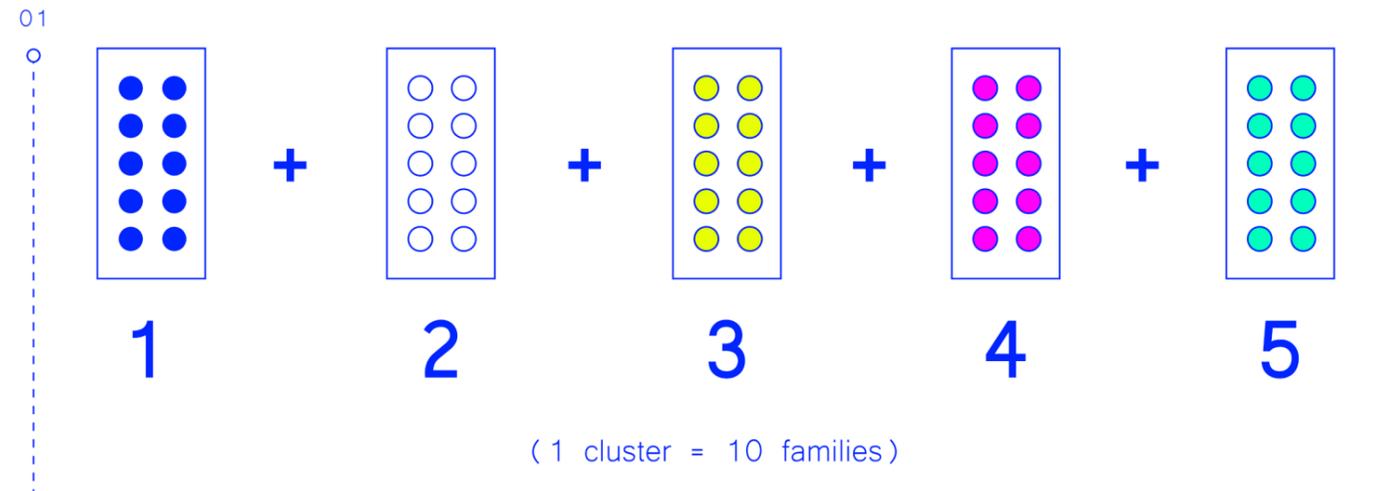
grajau housing need: **community** (within a community) **planning**

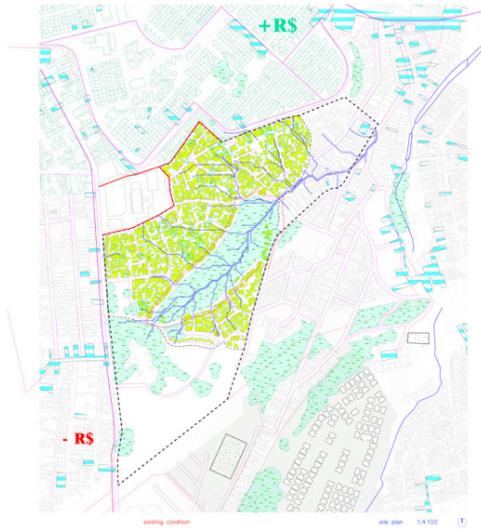


50 families

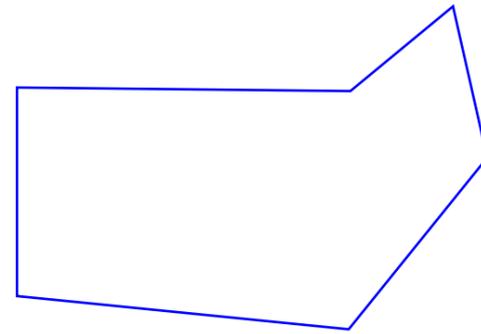
COMMUNITY ASSOCIATION

=

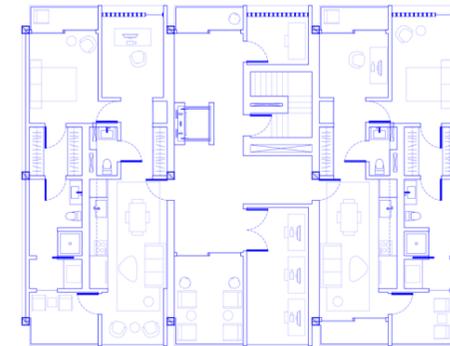




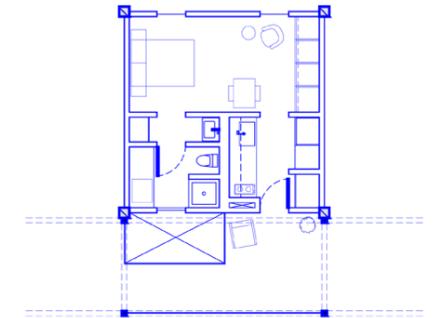
district / neighborhood level



neighborhood block level



dwelling cluster level

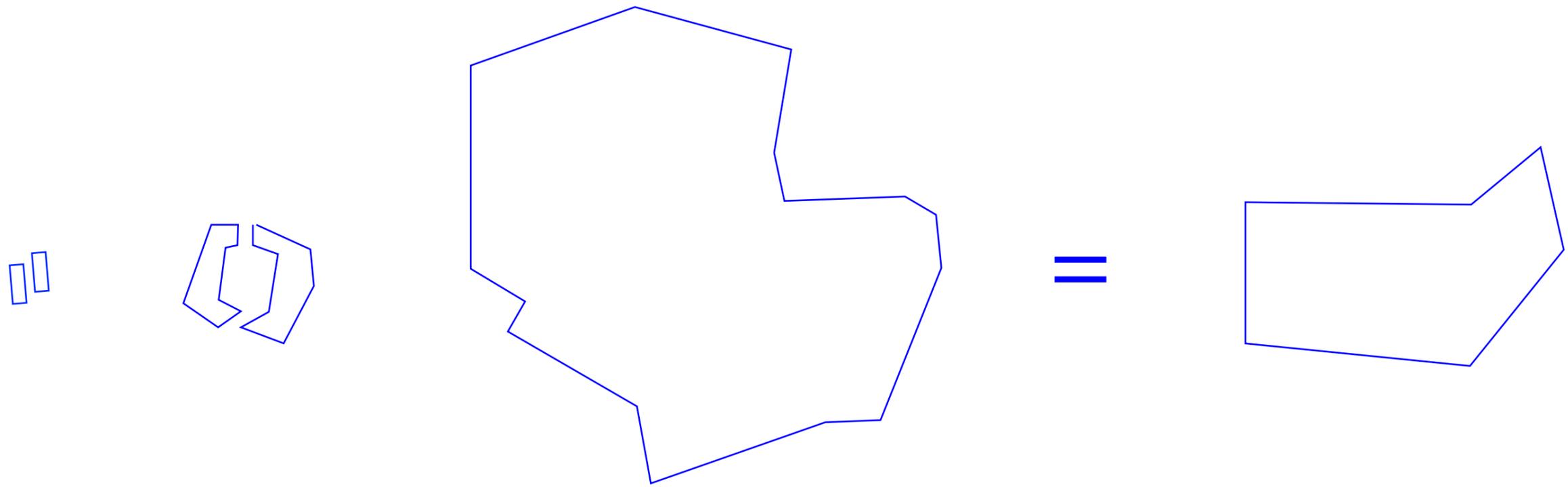


unit level

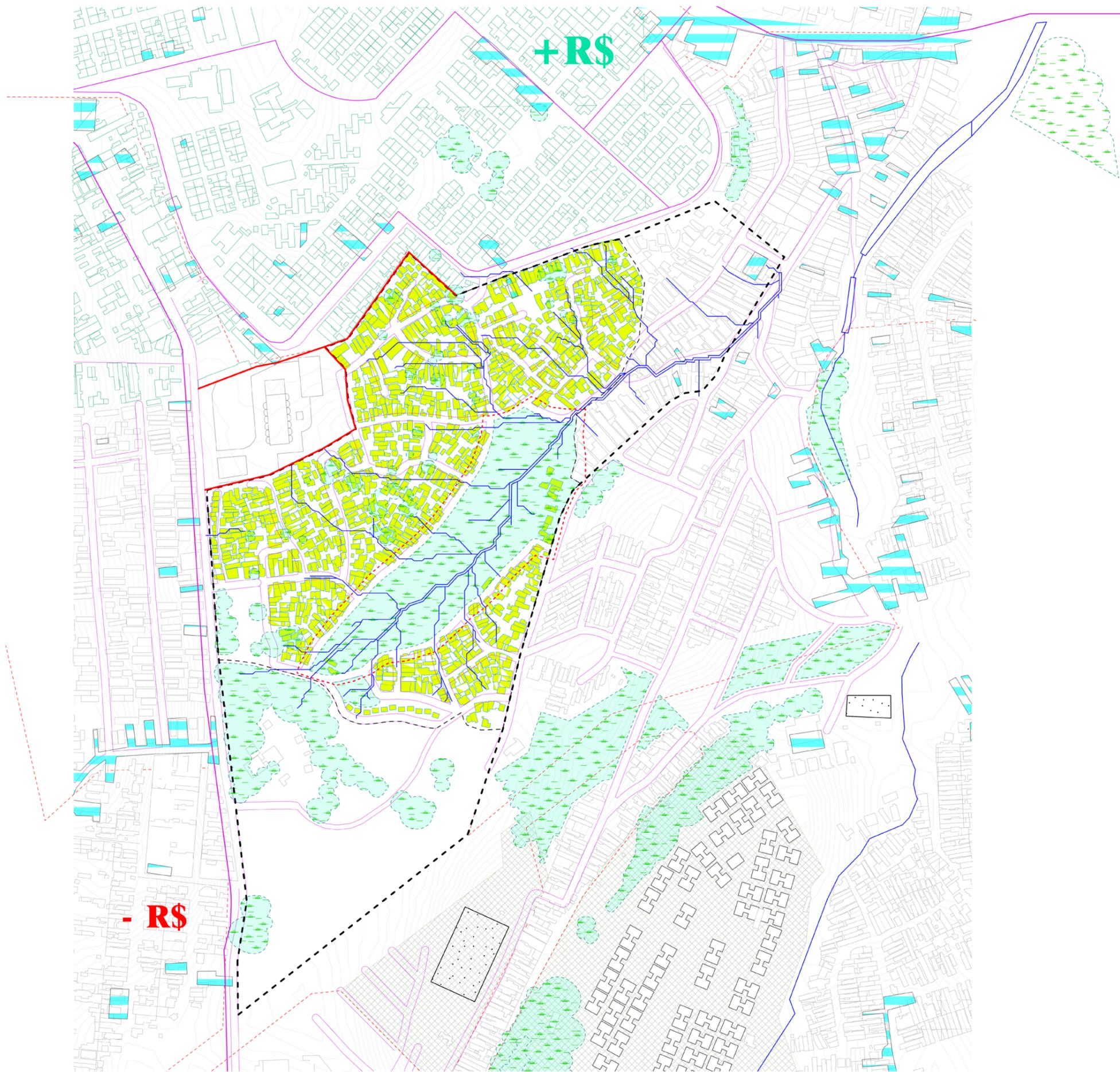
open building decisions – from the collective to the individual

DESIGN APPROACH

[02 – URBAN PLAN STRATEGY]



- wall —
- illegal occupation ■
- high vulnerability ▭
- low vulnerability (est. pre 1985) ▭
- social housing ▭
- 15m environmental protection zone ▭
- park •••
- economic + social hubs ▭
- vegetation ▭
- ZEIS 1 ▭
- ZEIS 4 ▭
- main road —
- site ▭

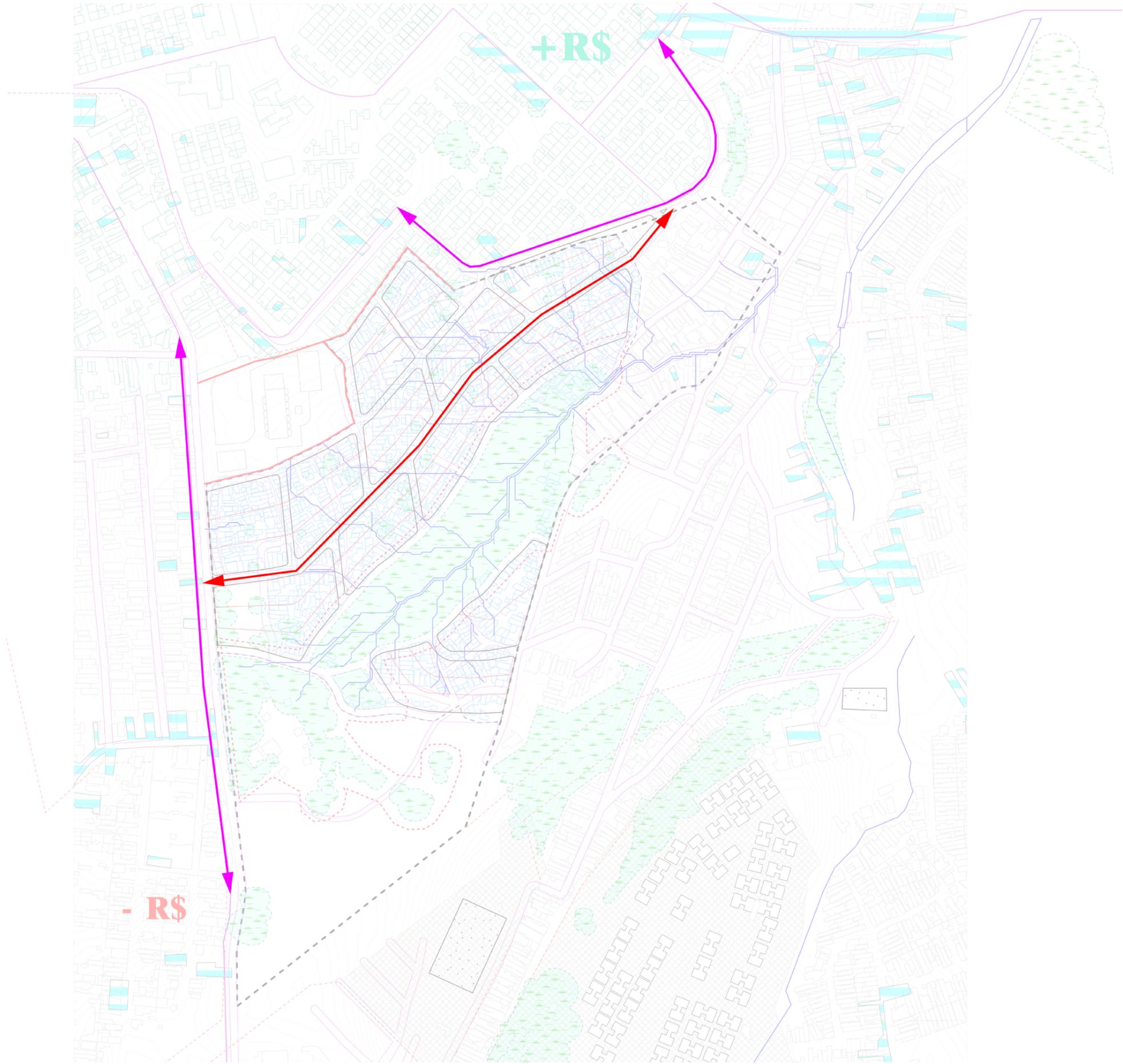


existing condition

site plan 1:4 100



- proposed block 
- wall 
- illegal occupation 
- high vulnerability 
- low vulnerability (est. pre 1985) 
- social housing 
- 15m environmental protection zone 
- park 
- economic + social hubs 
- vegetation 
- ZEIS 1 
- ZEIS 4 
- main road 
- site 

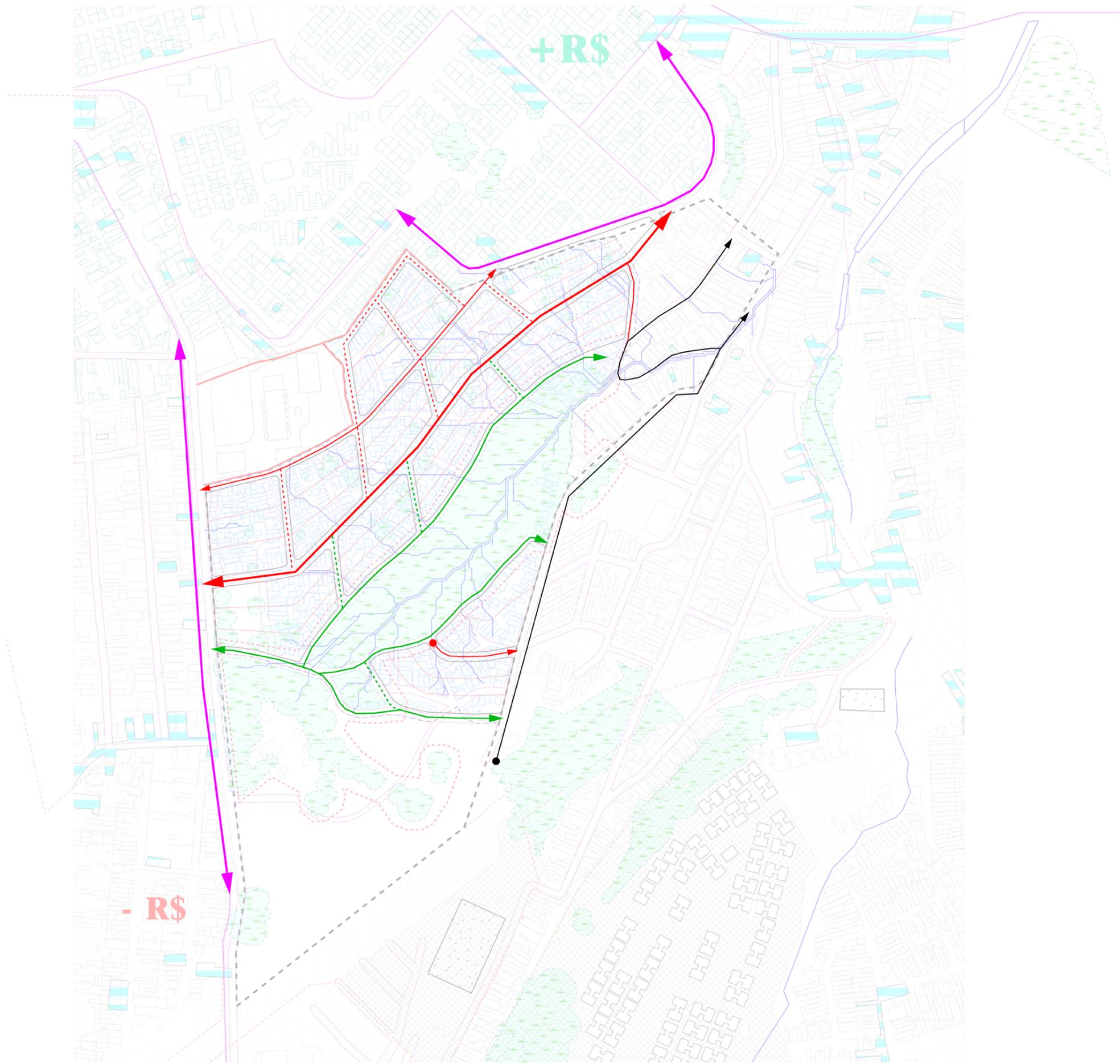


proposed urban access - central spine

site plan 1:4 100



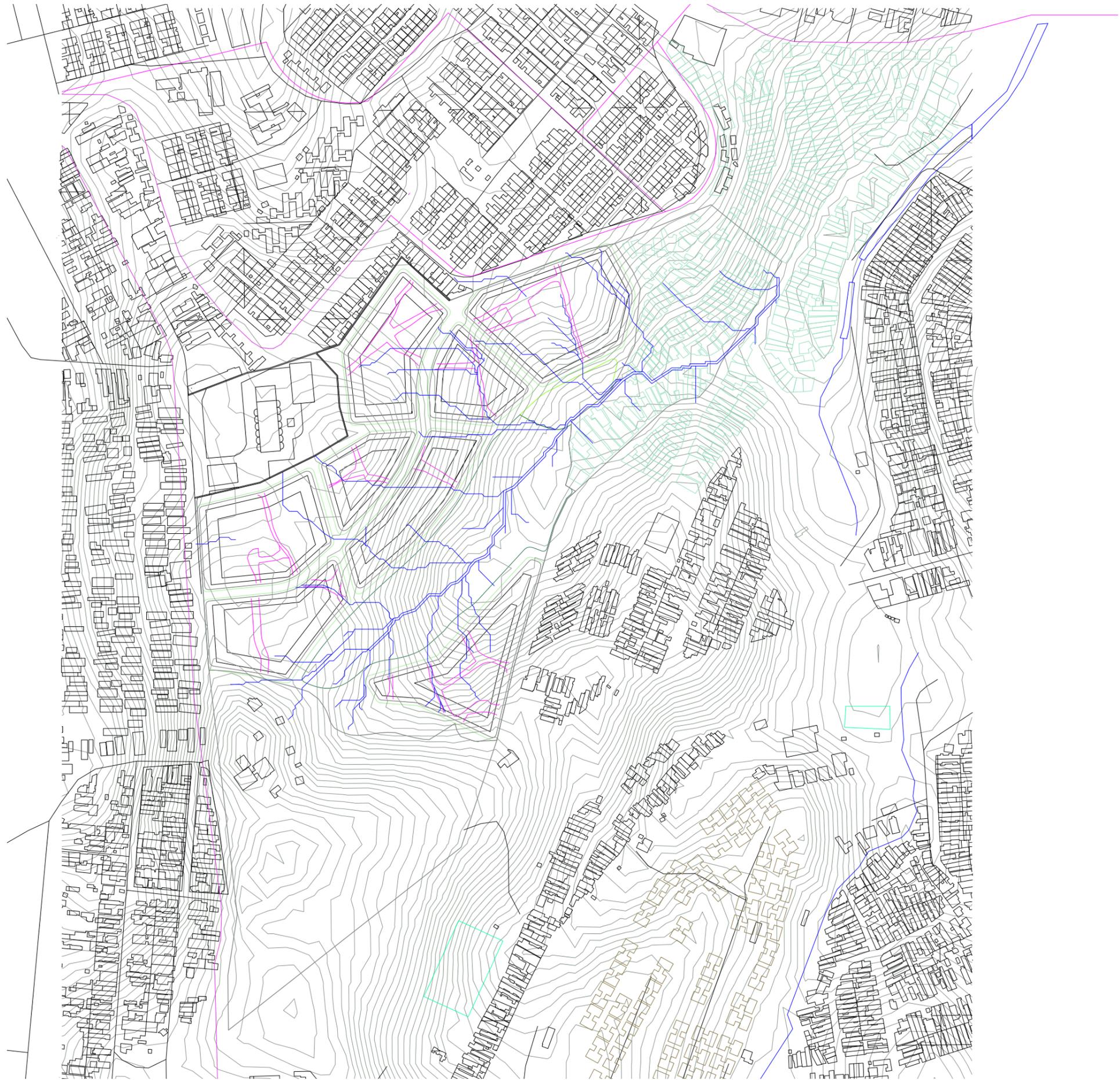
- proposed block 
- wall 
- illegal occupation 
- high vulnerability 
- low vulnerability (est. pre 1985) 
- social housing 
- 15m environmental protection zone 
- park 
- economic + social hubs 
- vegetation 
- ZEIS 1 
- ZEIS 4 
- main road 
- site 



proposed urban access - tertiary access

site plan 1:4 100







DESIGN APPROACH

[03 – URBAN BLOCK STRATEGY]

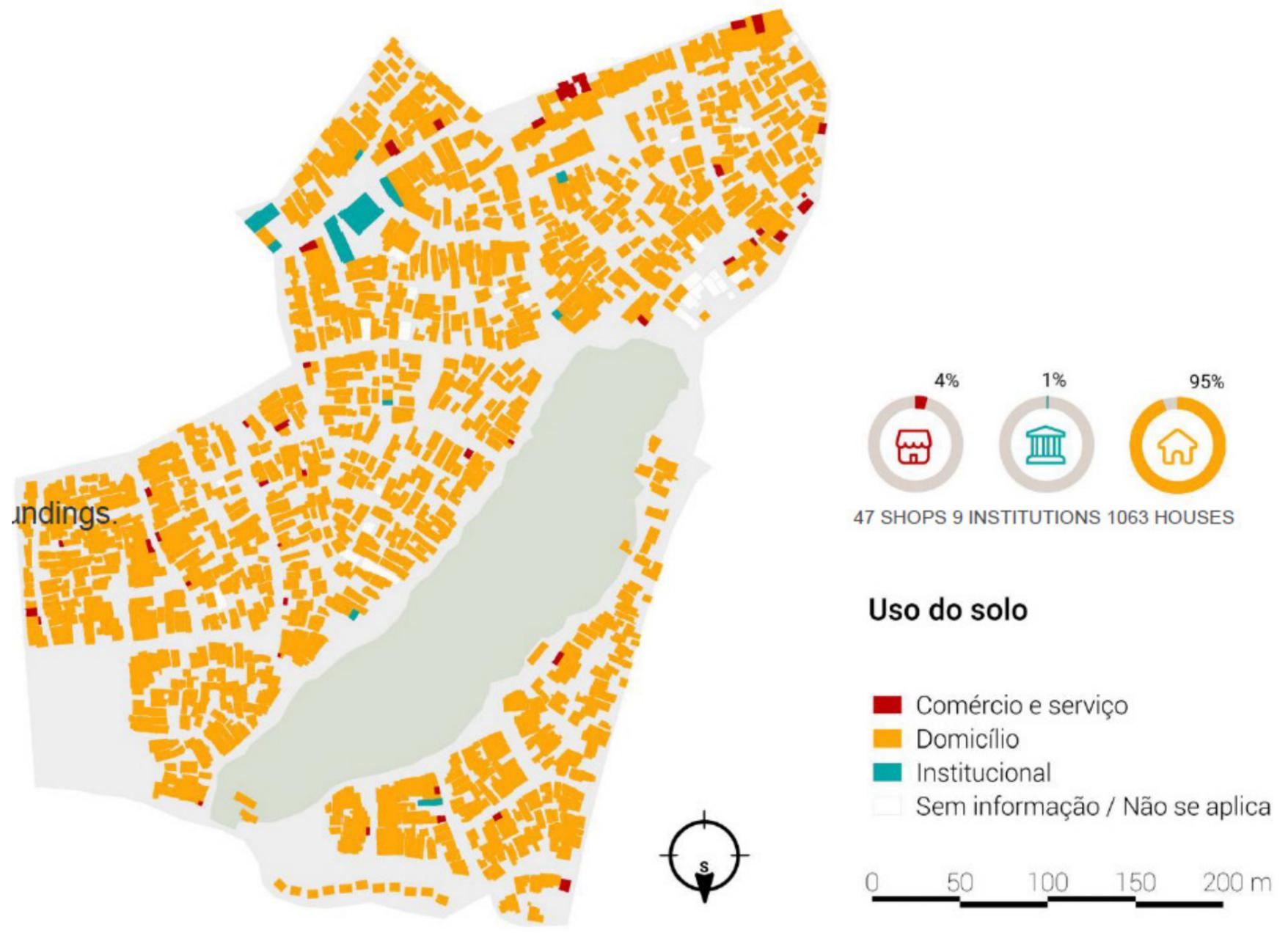


Figure 42- Land use map. Adapted from Peabiru TCA, 2020

current amenities

block design approach



berlin block

+



weaving of social space

(Sameep Padora & Associates)

program

amenities:

- playground (73%)
- football field (50%)
- recreational center (58%)

community:

- cultural center + community center (50%)
- health & wellness (70%)

income generation:

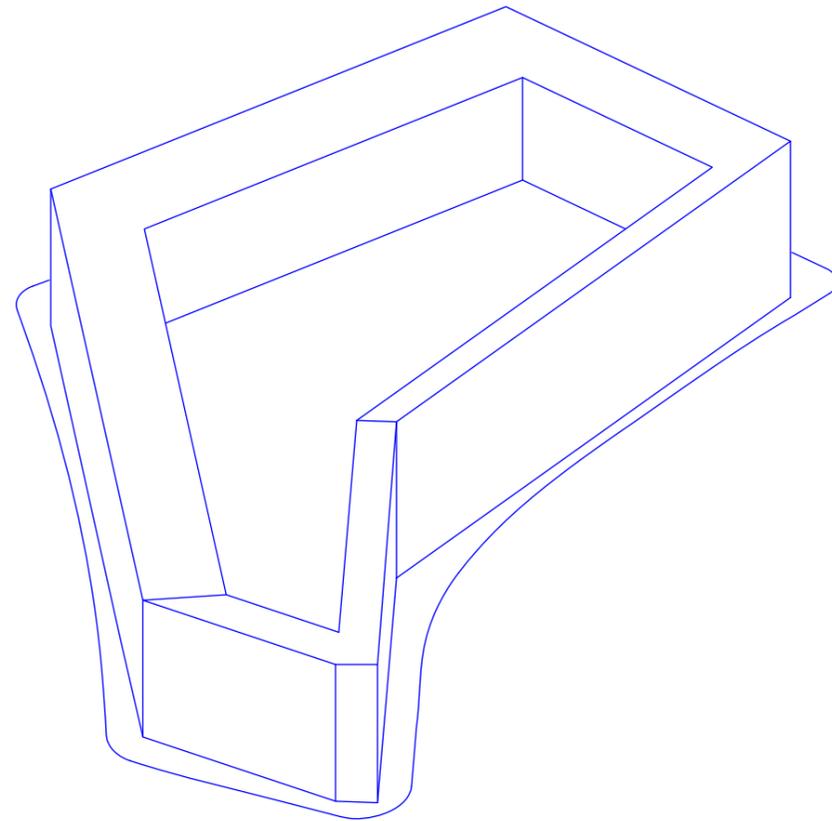
- work & career development (69%)

infrastructure:

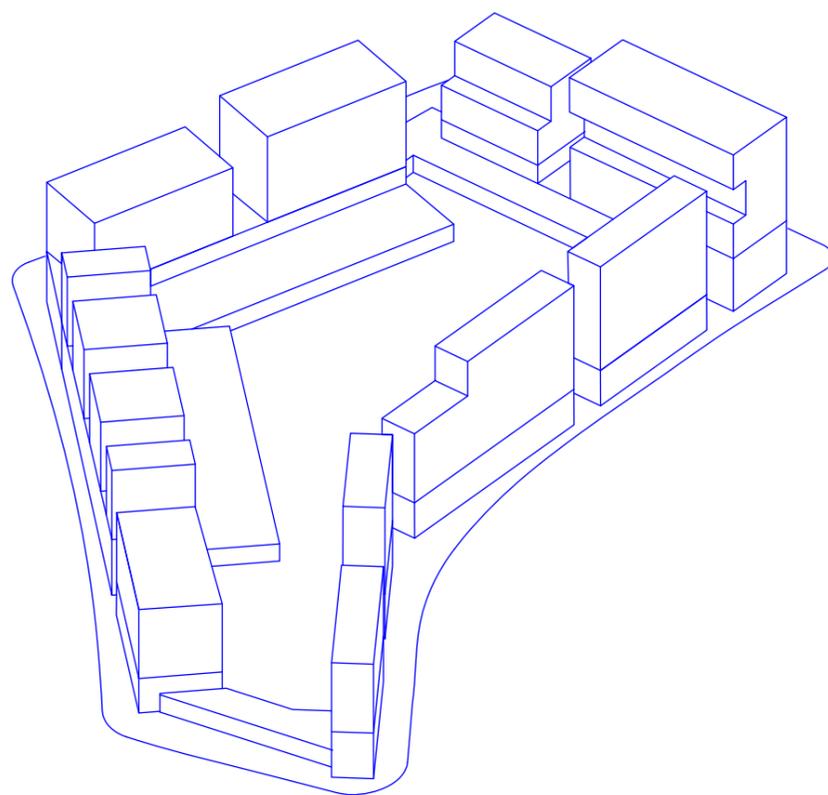
- waste management (64%)
- flooding prevention (34%)

+

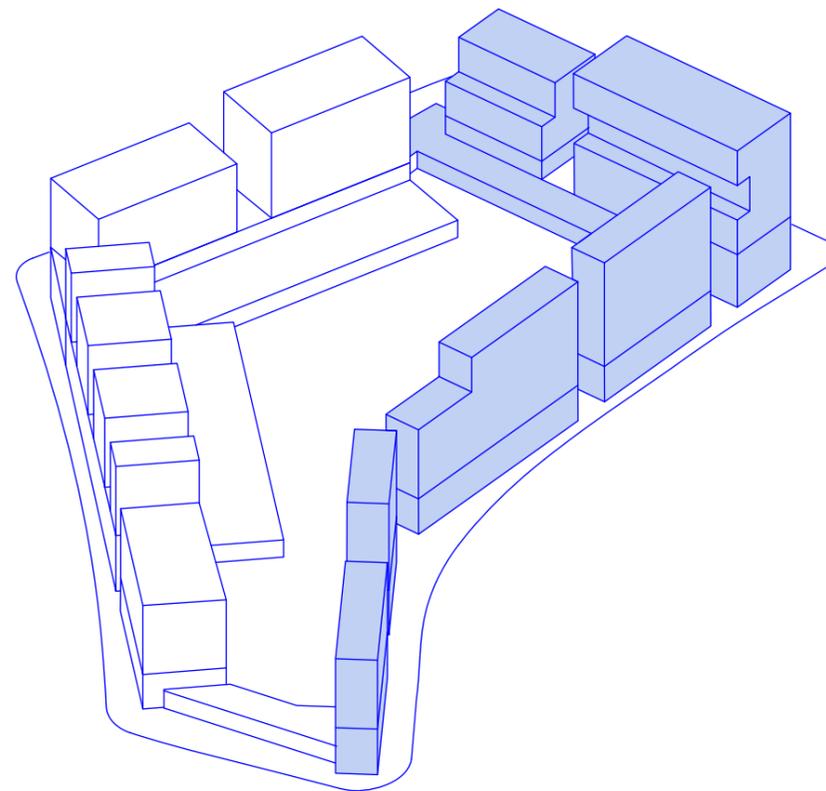
01. context



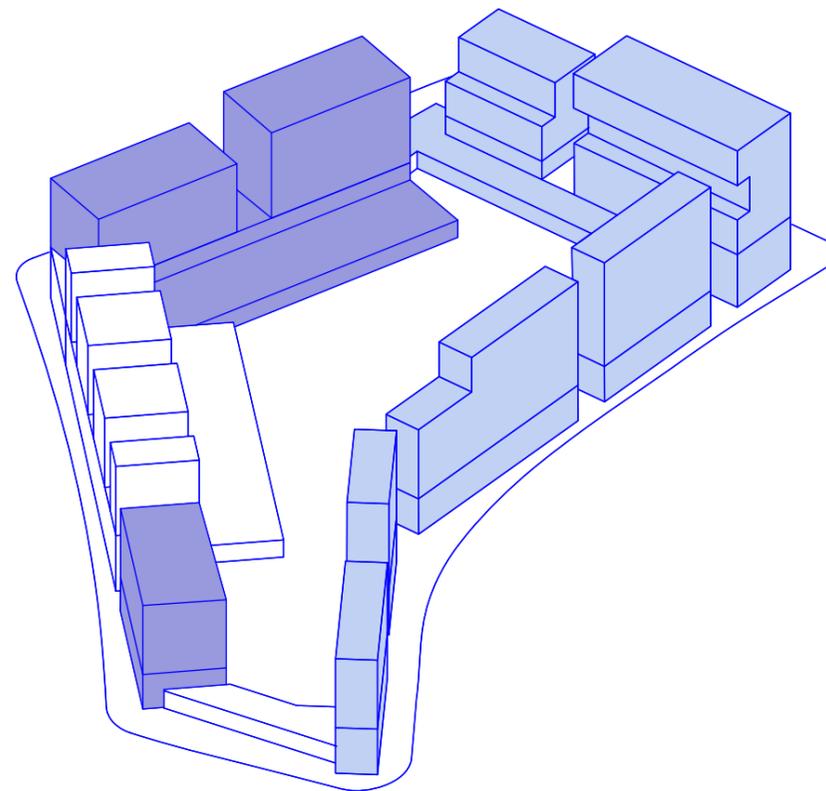
02. disaggregation



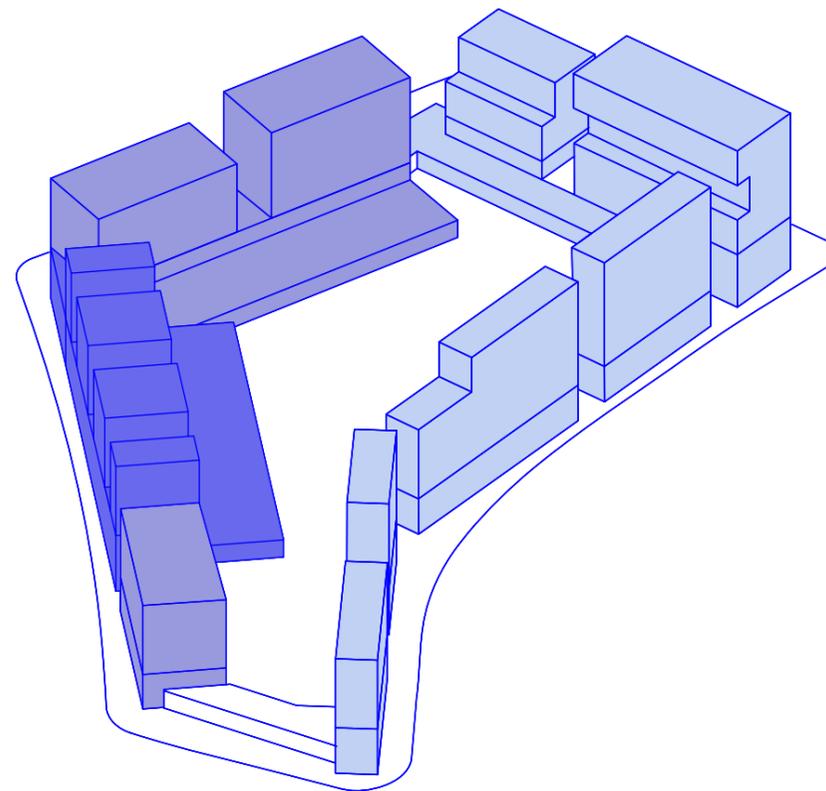
03. phasing



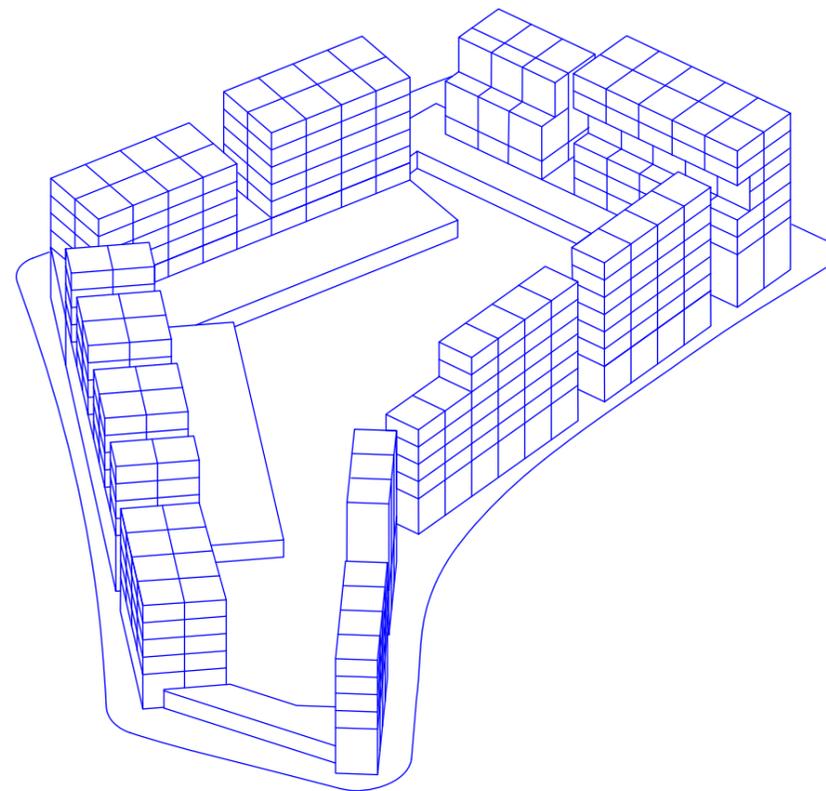
03. phasing



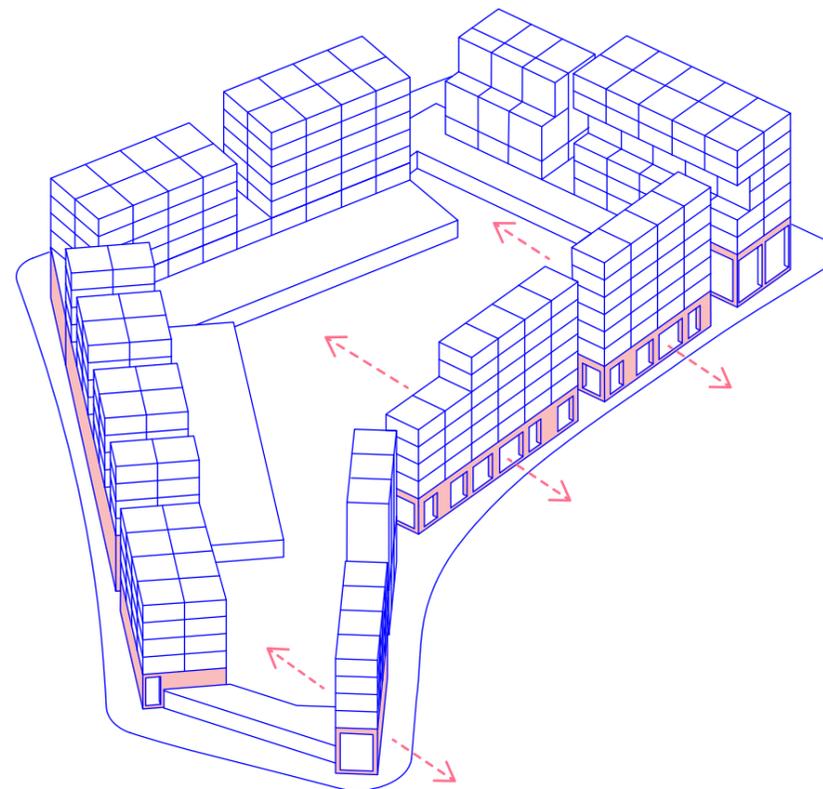
03. phasing



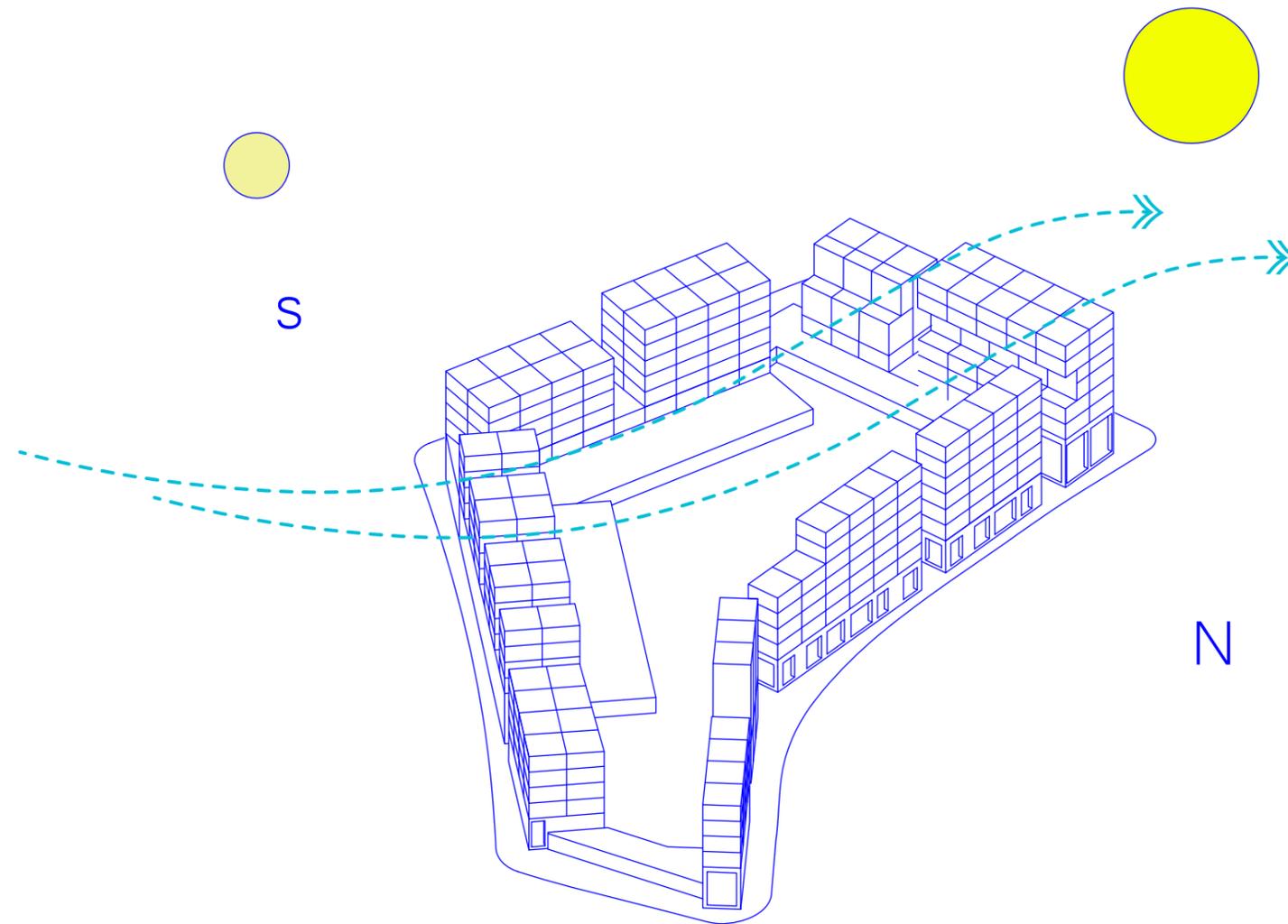
04. flexible framework



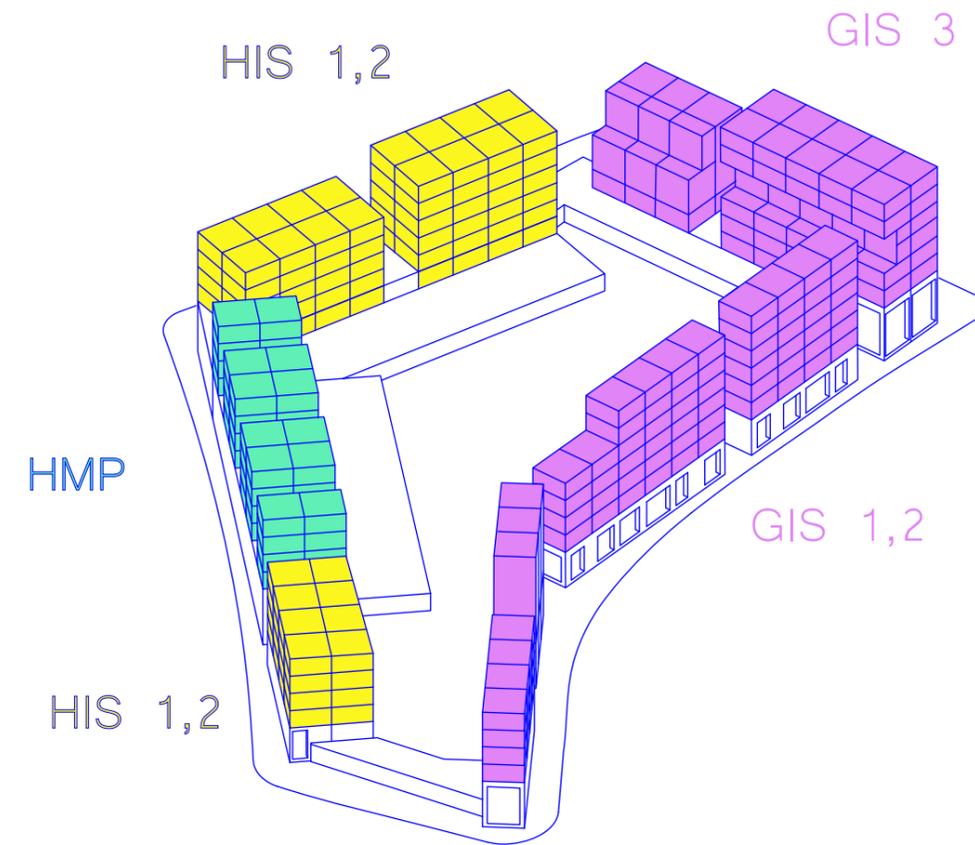
05. porosity



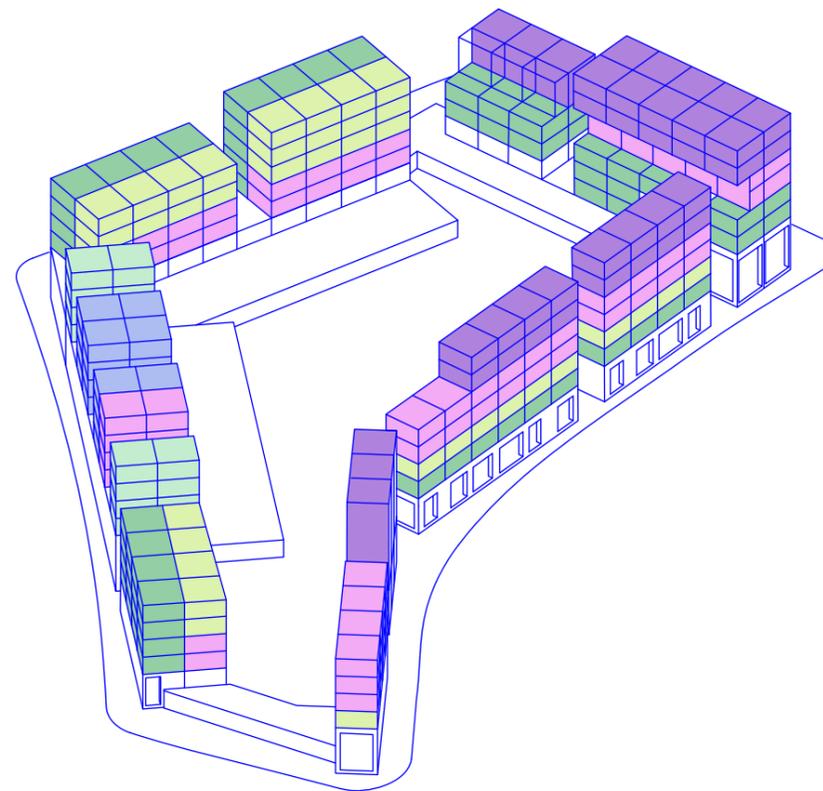
06. climate



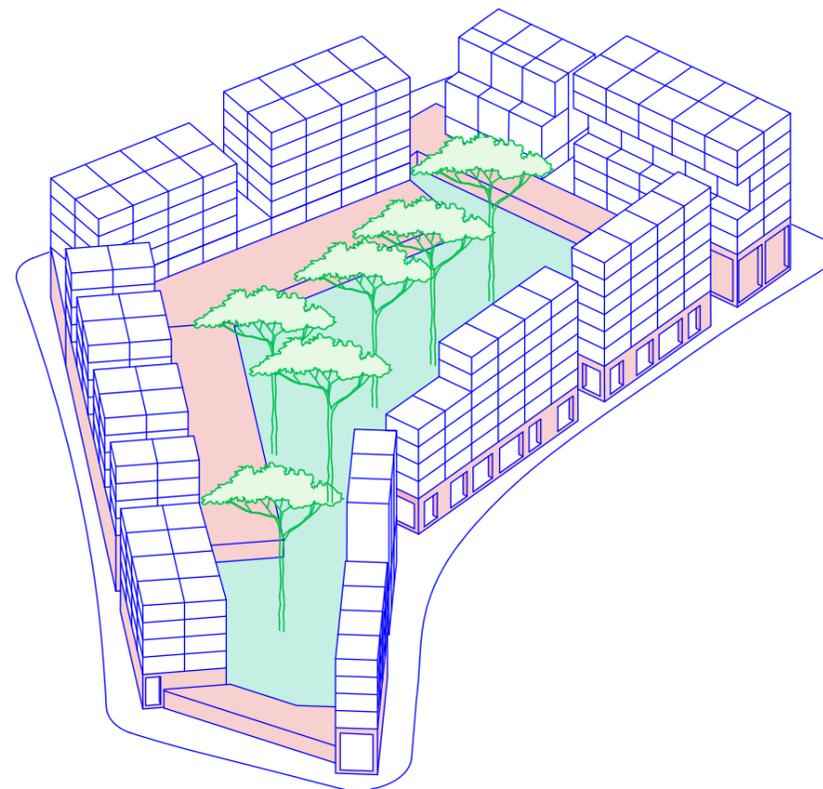
07. identity



08. diversity

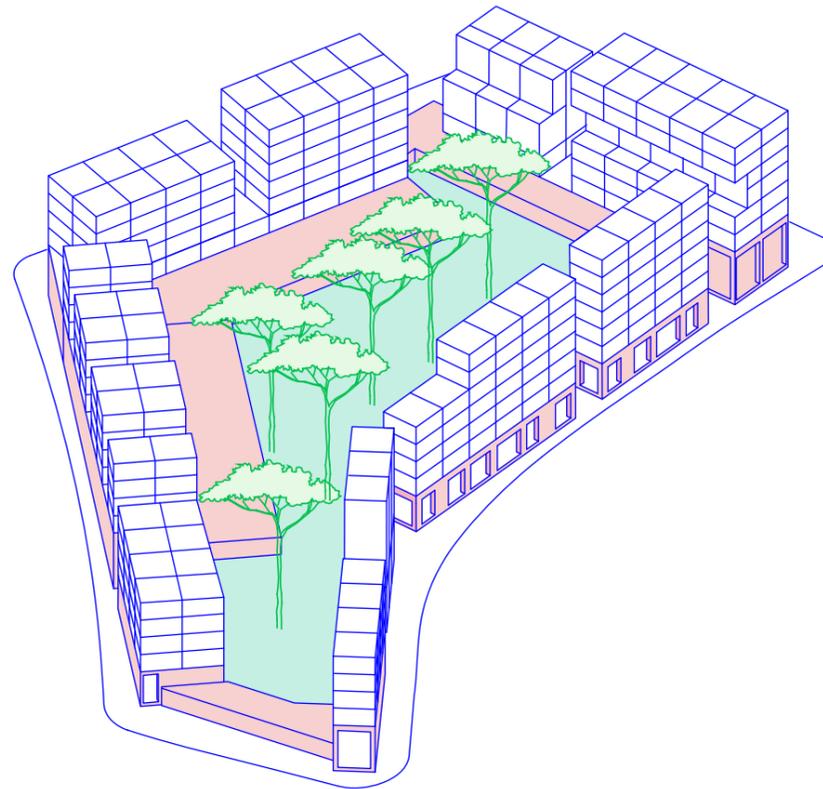


10. commons

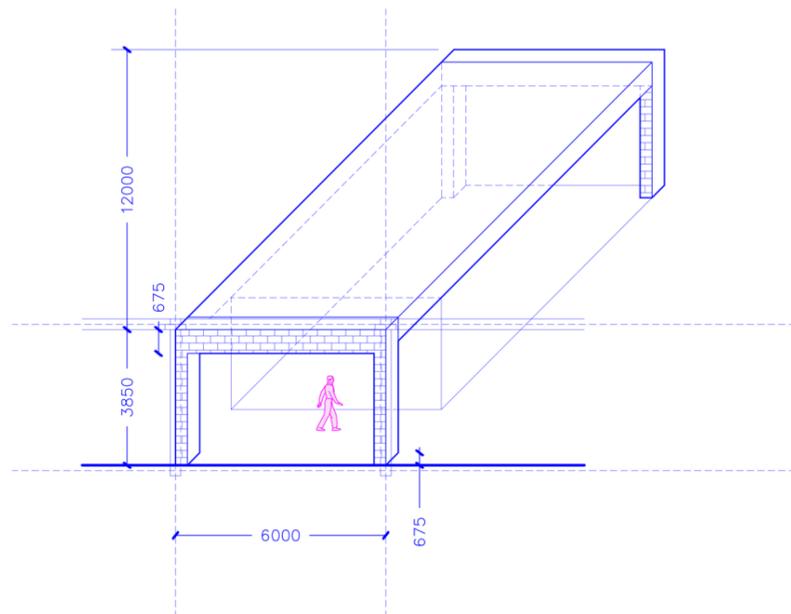


principles for placemaking

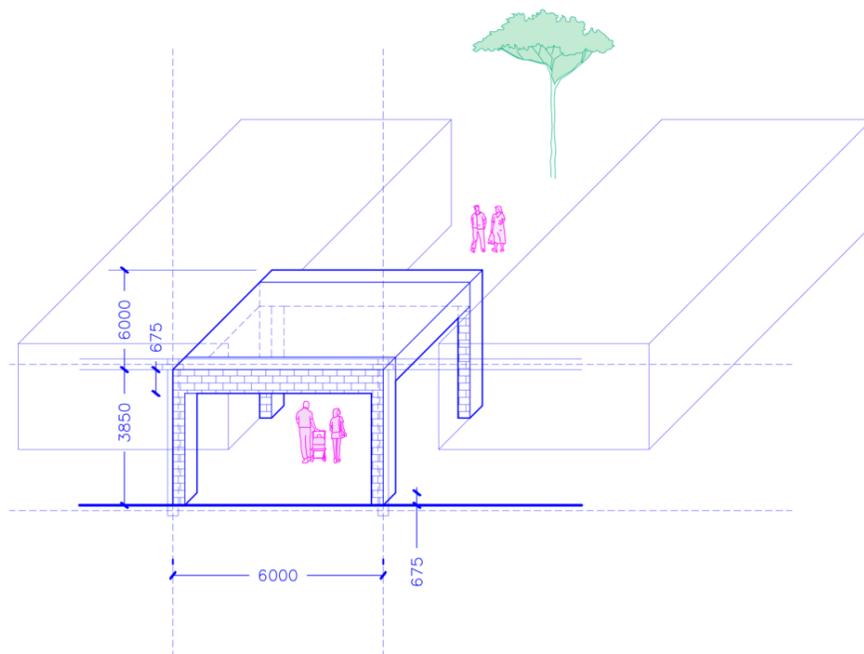
01. context
02. disaggregation
03. phasing
04. flexible framework
05. porosity
06. climate
07. diversity
08. identity
09. malleability
10. commons



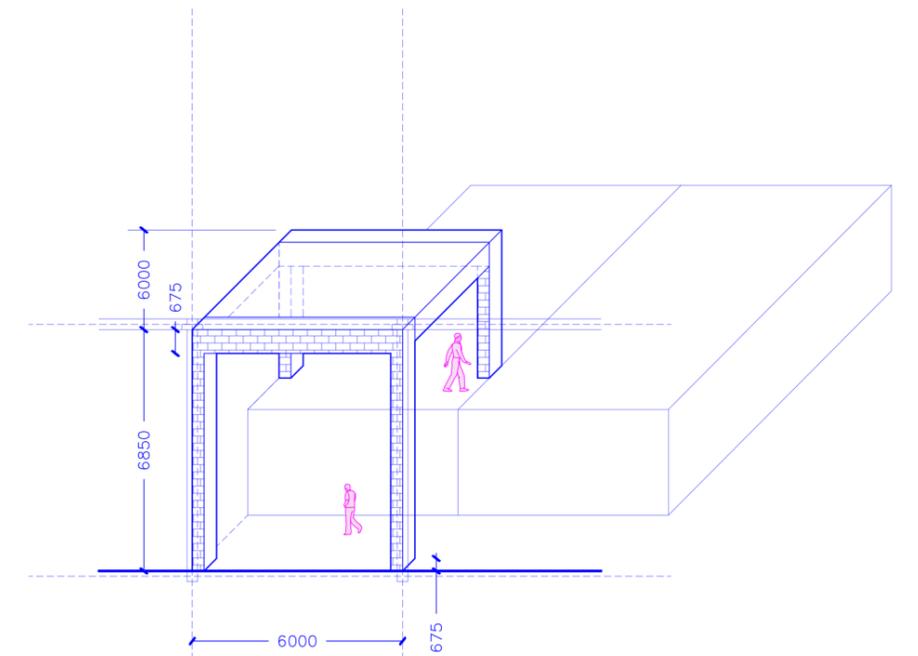




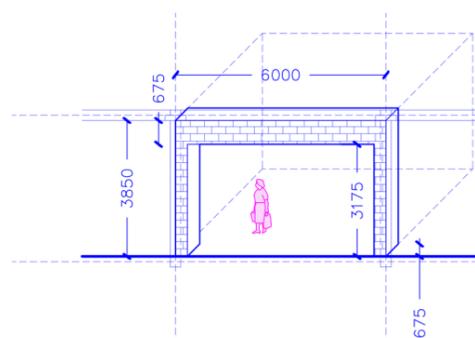
plinth
(6x6, 6x12, 6x18)



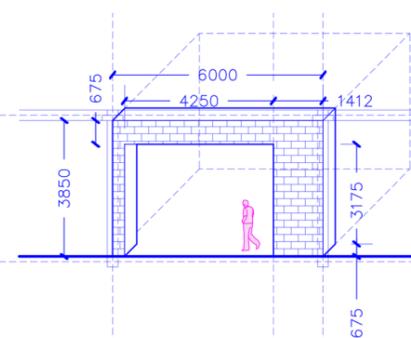
gateway



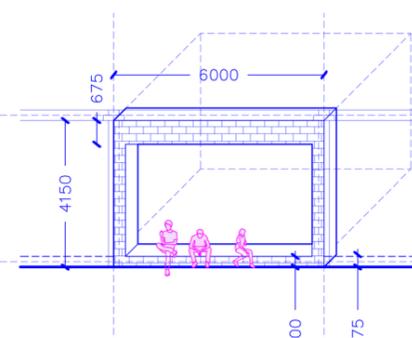
adaptive



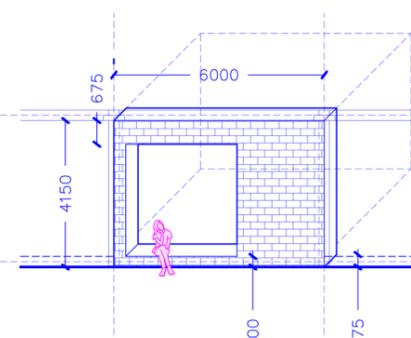
min. 4m height
(accessible)



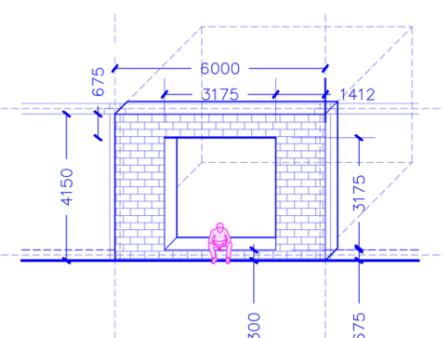
thicker column



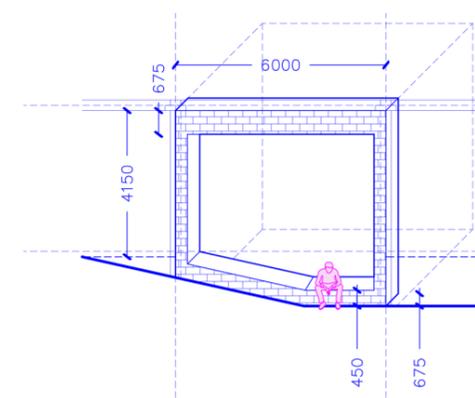
framed bench
(south face)



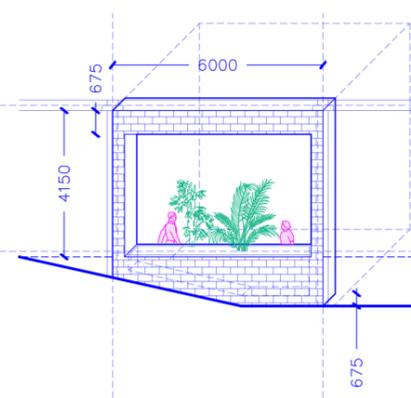
shifted opening
(north, east, west faces)



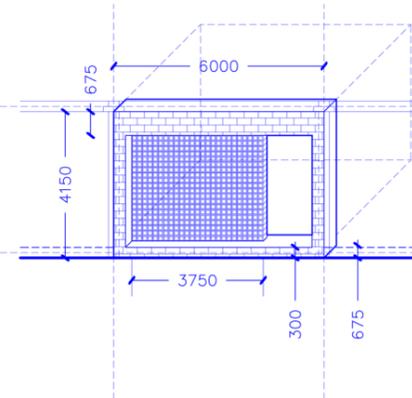
centered opening
(north, east, west faces)



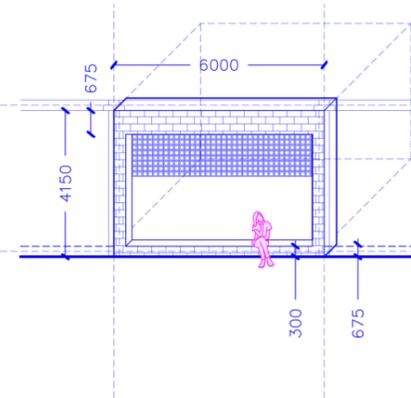
adaptive to topography



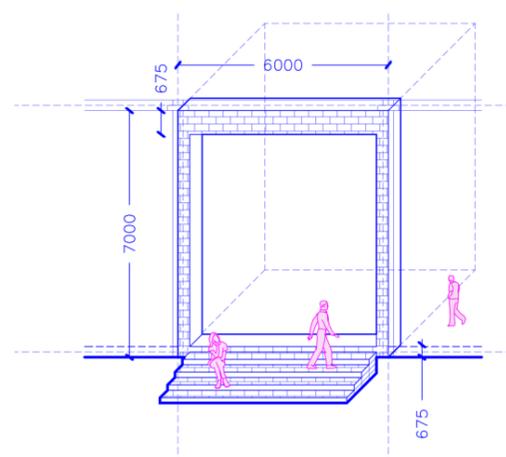
plantings
(all faces)



cobogo infill
(north, east, west faces)



cobogo header
(north, east, east faces)

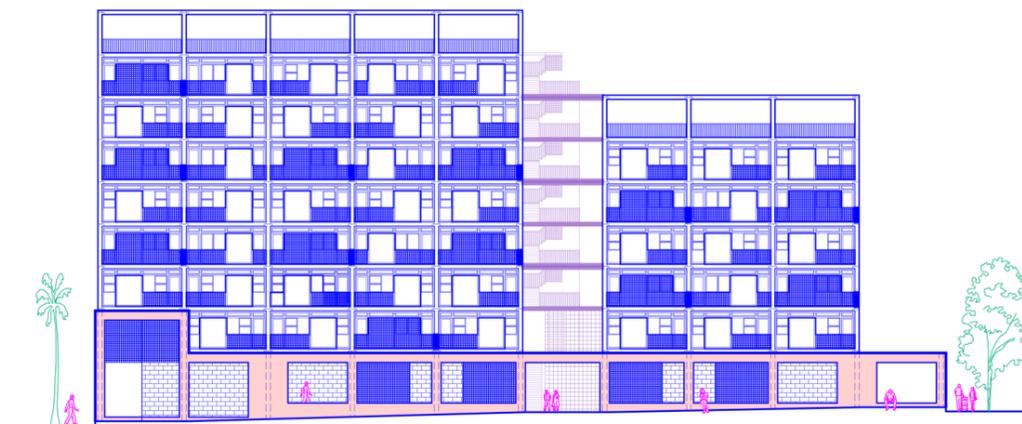


circulation



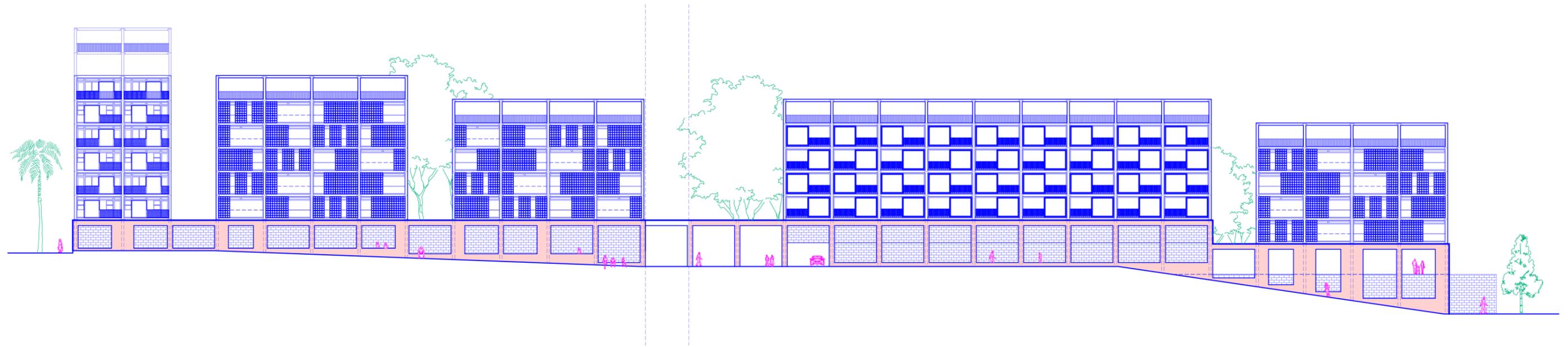
exterior elevation | north facing

1:500



exterior elevation | west facing

1:500



exterior elevation | south facing

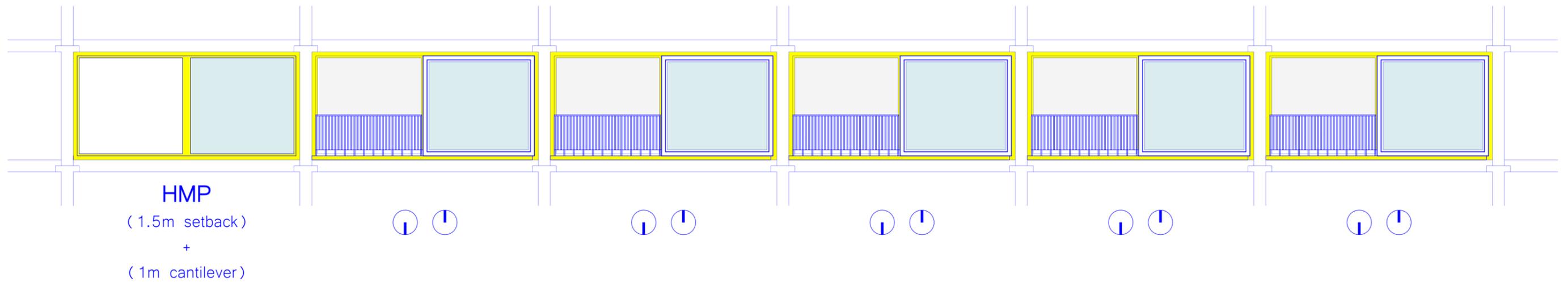
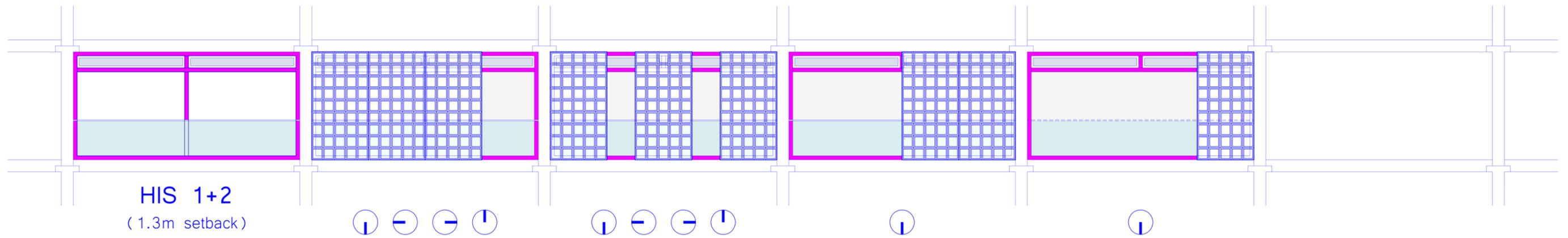
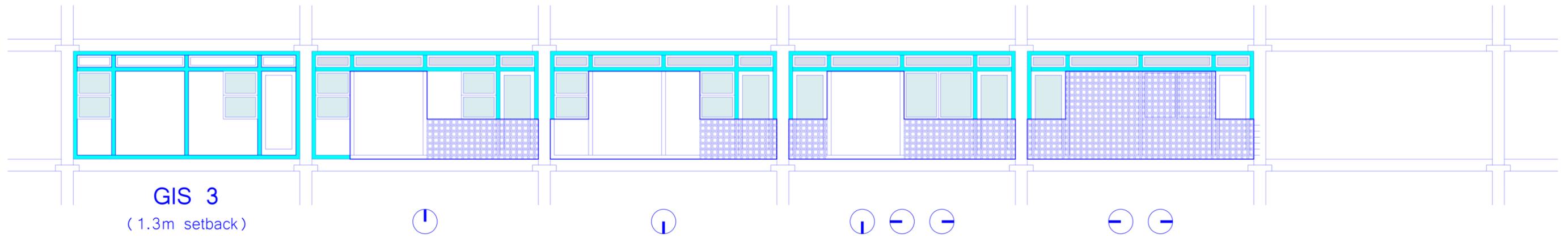
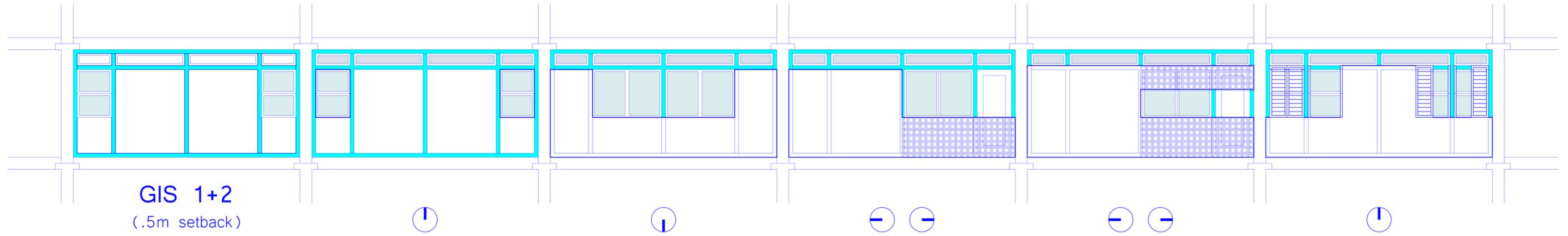
1:500



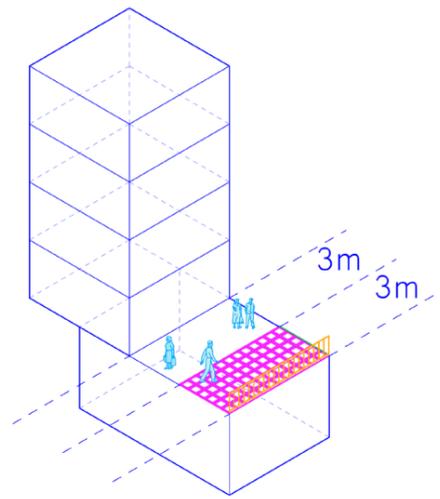
exterior elevation | east facing

1:500

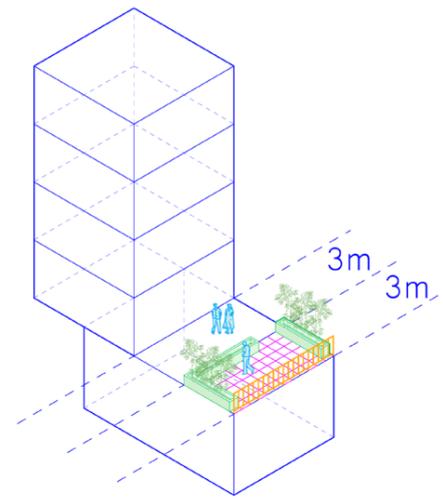
facade



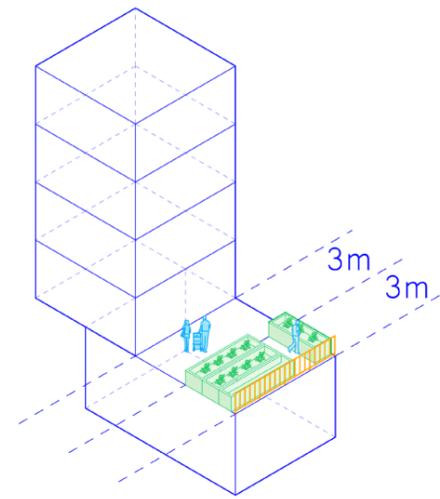
plinth + courtyard customization



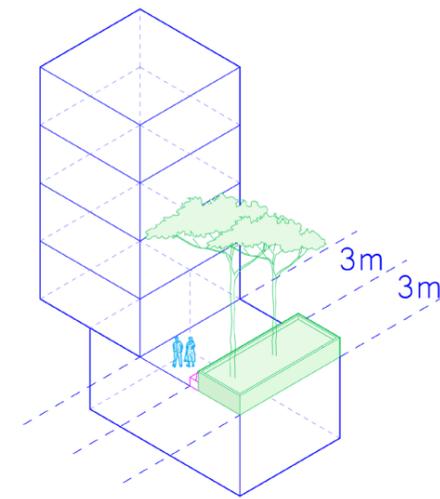
plinth - GIS + HIS
3x6m patio



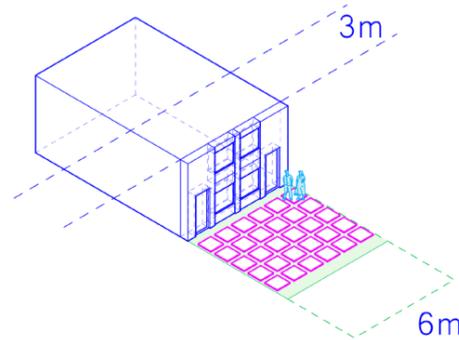
plinth - GIS + HIS
3x6m semi-private patio



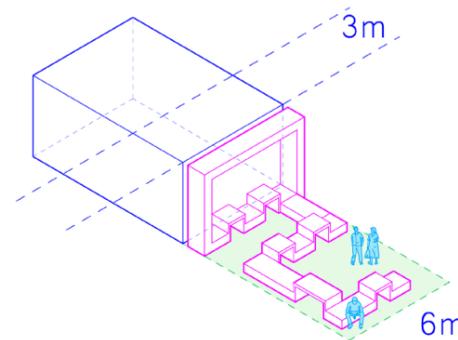
plinth - GIS + HIS
3x6m semi-private garden



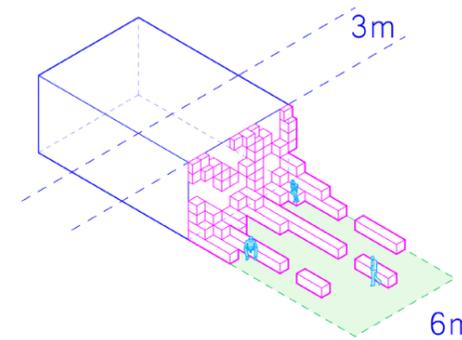
plinth - HMP
3x6m landscaping + bench



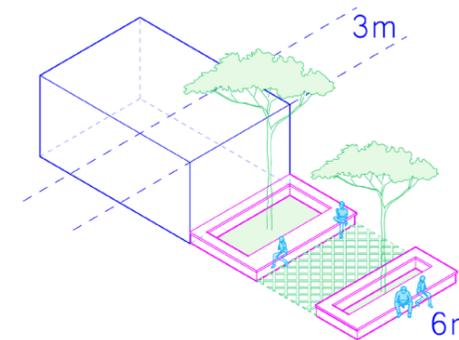
shop-house - 6x6m patio



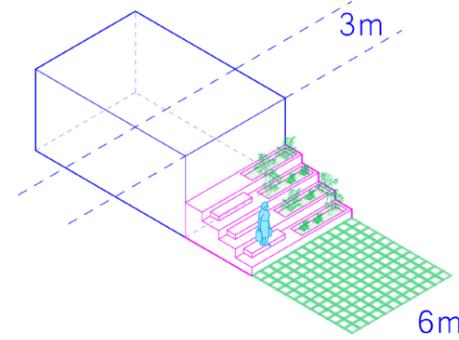
occupiable wall + table/seating



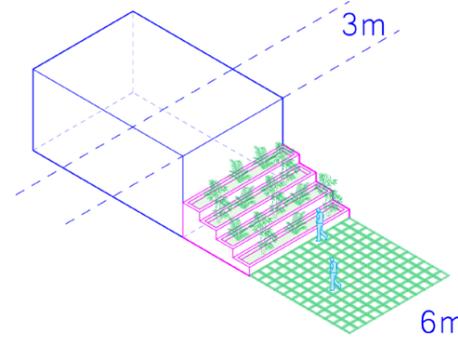
interactive wall + repose



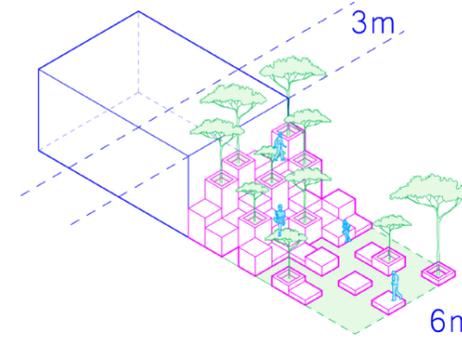
plantings + repose



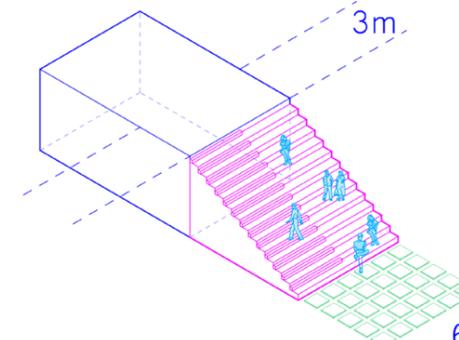
terraced seating + garden



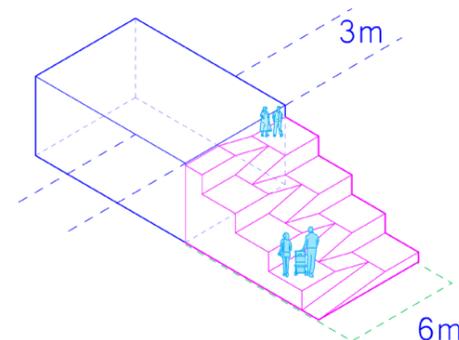
terraced garden



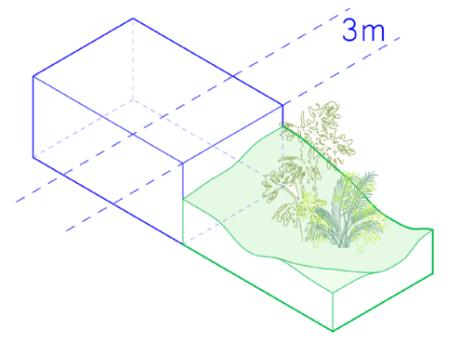
play + repose + plantings



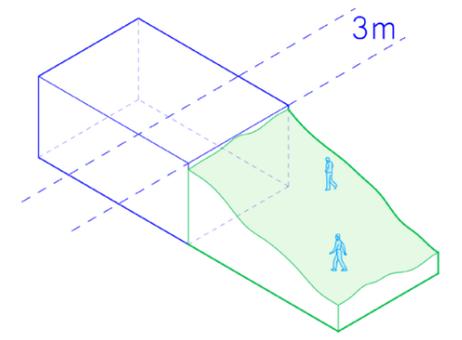
plinth access + amphitheater



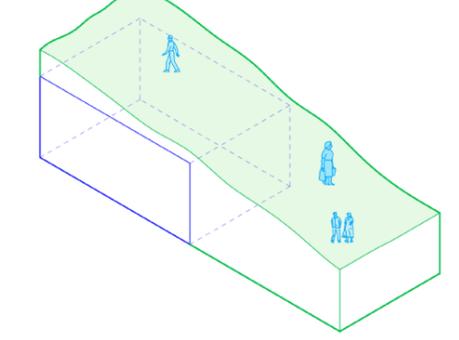
plinth ramp access



raingarden



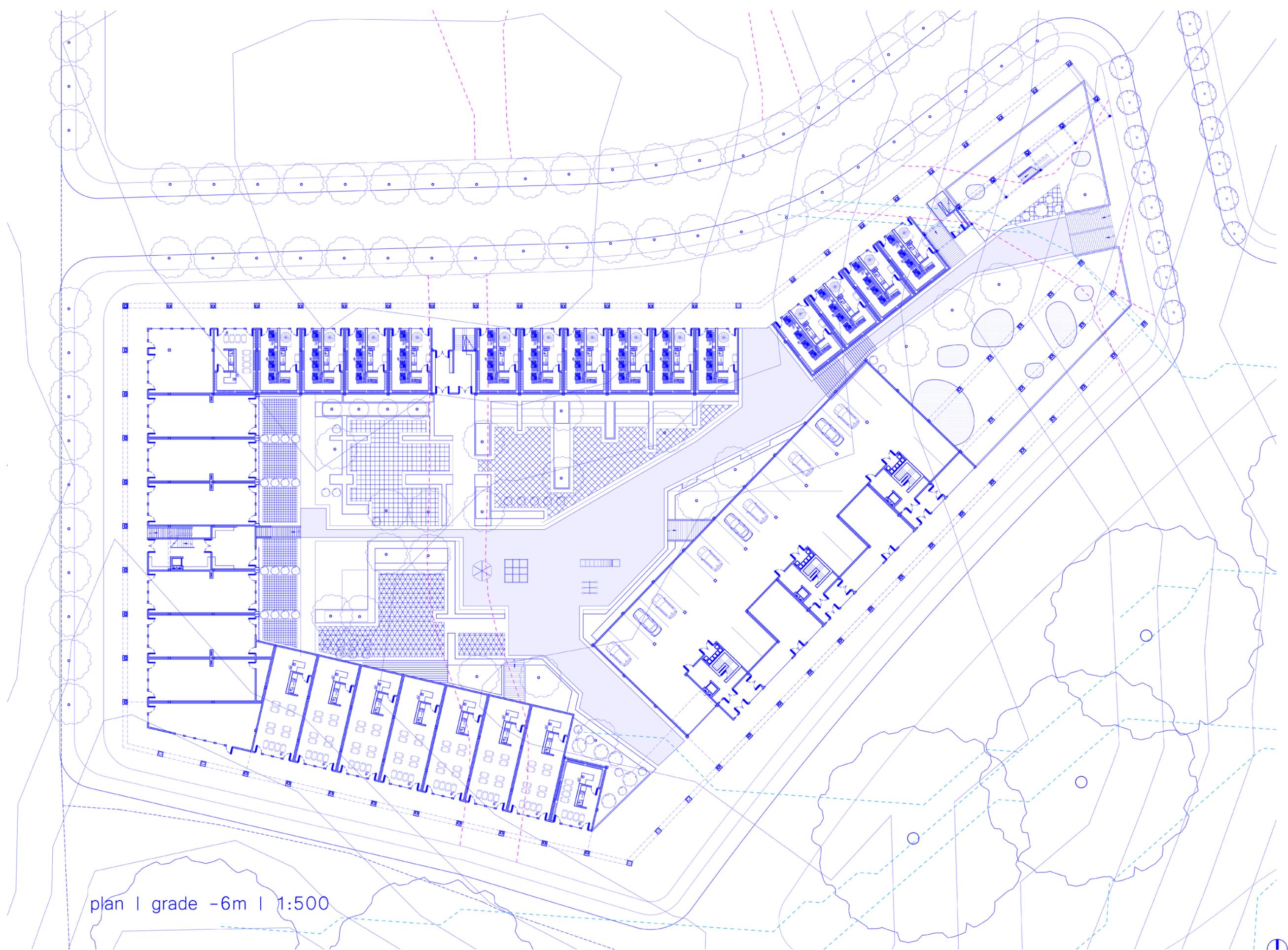
earth mound



embedded plinth

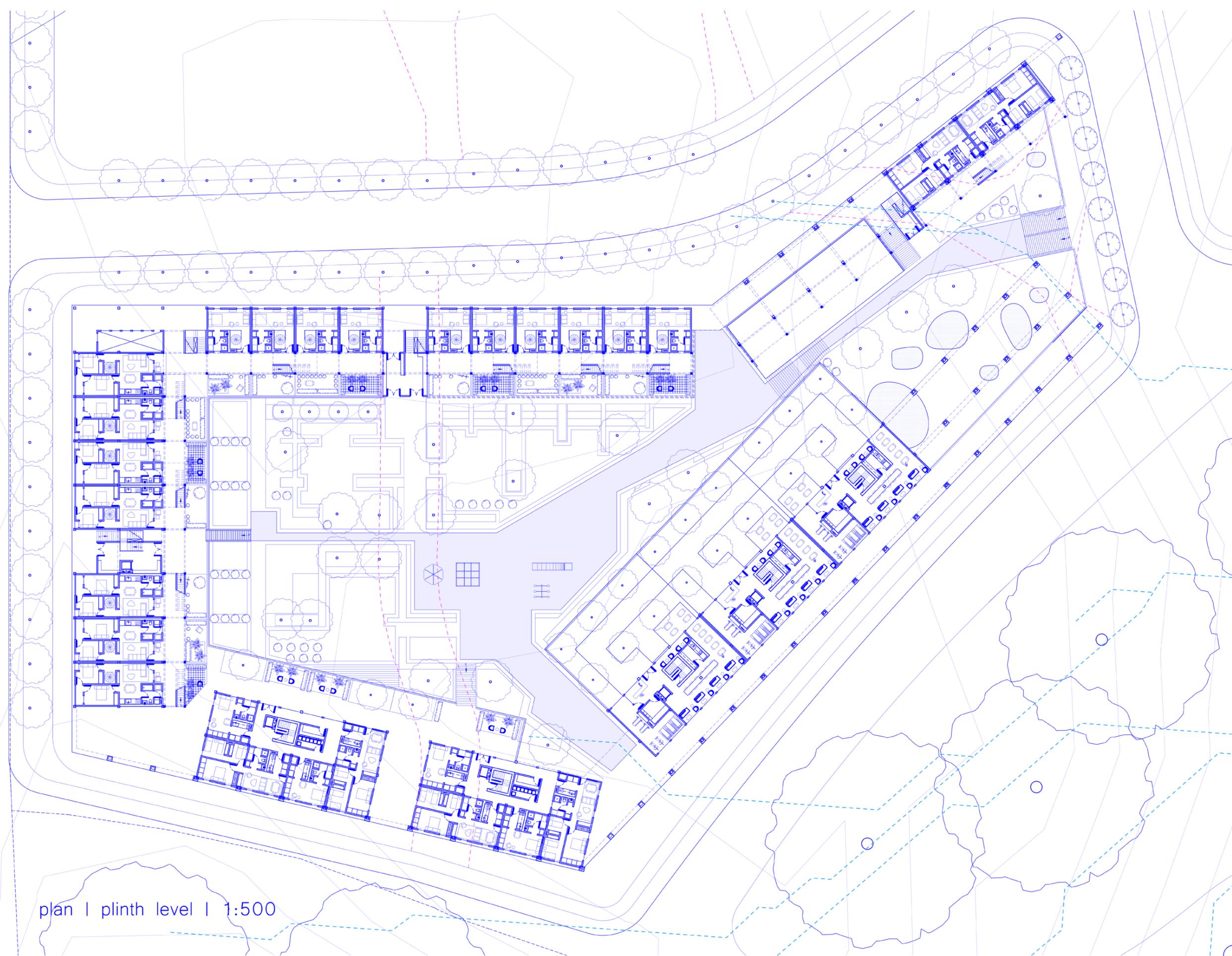


plan | grade -8m | 1:500



plan | grade -6m | 1:500





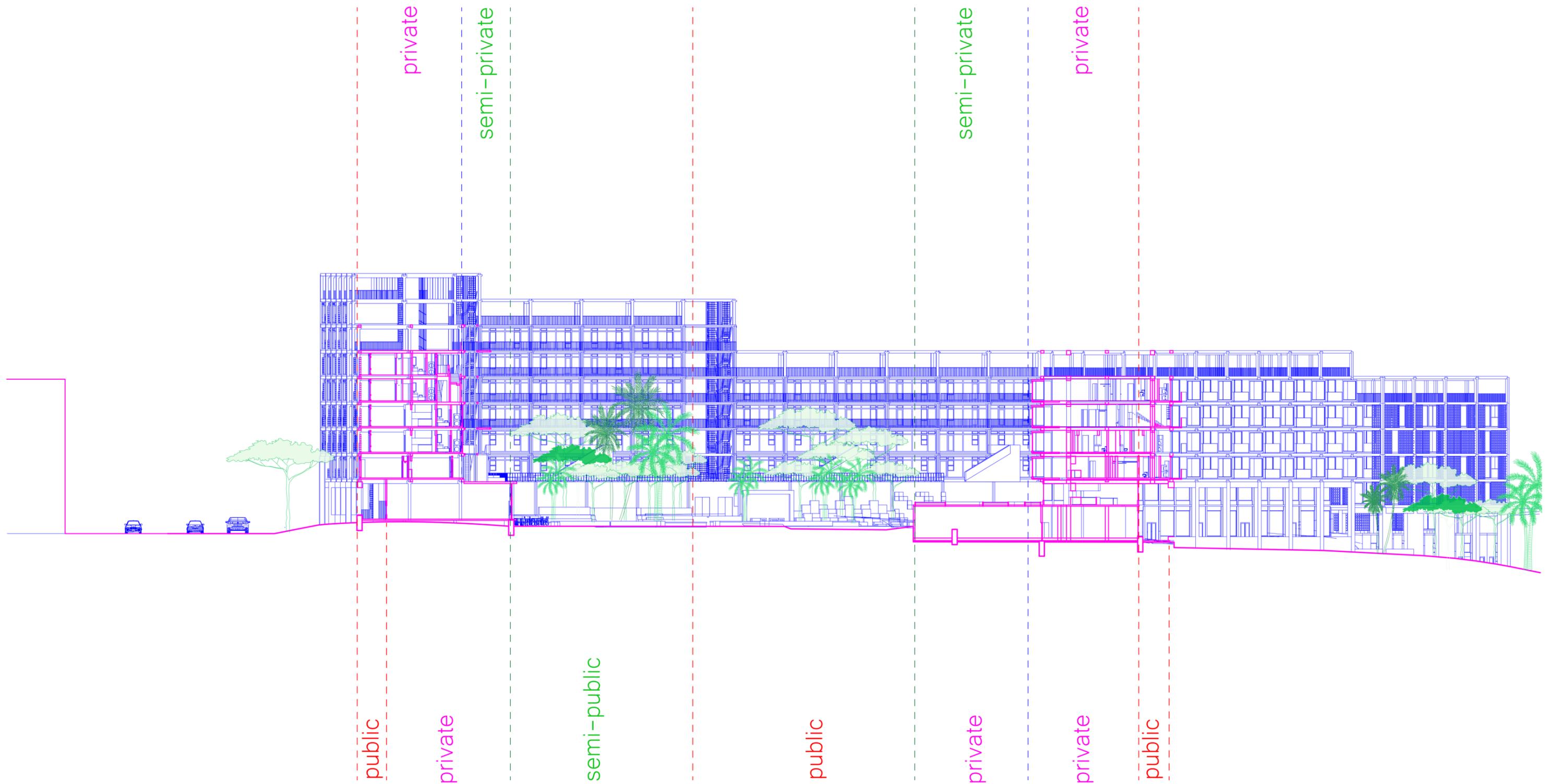
plan | plinth level | 1:500





section | north to south

transition of realms
 (PUBLIC > COLLECTIVE COMMONS > PRIVATE)



section | west to east

transition of realms
 (PUBLIC > COLLECTIVE COMMONS > PRIVATE)



from neighborhood

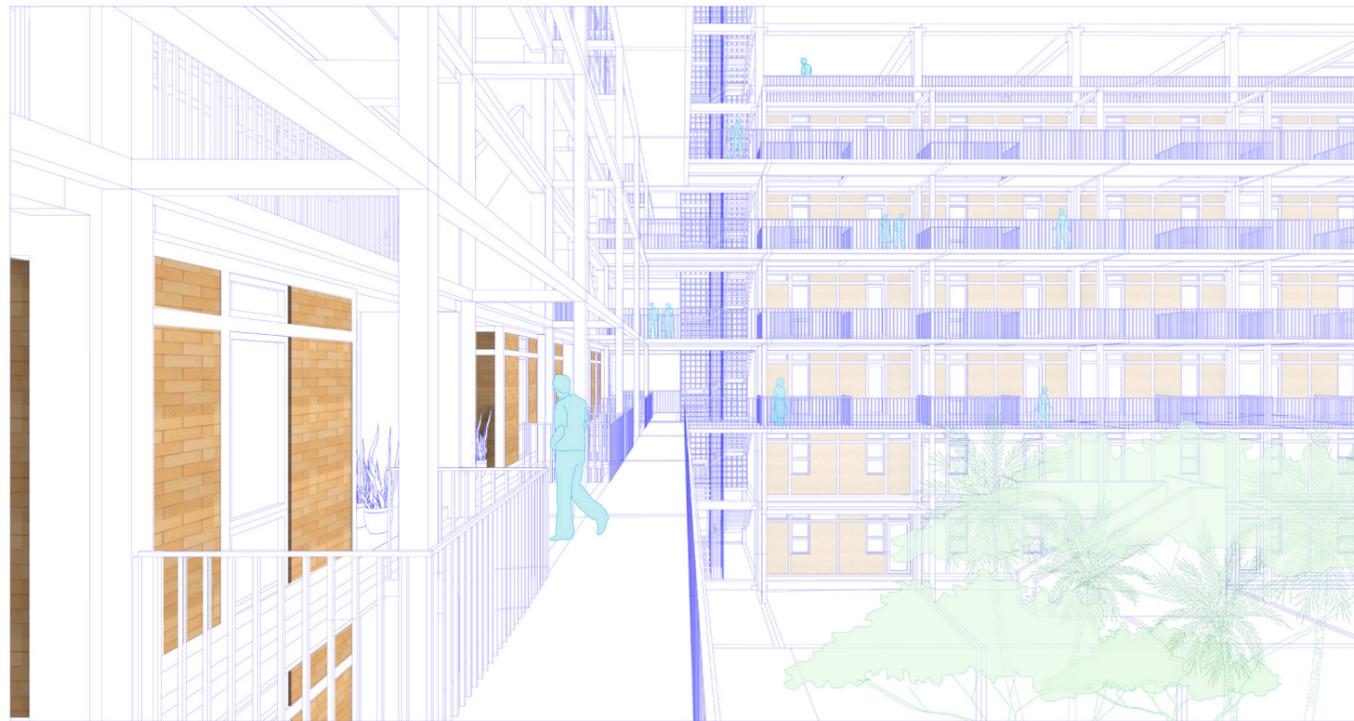


occupiable arcade

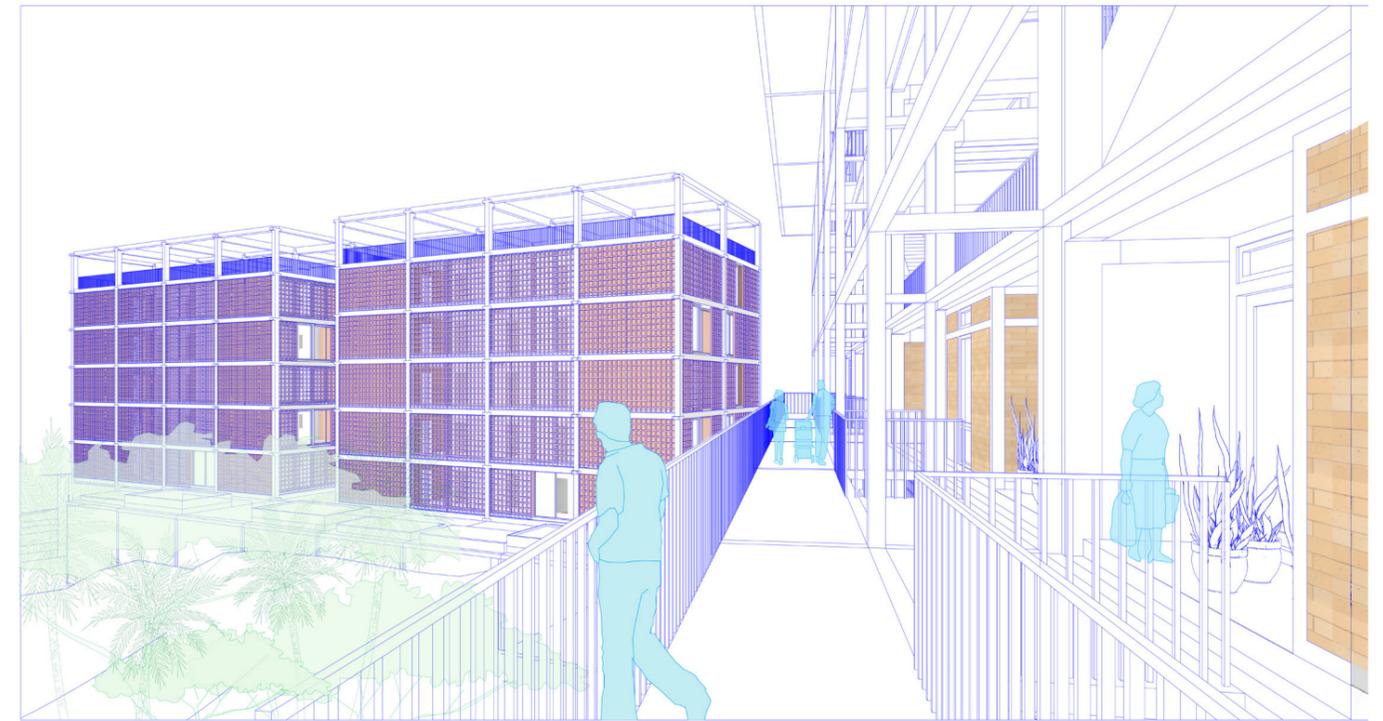


controlled access / circulation

GIS 1 + 2 experience



GIS 1 + 2 gallery access

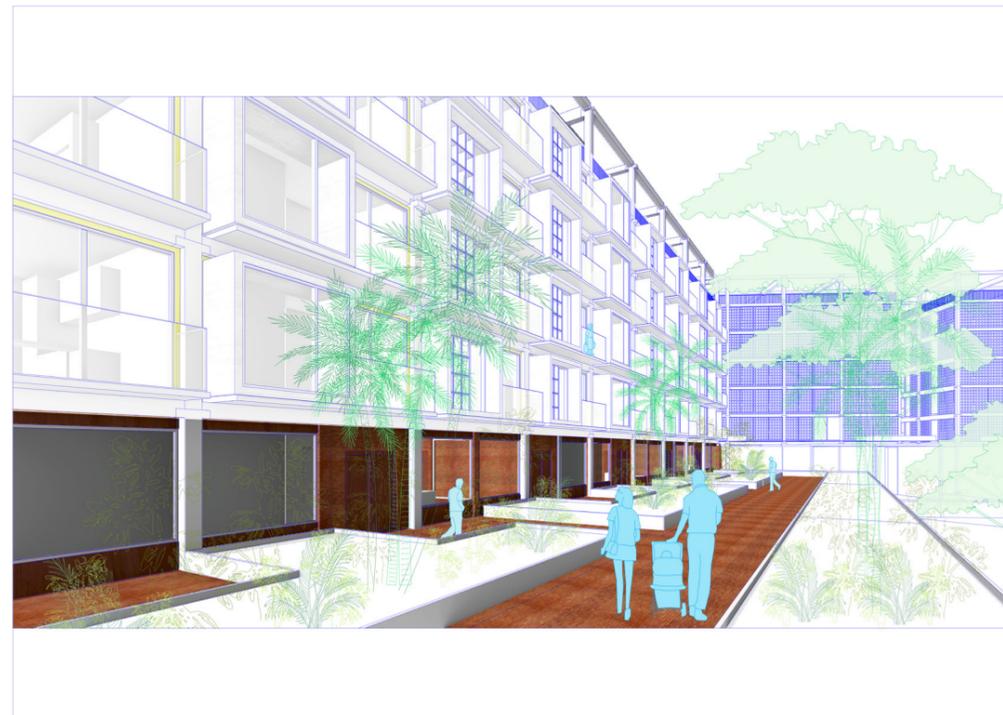


GIS 1 + 2 gallery access, facing HIS middle income

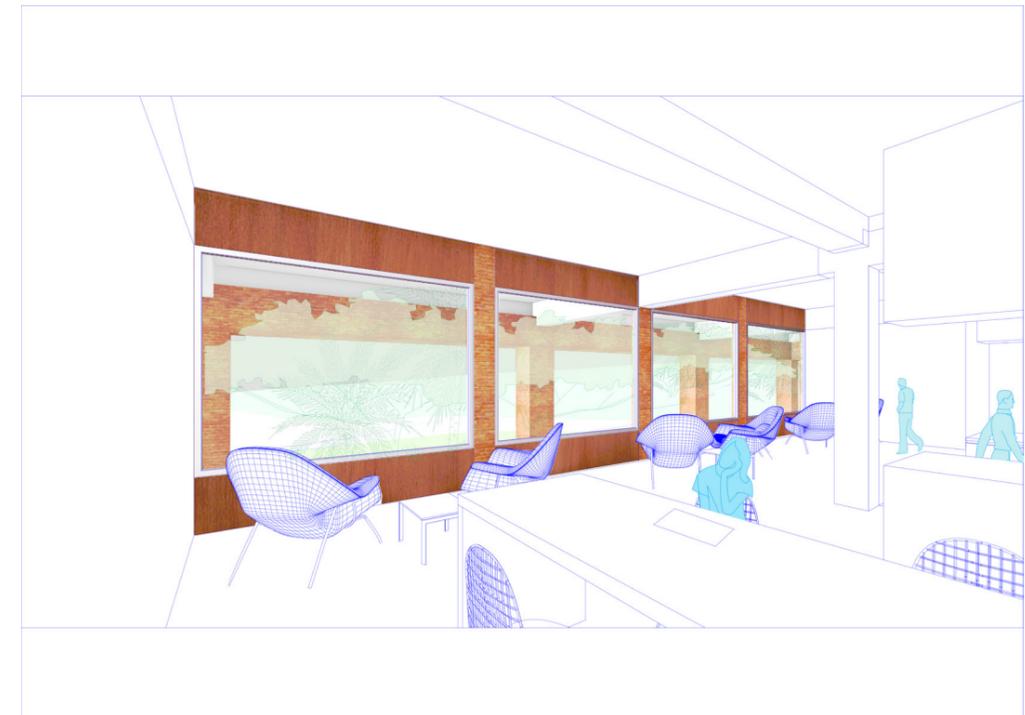
GIS 1 + 2 experience



car entry from street



semi-private plinth access



main level lobby / cafe

HMP high income experience

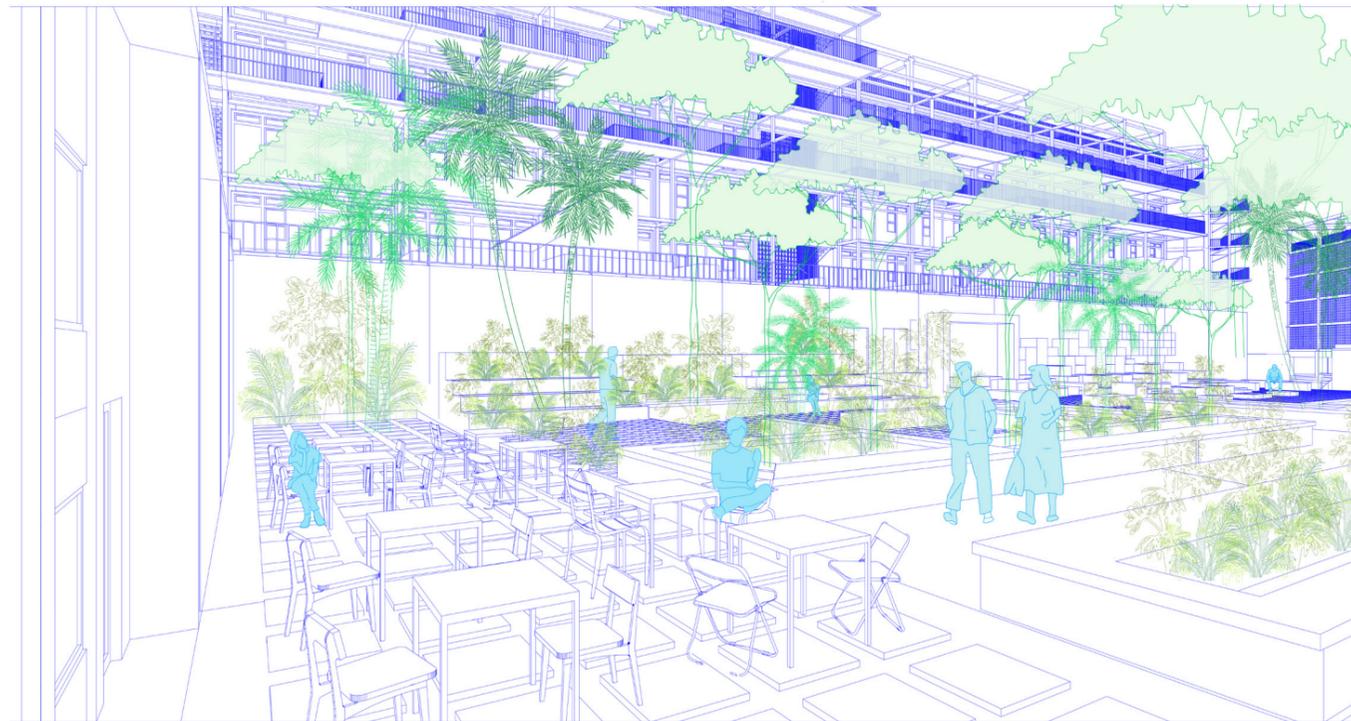


park / street approach



plinth porosity

public experience / the commons



amenity access



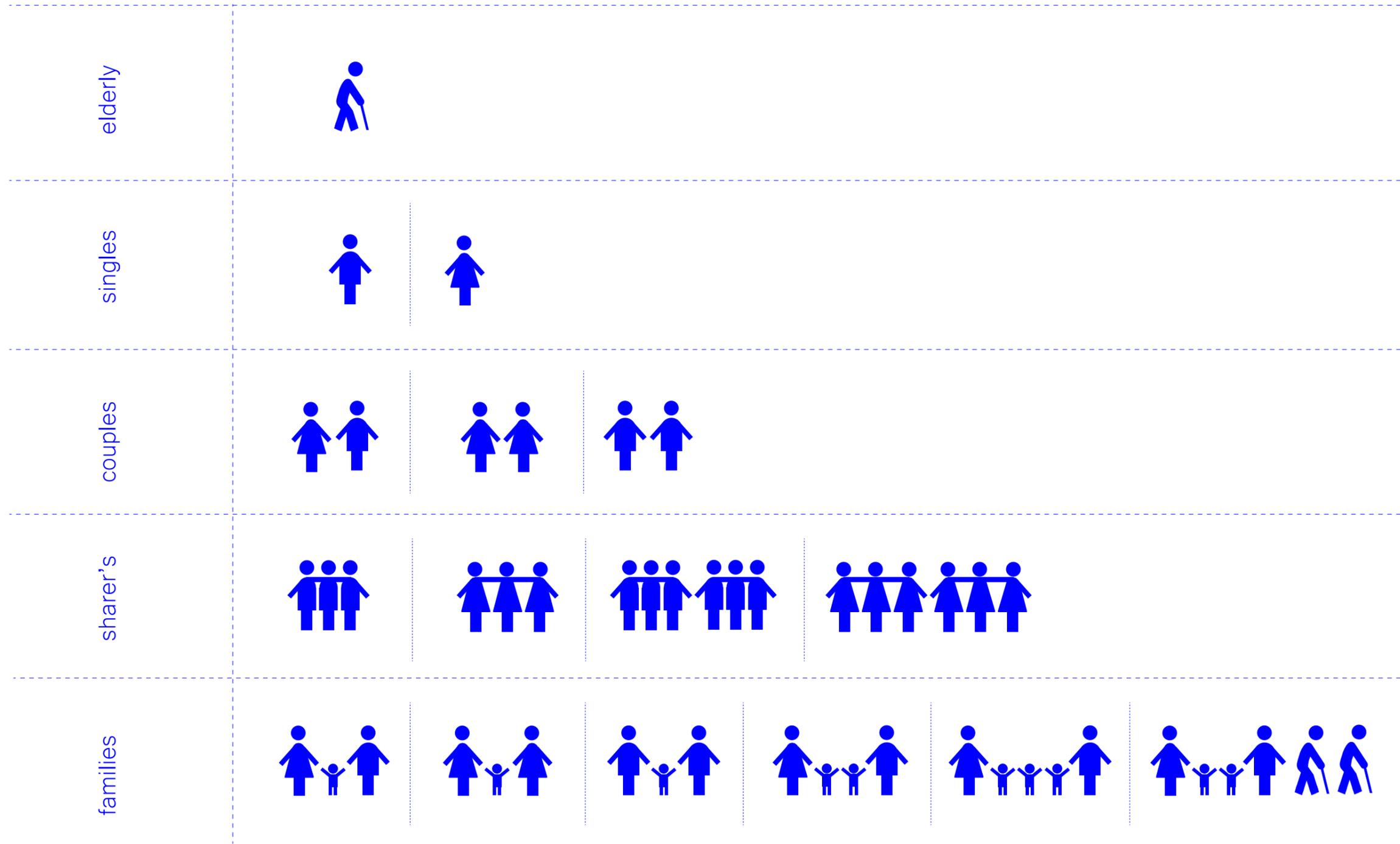
courtyard customization

public / semi-public experience of 'the commons'

DESIGN APPROACH

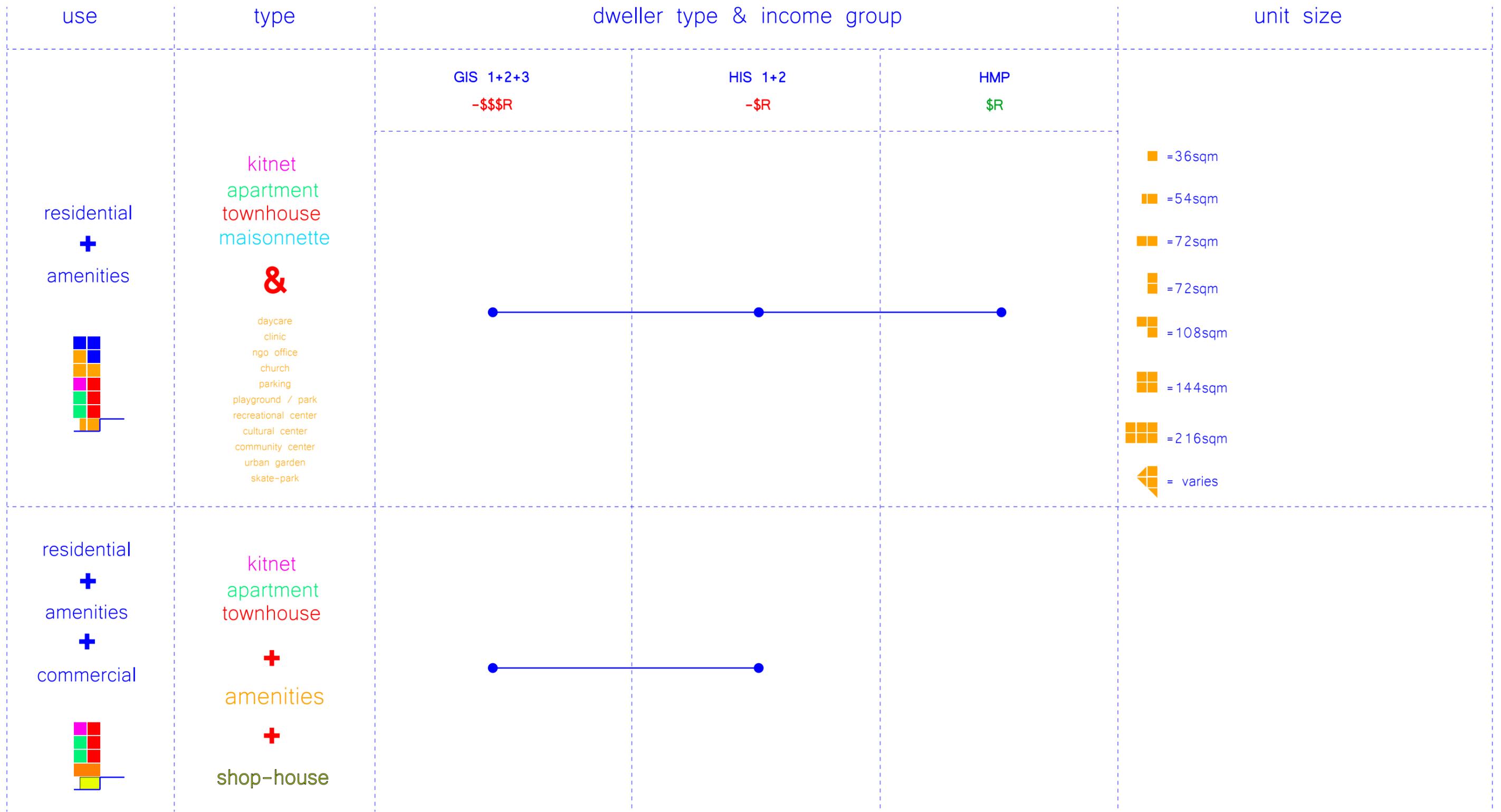
[04 - DWELLING STRATEGY]

[dweller types]



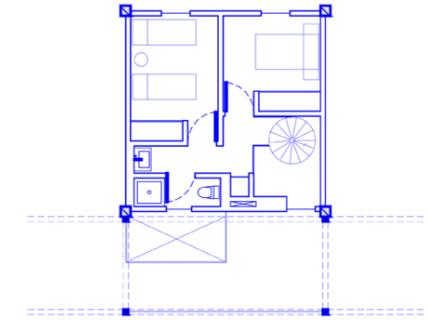
[dwelling type matrix] x [section slice]

use	type	dweller type & income group			unit size
		GIS 1+2+3 -\$\$\$R	HIS 1+2 -\$R	HMP \$R	
residential	kitnet				= 36sqm
	+				
	apartment				= 54sqm = 72sqm = 72sqm
	+				= 144sqm
	townhouse*				= 108sqm = 144sqm = 180sqm
residential	+				= 108sqm
	maisonnette				= 144sqm
residential	shop income generation: grocery, bakery, cafe, retail				= 36sqm = 54sqm = varies
residential	+				
	commercial	kitnet + shop			= 90sqm
residential	+				
	commercial	apartment + shop			= 126sqm = 126sqm
residential	+				
	commercial	townhouse + shop			= 162sqm = 198sqm = 234sqm

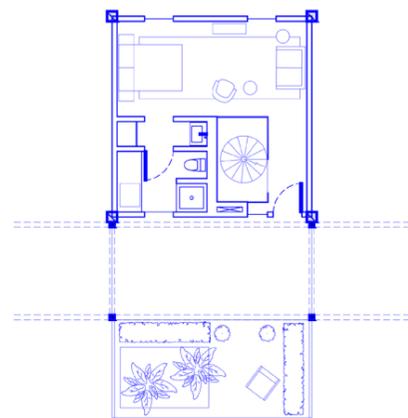


GIS 1

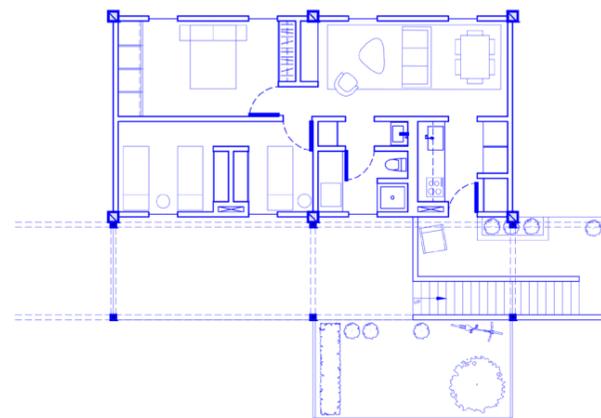
6mx6m grid module



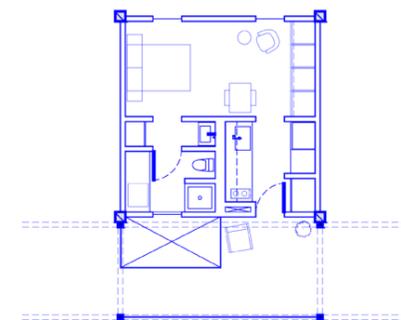
GIS-MAISONNETTE
upper: 36m²



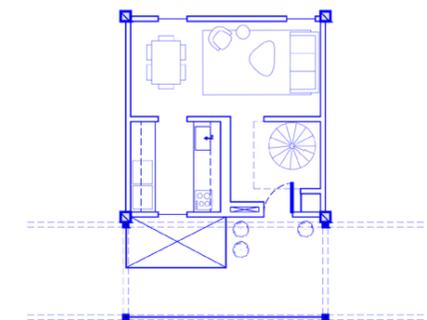
GIS-SHOPHOUSE A
access: plinth
total area: 90m²
main: 36m²
patio: 18m²



GIS-APARTMENT A
access: walk-up
area: 72m²
patio: 18m²



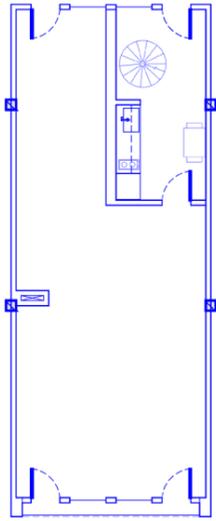
GIS-KITNET
access: gallery
area: 36m²



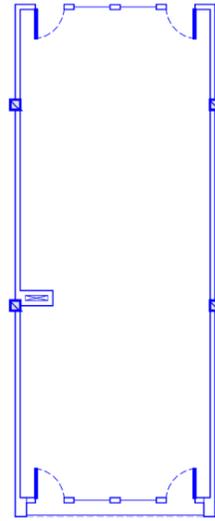
GIS-MAISONNETTE A
access: gallery
total area: 72m²
main: 36m²

GIS2

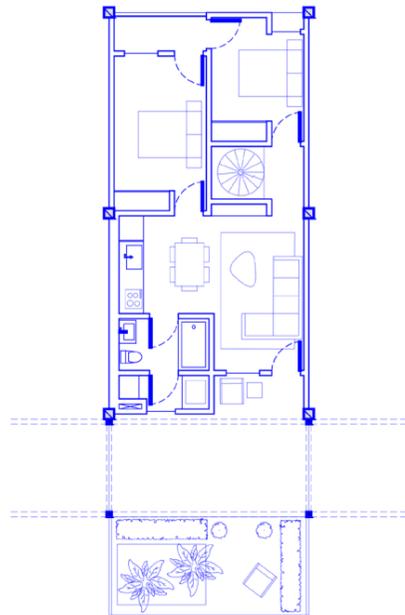
6mx12m grid module



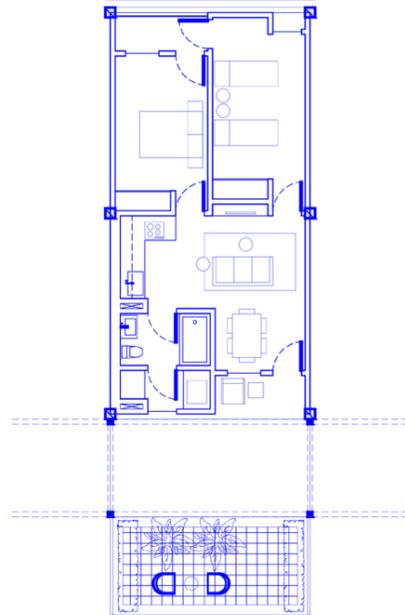
GIS-SHOPHOUSE B
access: arcade
shop: 66m²
lower: 24m²



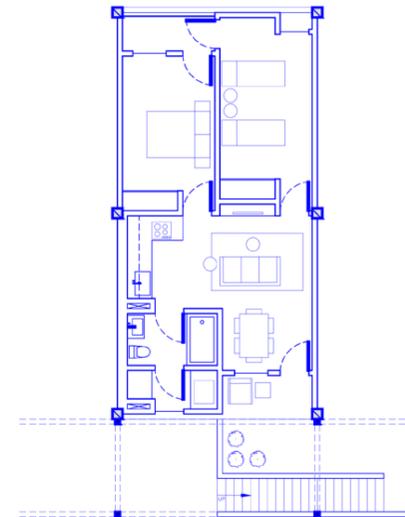
GIS-AMENITY
access: arcade
area: 72m²



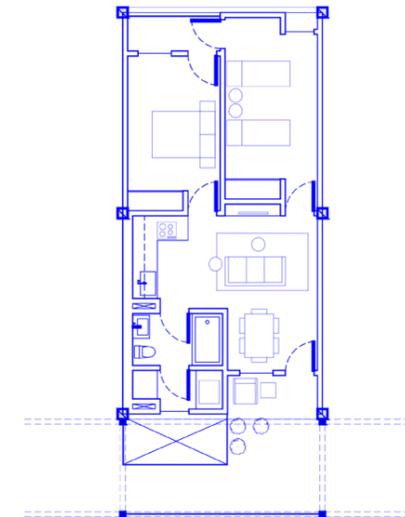
GIS-SHOPHOUSE B
access: plinth
total area: 162m²
main: 72m²
patio: 18m²



GIS-APARTMENT B1
access: plinth
area: 72m²
patio: 18m²



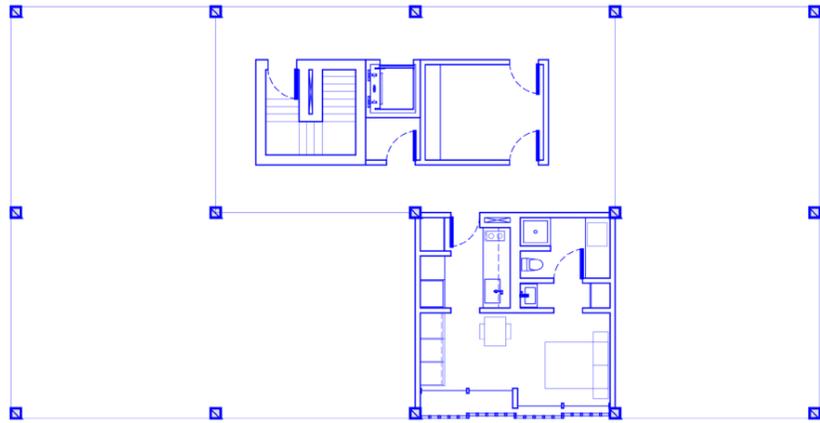
GIS-APARTMENT B2
access: walk-up gallery
main: 72m²
patio: 7.8m²



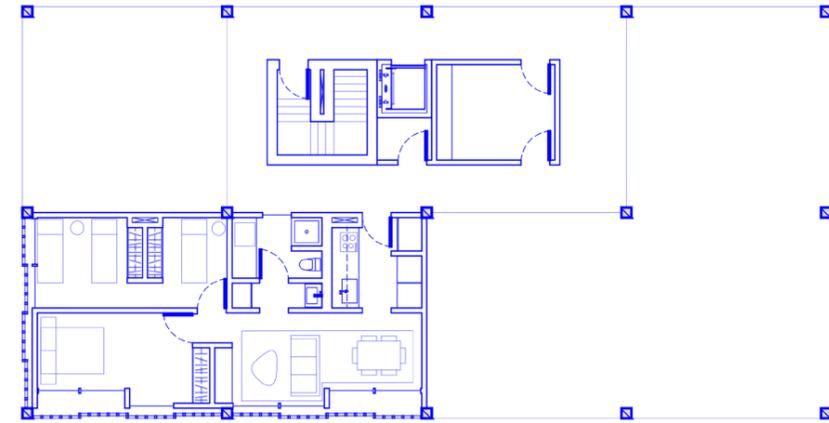
GIS-APARTMENT B3
access: gallery
area: 72m²
patio: 7.8m²

HIS

6mx12m grid module



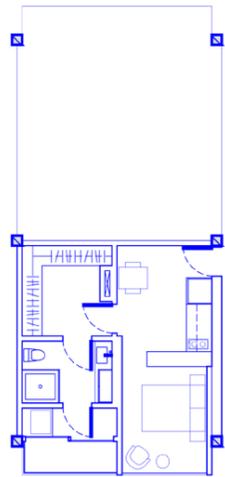
HIS-KITNET A1
access: elevator (4 units)
area: 36m²
patio: 2m²



HIS-APT A1
access: elevator (4 units)
area: 72m²
patio: 4m²

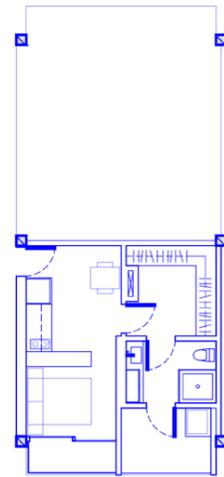
HMP

6mx12m grid module



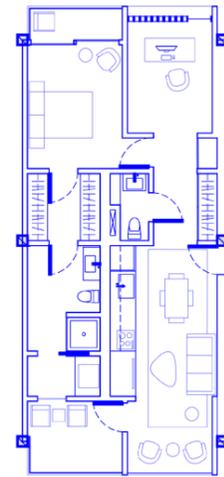
HMP-KITNET A1

access: elevator (4 units)
area: 42m²
patio: 3.9m²



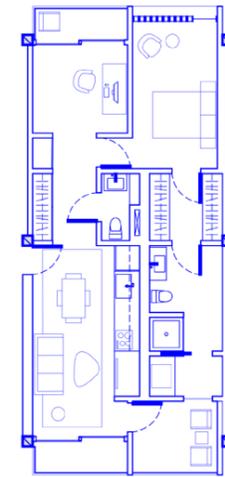
HMP-KITNET A2

access: elevator (4 units)
area: 42m²
patio: 3.9m²



HMP-APARTMENT A1

access: elevator (2 units)
area: 84m²
patio: 9.6m²

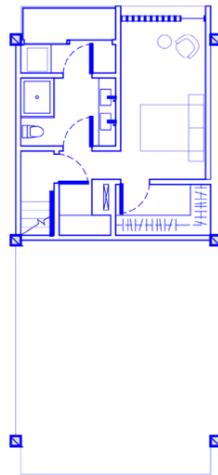


HMP-APARTMENT A2

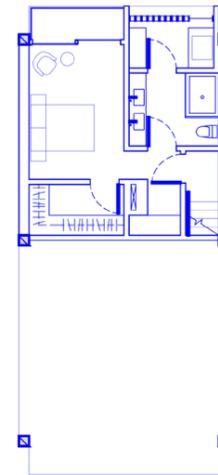
access: elevator
area: 84m²
patio: 6m²

HMP

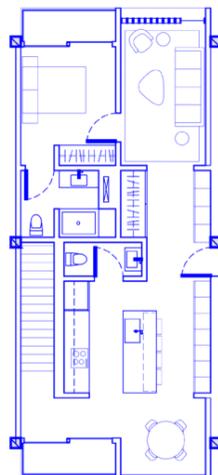
6mx12m grid module



HMP-MAISONETTE A1
upper: 42m²
patio: 3.9m²



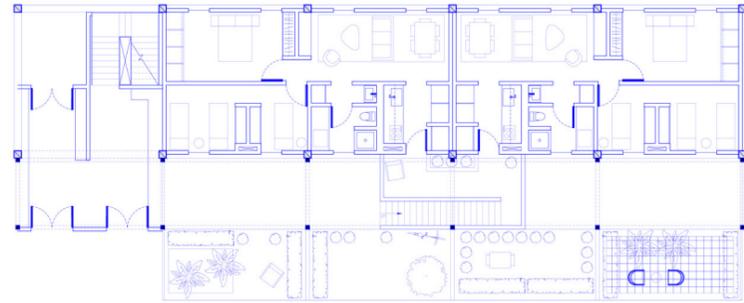
HMP-MAISONETTE A2
upper: 42m²
patio: 3.9m²



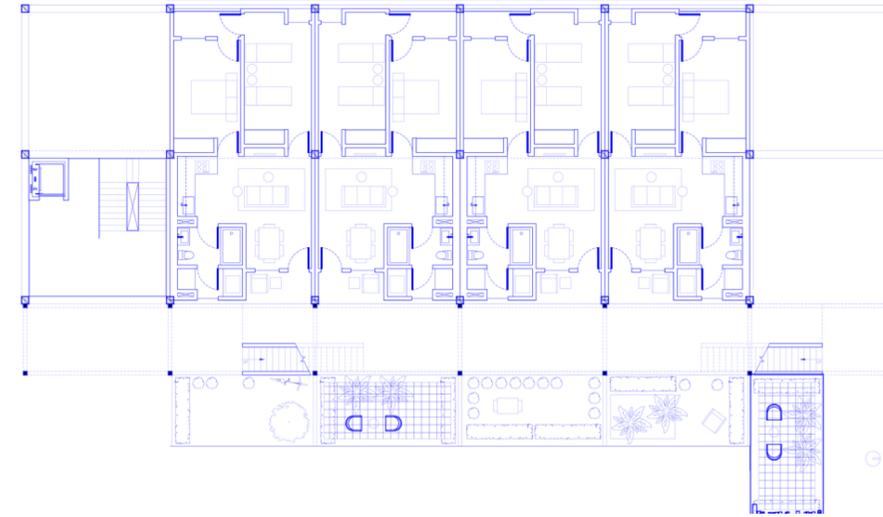
HMP-MAISONETTE A1
access: elevator (2 units)
total area: 126m²
main: 76.2m²
patio: 11.7m²



HMP-MAISONETTE A1
access: elevator (2 units)
total area: 126m²
main: 76.2m²
patio: 11.7m²



GIS1 - 6x6 - [4] bay cluster

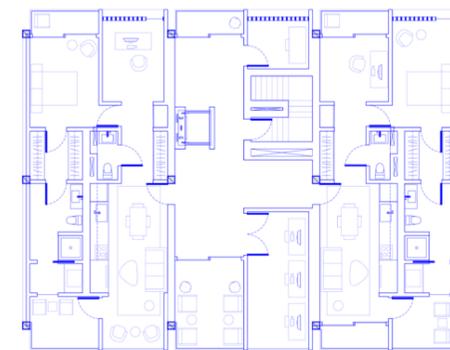


GIS2 - 6x12 - [4] bay cluster

HIS-LOBBY



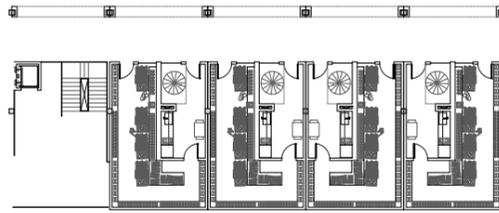
HIS - 6x12 - [4] unit cluster



HMP - 6x12 - [3] bay cluster

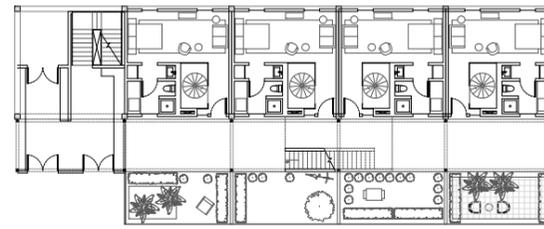
GIS 1&2

GIS-SH-00



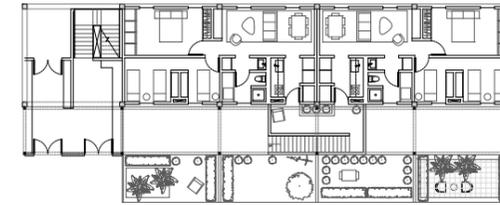
shop-house 00 (90m2)

GIS-SH-01



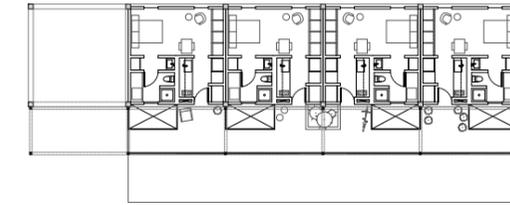
shop-house 01 (90m2)

GIS-APT-02



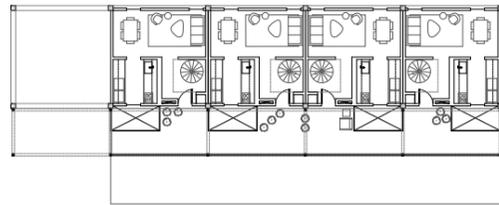
apartment (72m2)

GIS-KITNET-03&04



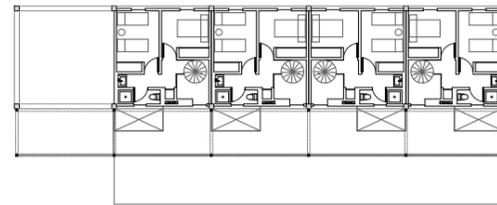
kitnet (36m2)

GIS-M-05



maisonette 05 (72m2)

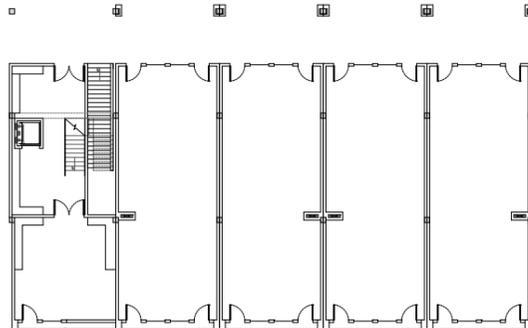
GIS-M-06



maisonette 06 (72m2)

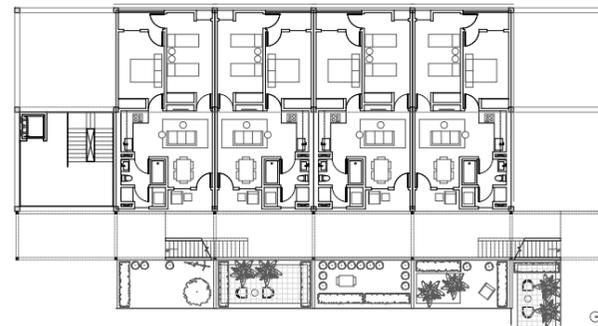
GIS 3

GIS-AMENITY-00



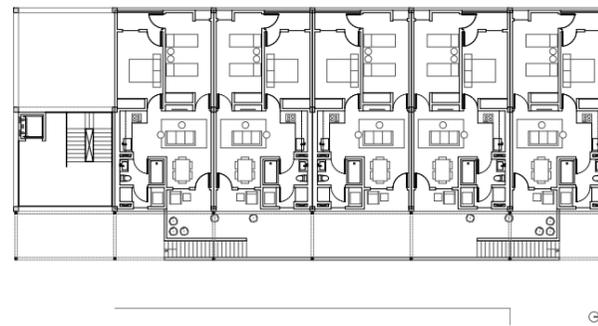
amenity space 00 (90m2)

GIS-APT-01



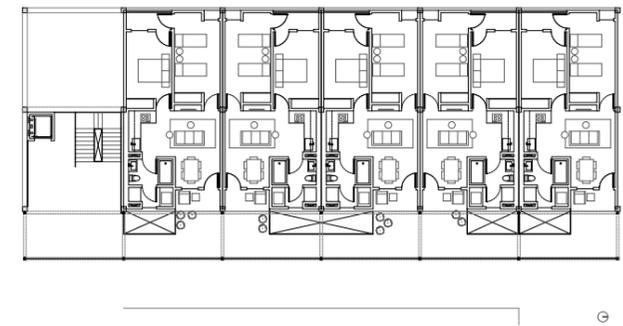
apt 01 (72m2)

GIS-APT-02



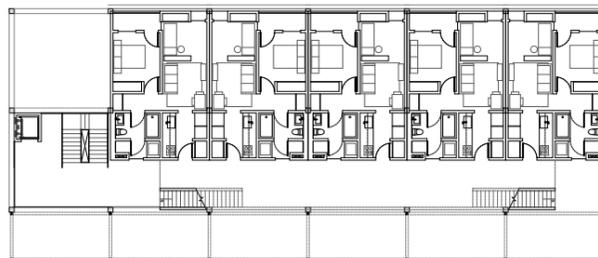
apt 02 (72m2)

GIS-APT-03



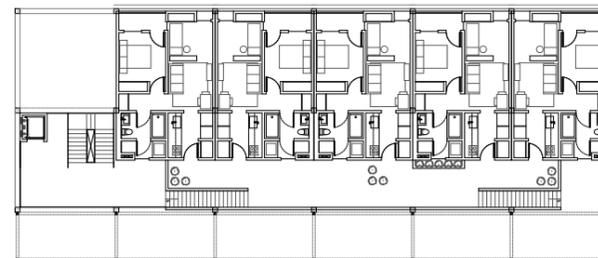
apt 03 (72m2)

GIS-APT(54M2)-04



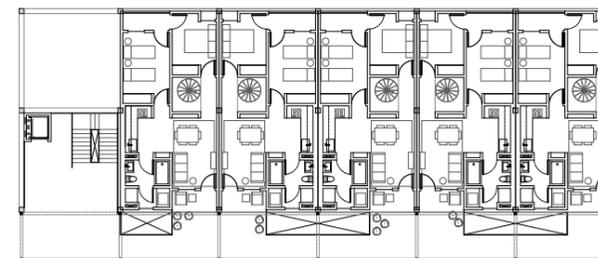
apt 04 (54m2)

GIS-APT(54M2)-05



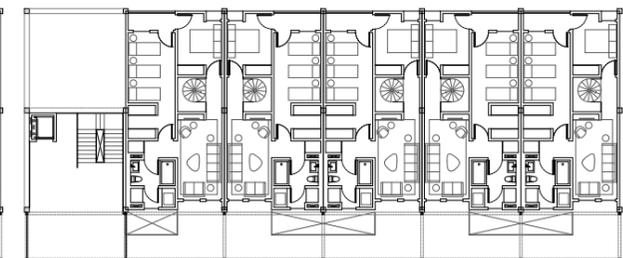
apt 05 (54m2)

GIS-M-06



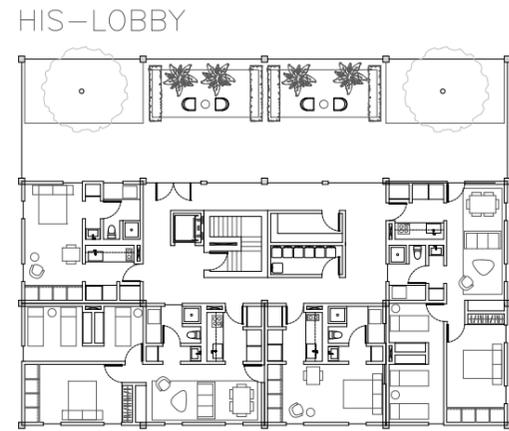
maisonette 06 (144m2)

GIS-M-07



maisonette 07 (144m2)

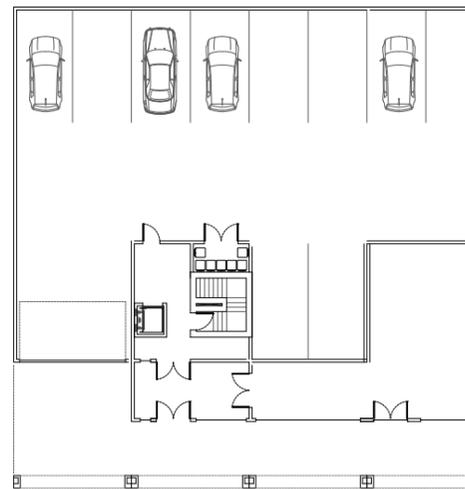
HIS 1&2



apt (72m2) kitnet (36m2)

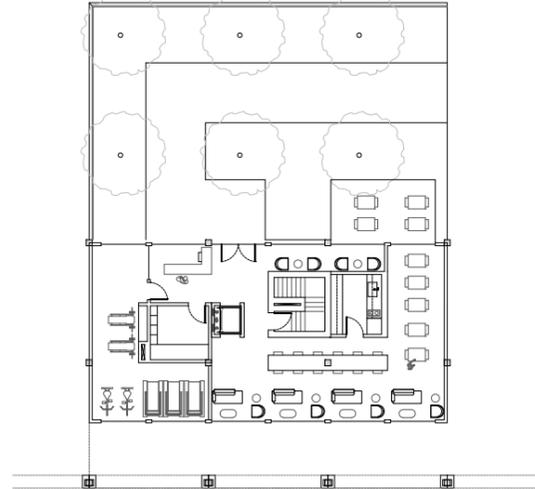
HMP

HMP-PARKING & CORE-00



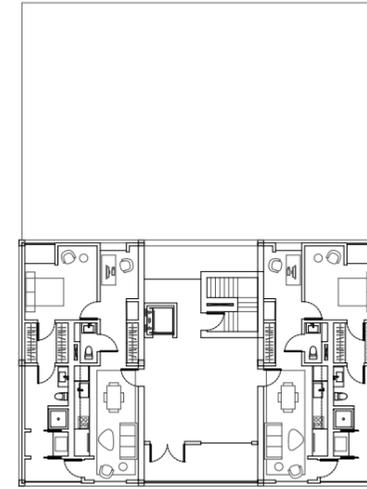
parking + private access

HMP-LOBBY & AMENITIES-01

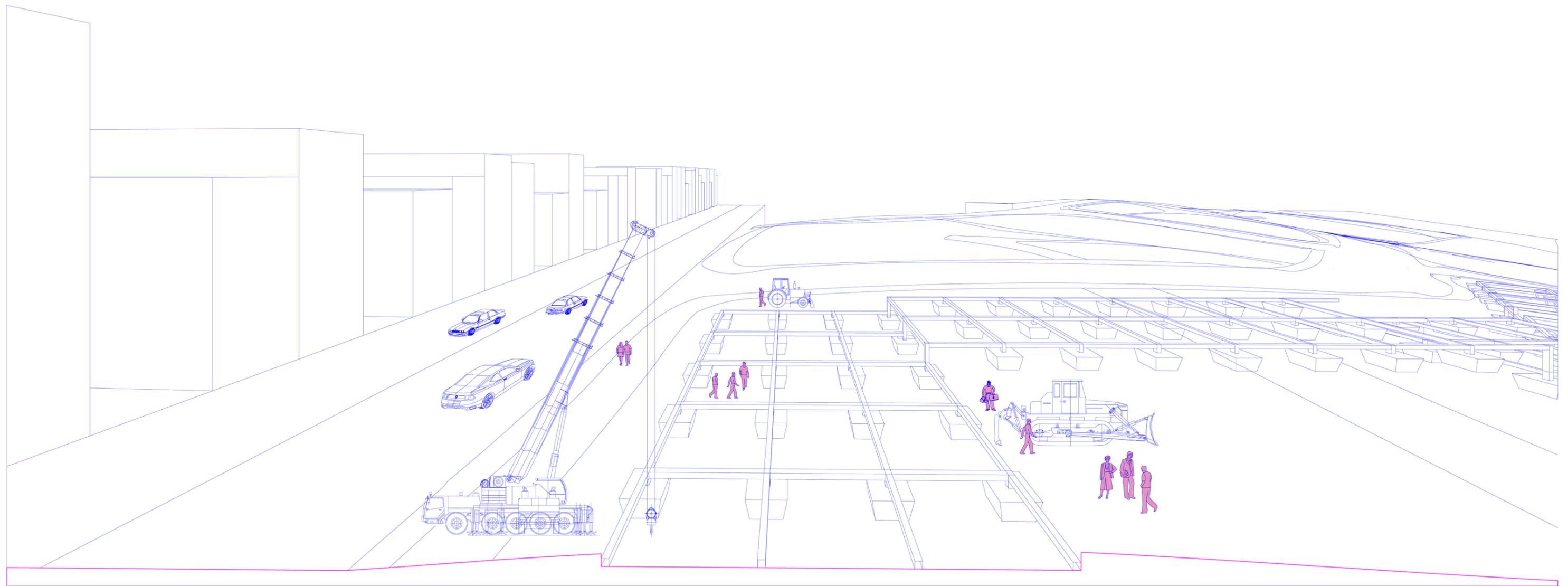


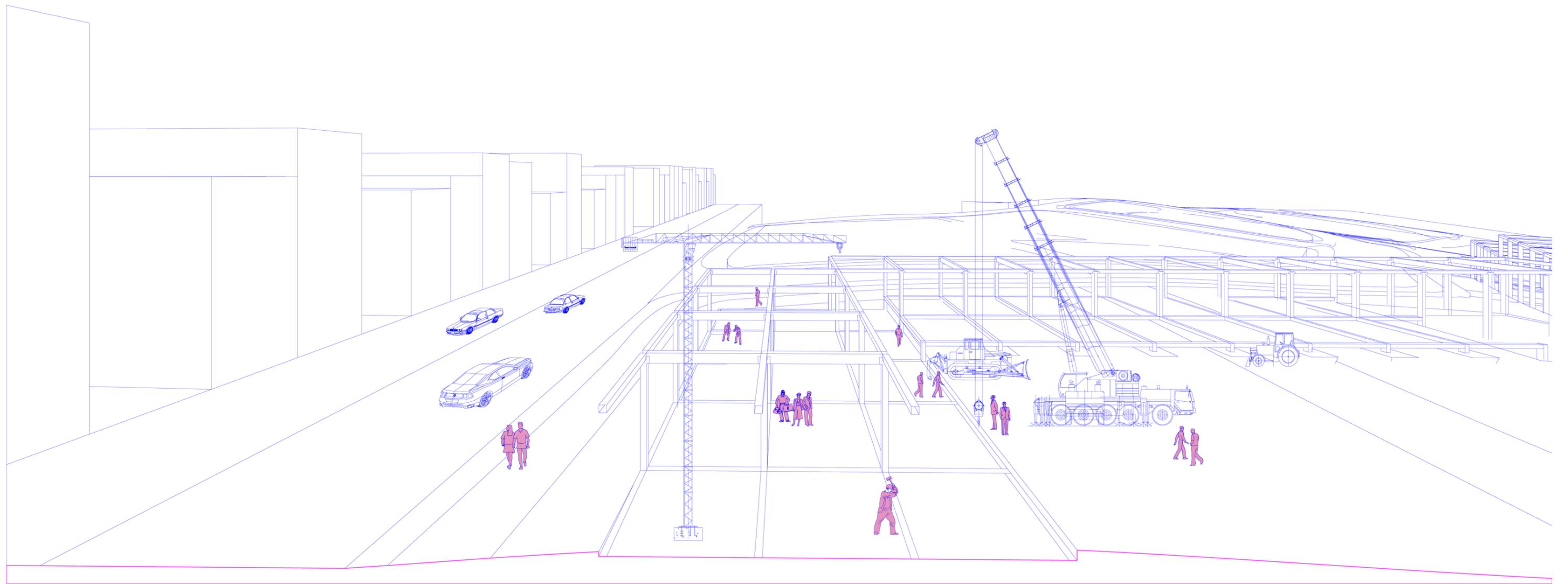
lobby + private amenities

HMP-APT(72M2)-02

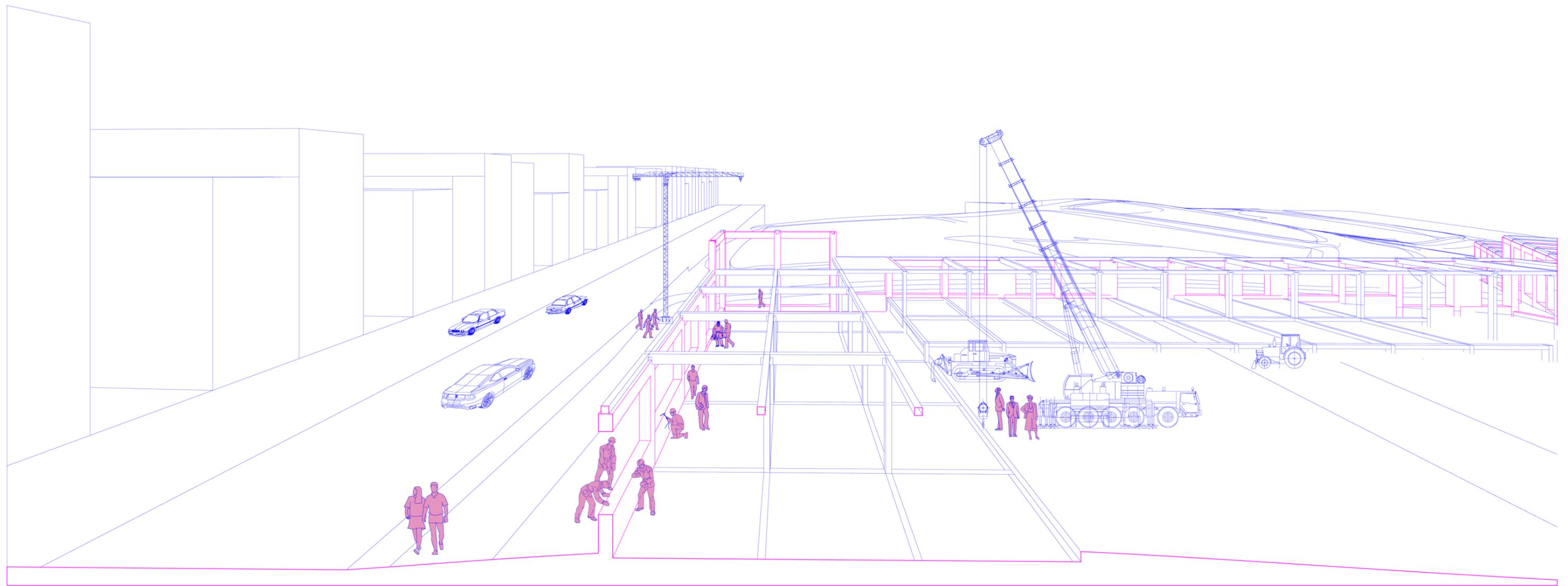


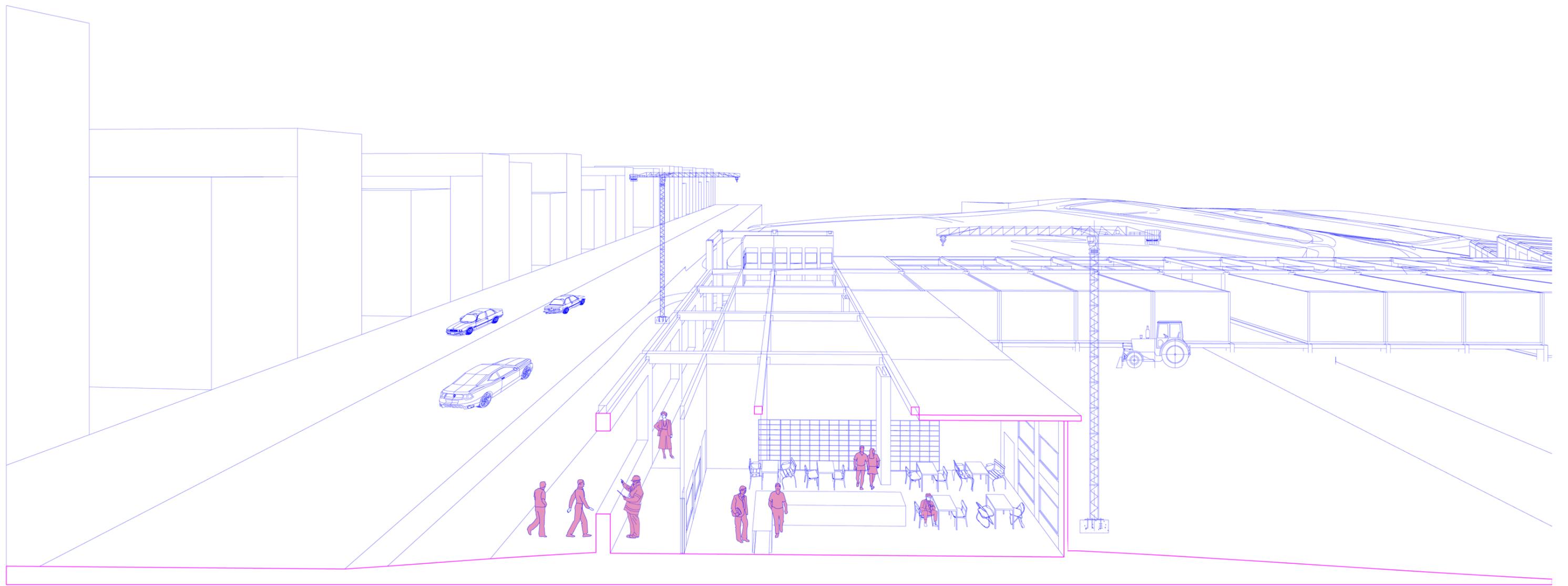
apartment (72m2)



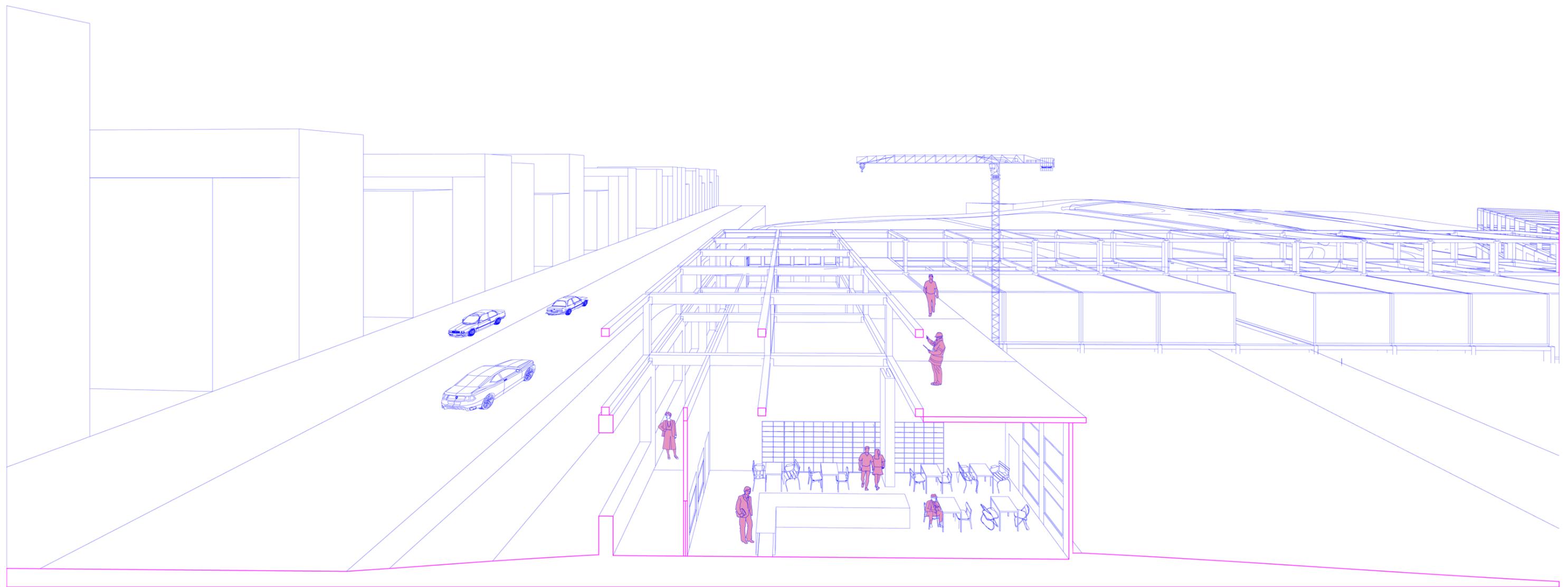


gis 1 - plinth column + beam structure

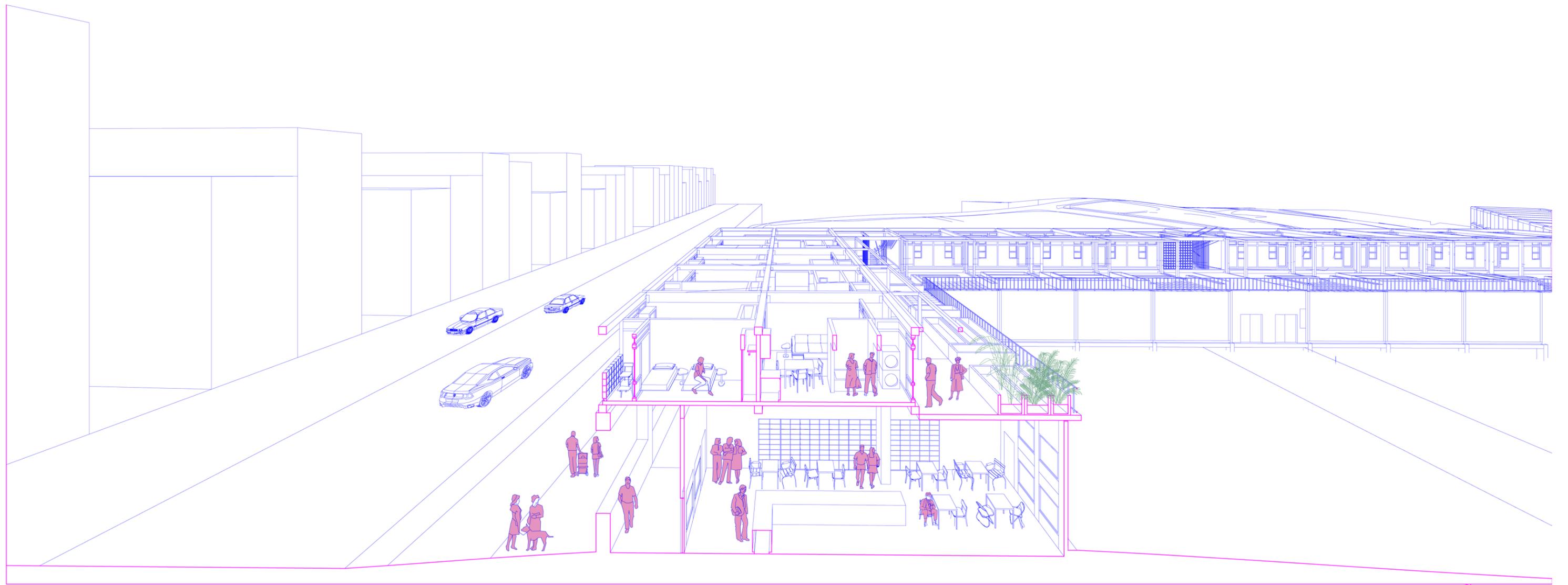




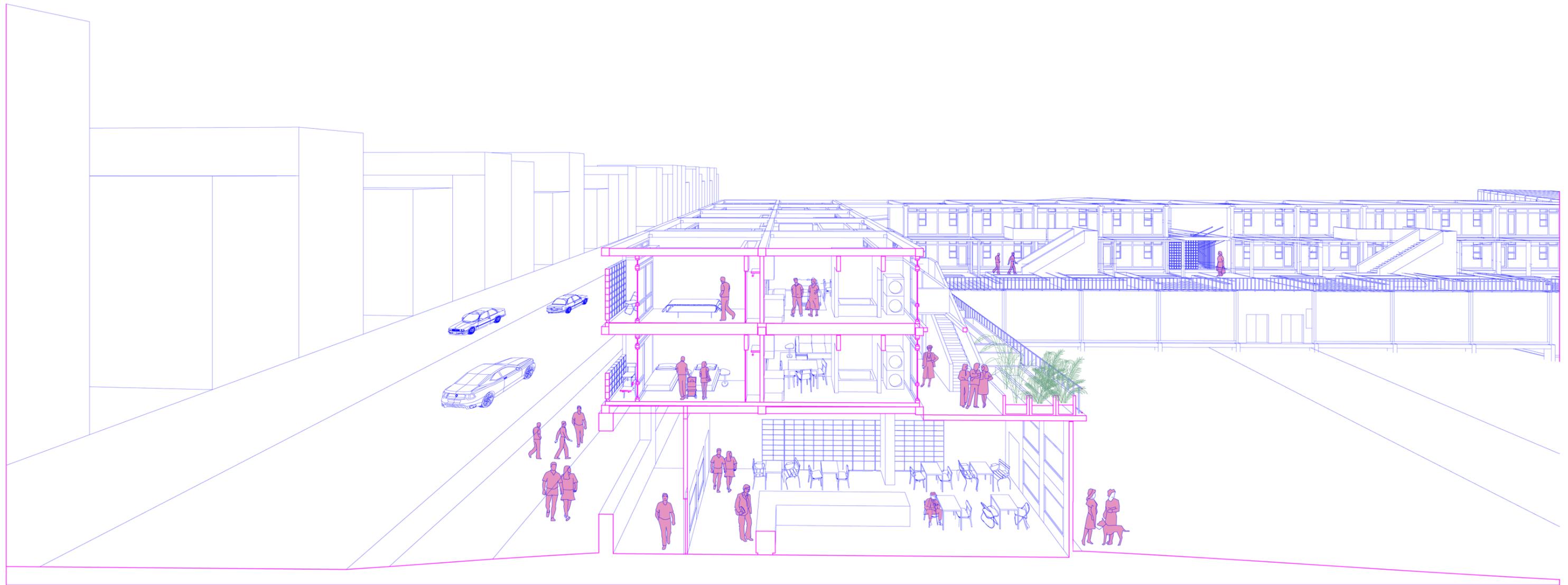
gis 1 - amenity space / shop-house



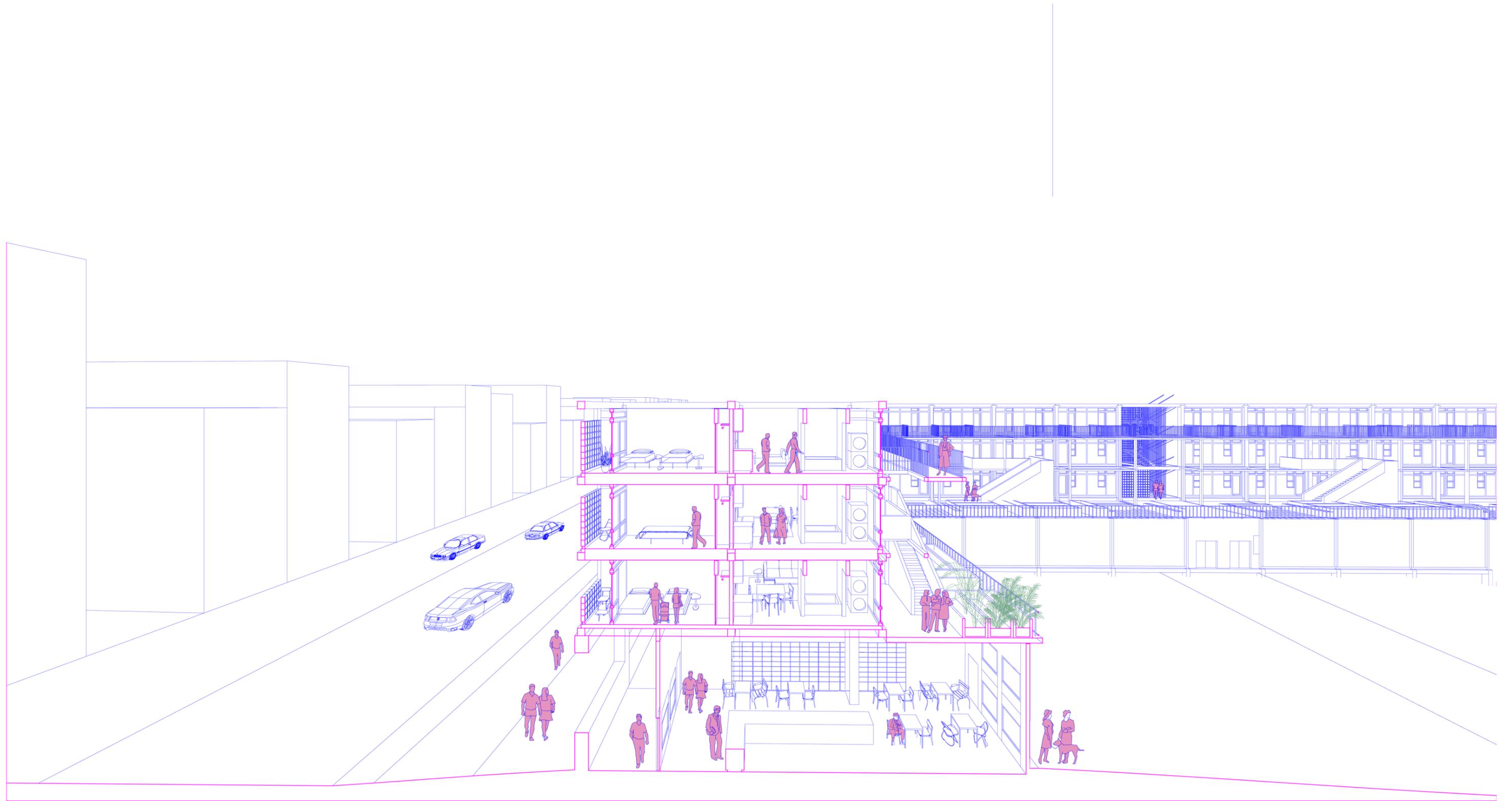
gis 1 - dwelling column + beam structure



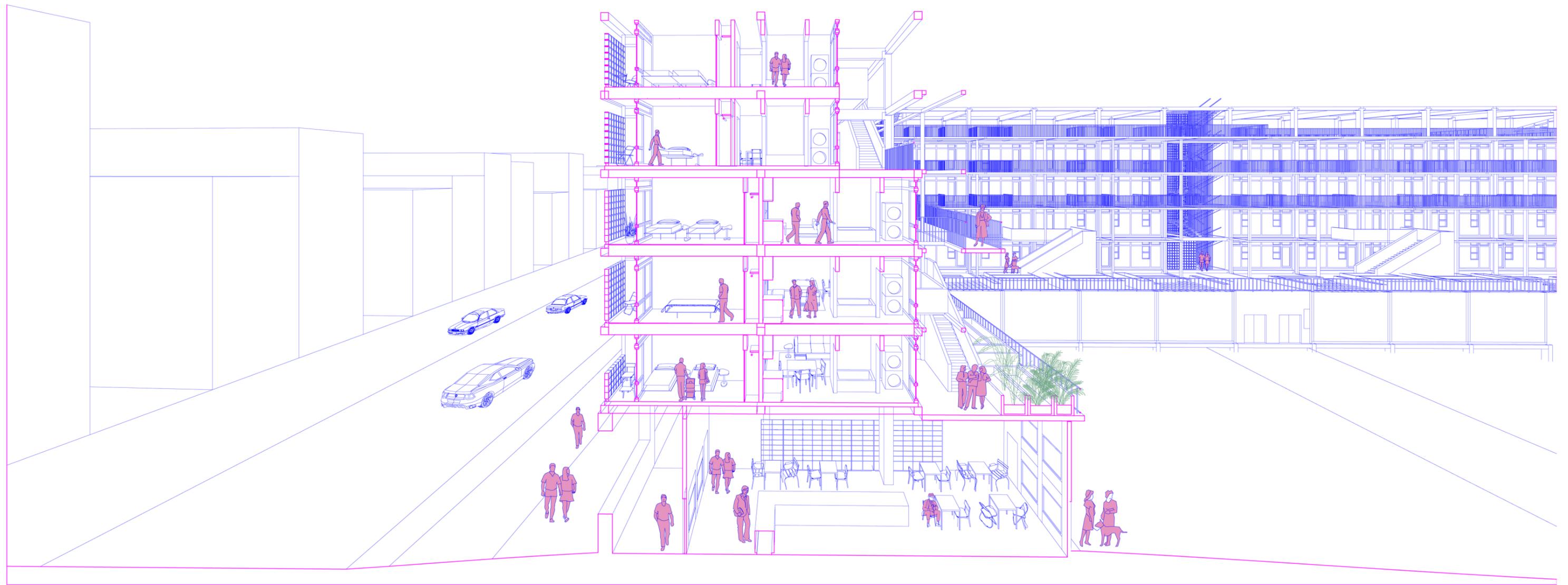
gis 1 | apartment B1 72m2 | plinth access



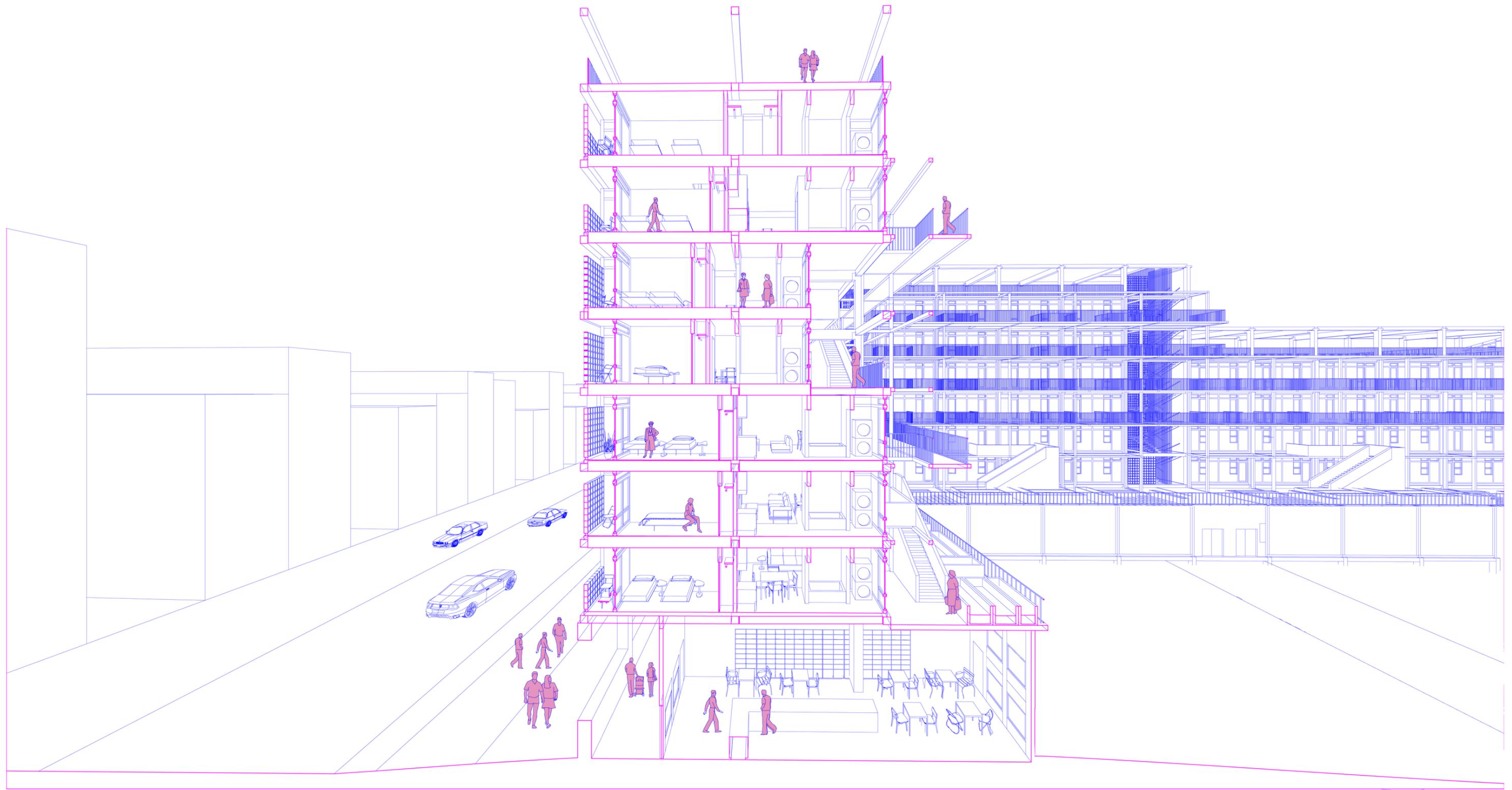
gis 1 | apartment B2 72m2 | walk-up



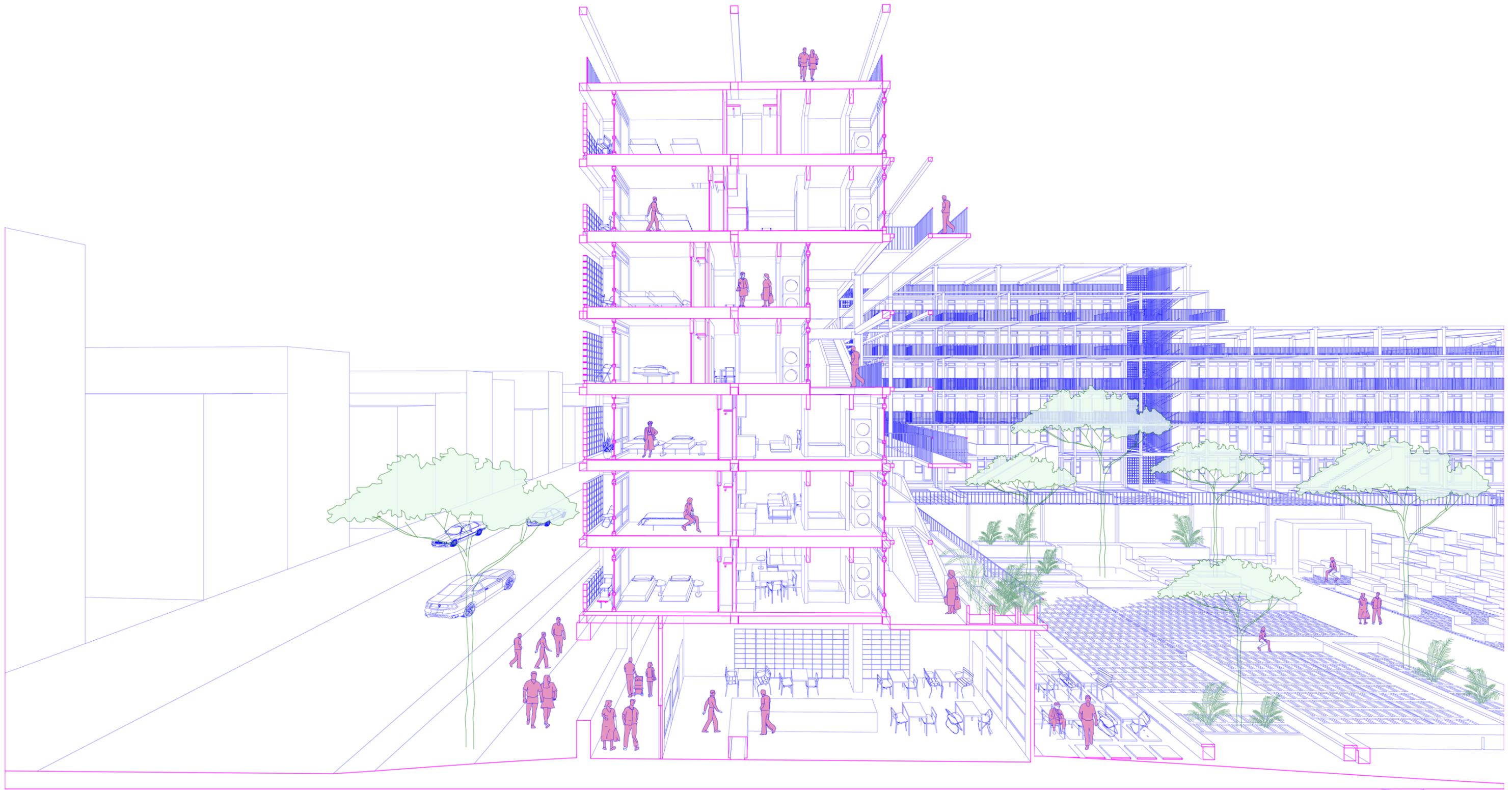
gis 1 | apartment B3 72m2 | gallery access



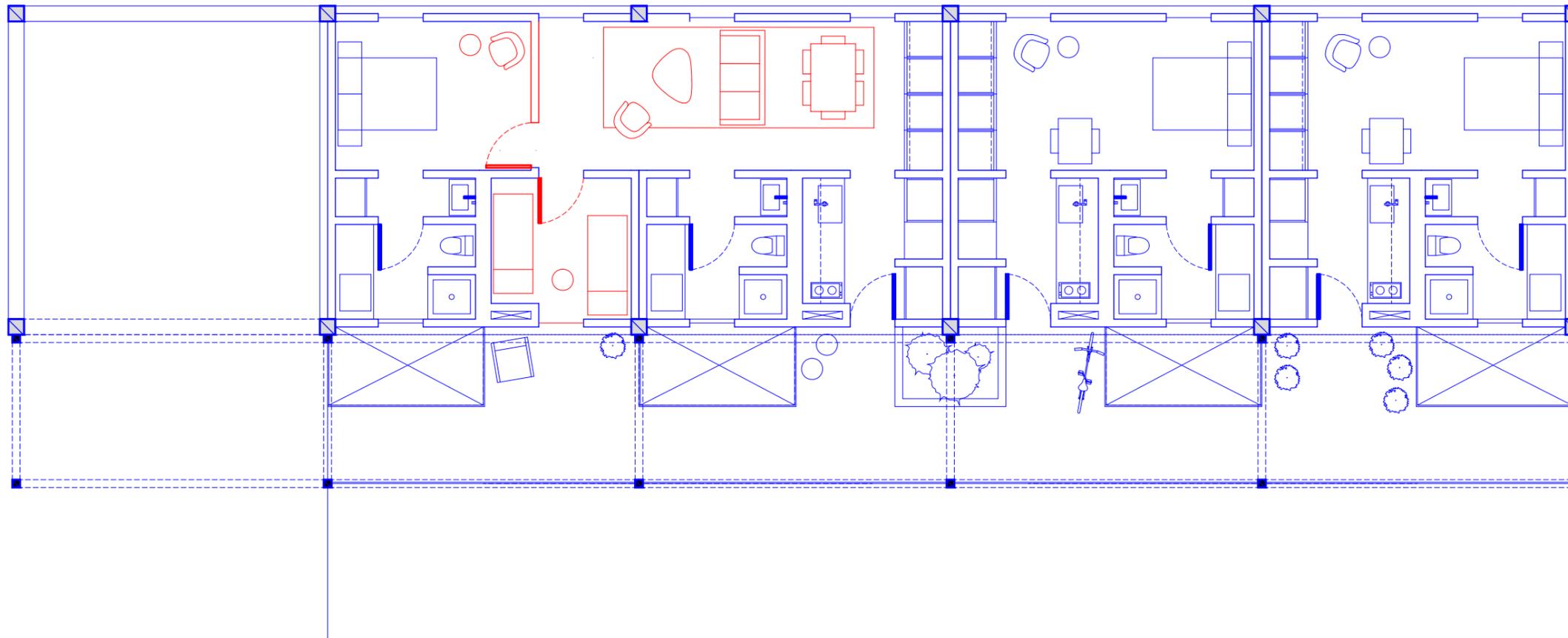
gis 1 | apartment C1 & C2 54m2 | walk-up



gis 1 | maisonette B 144m2 | gallery access



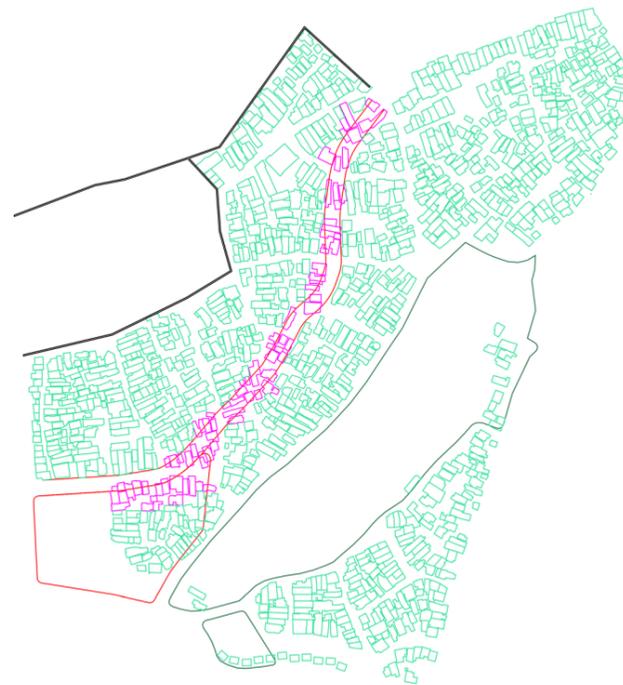
the commons / courtyard



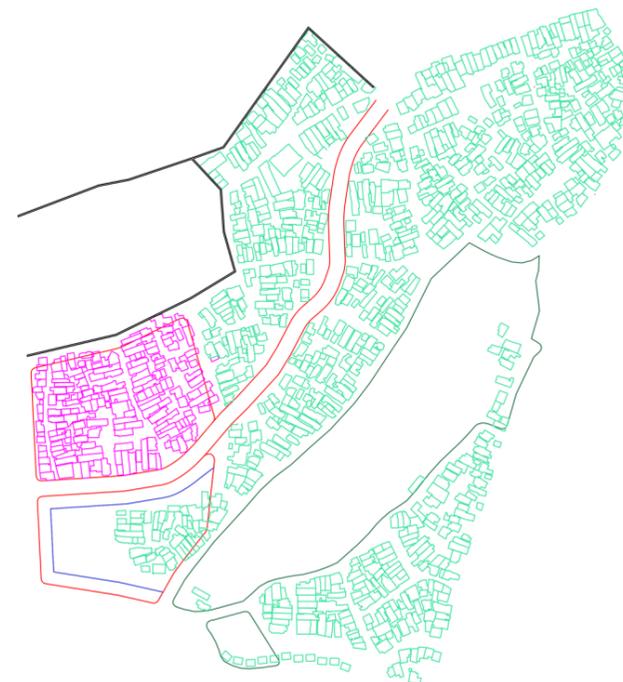
future possibilities (self initiation)

DESIGN APPROACH

[05 - PHASING]



infrastructure
[-89 shacks]



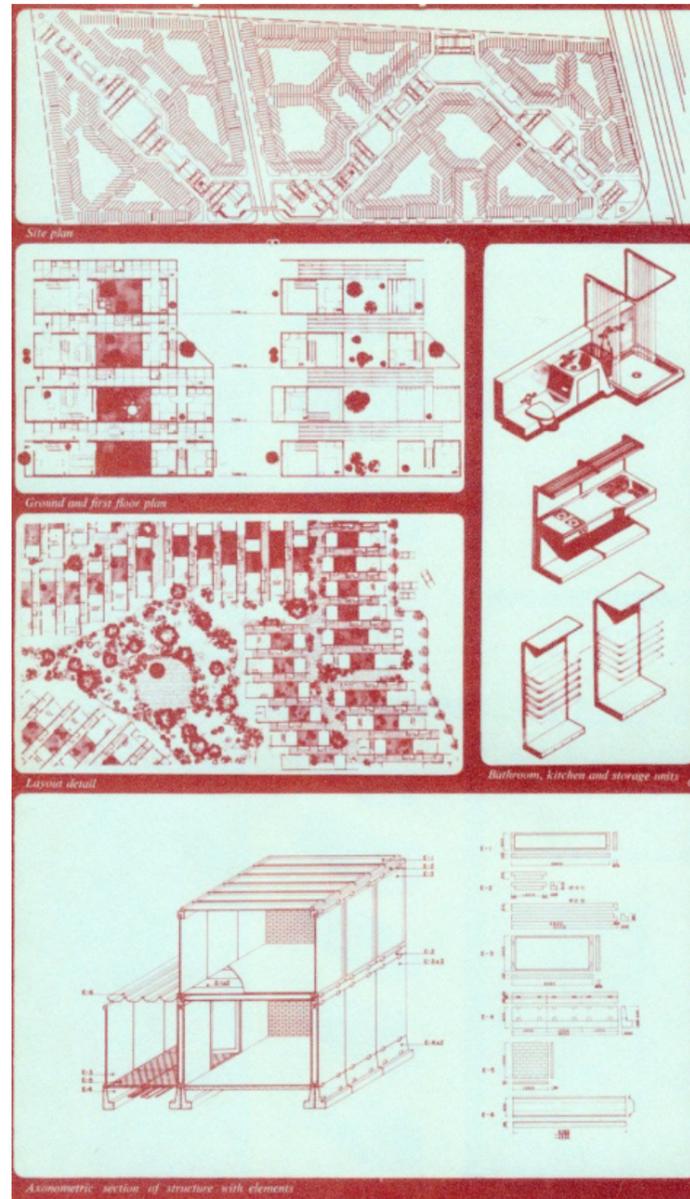
1ha block
[-132 shacks]



new perimeter block
[+160 d/ha]

DESIGN APPROACH

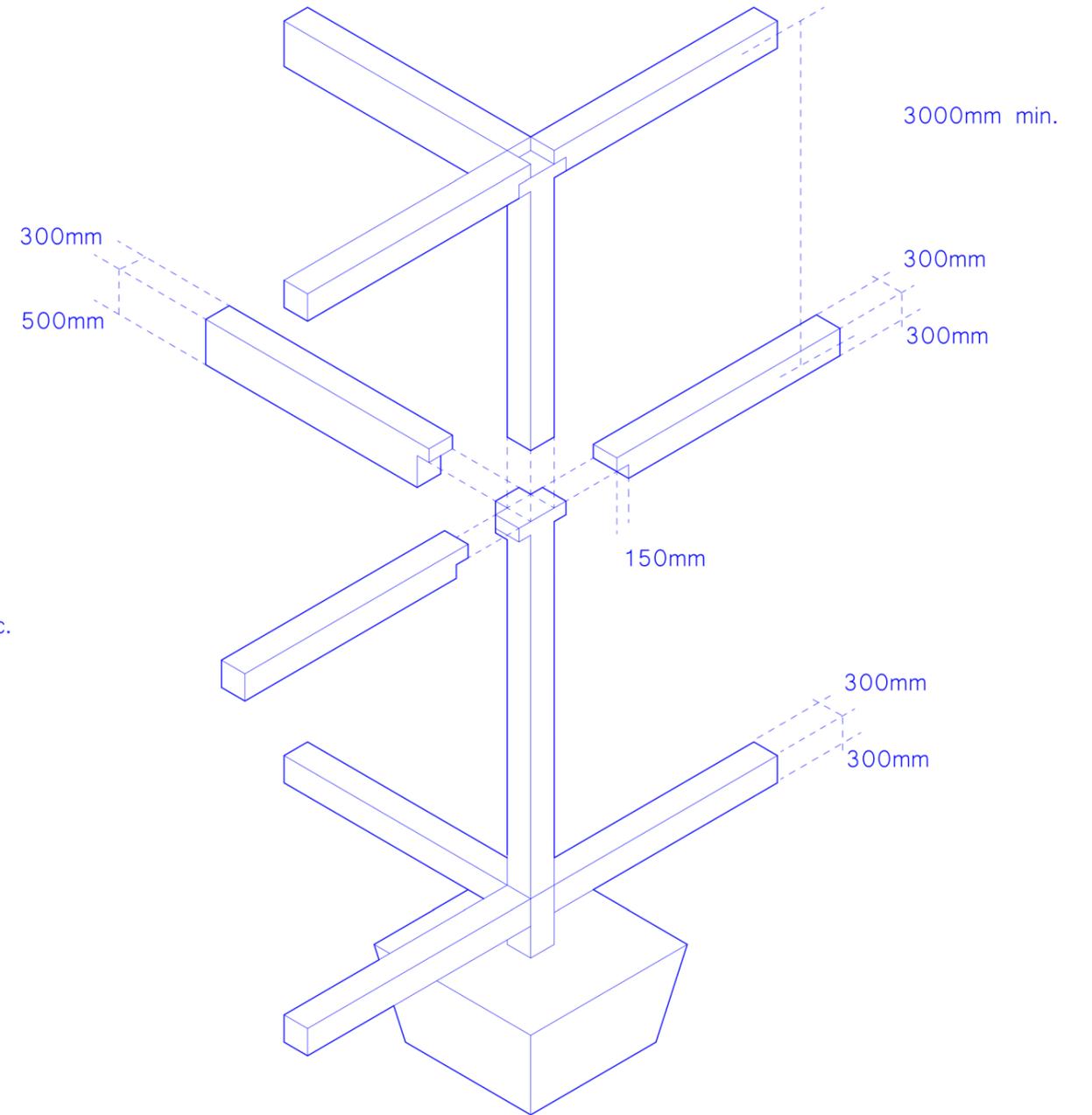
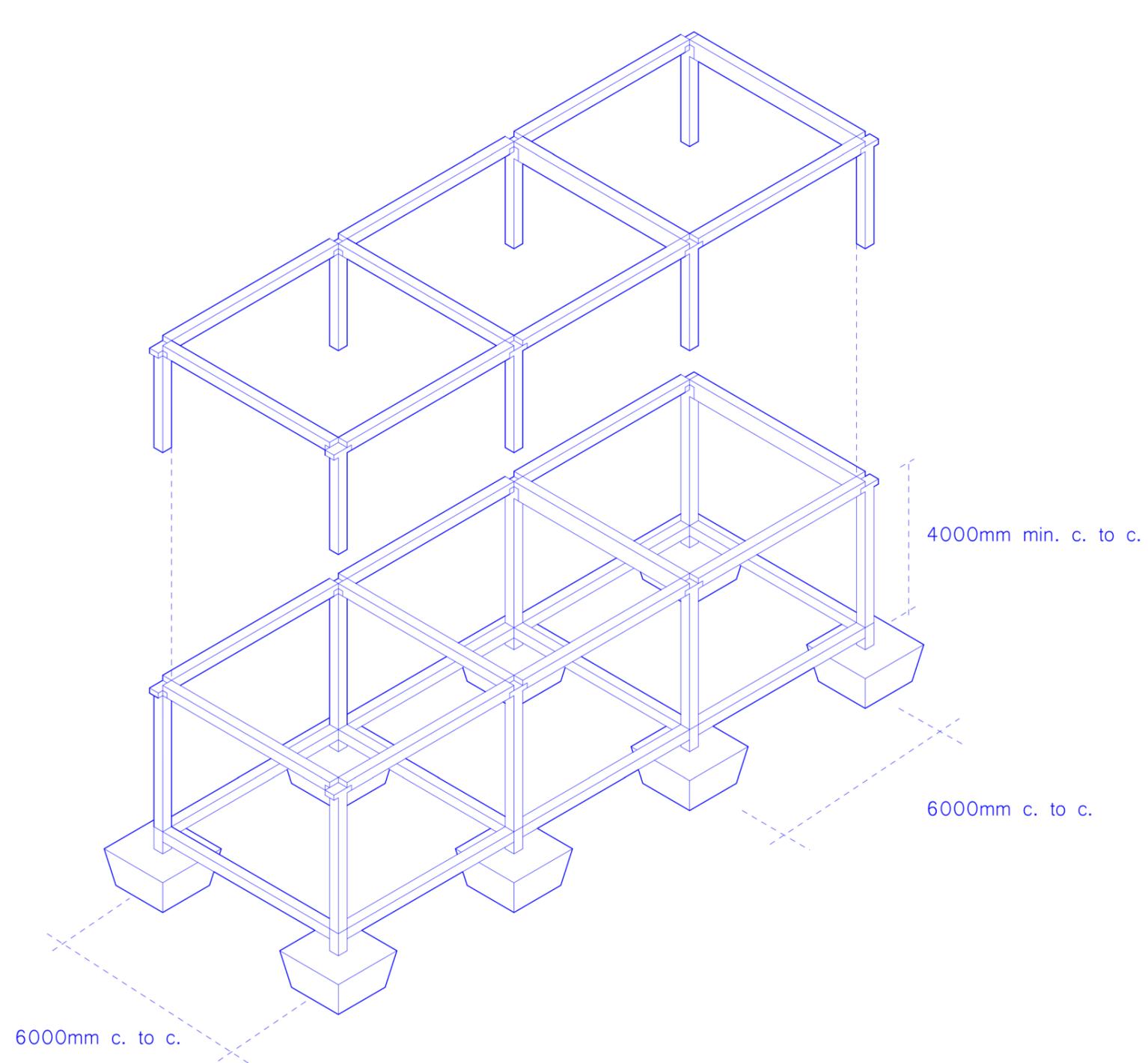
[06 – BUILDING TECHNOLOGY]

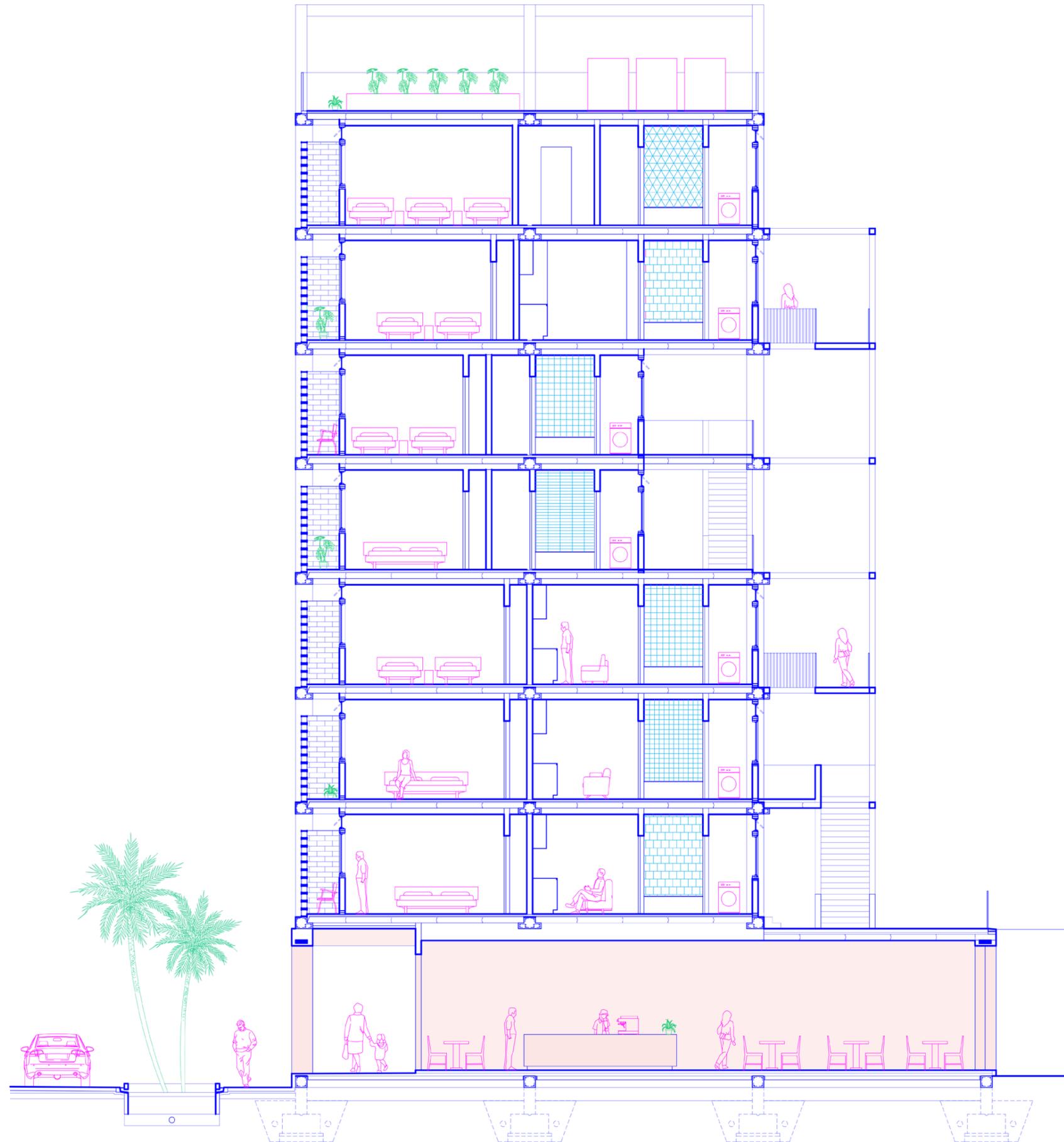


Previ - Kikutake-Kurokawa-Maki - pre-cast concrete system

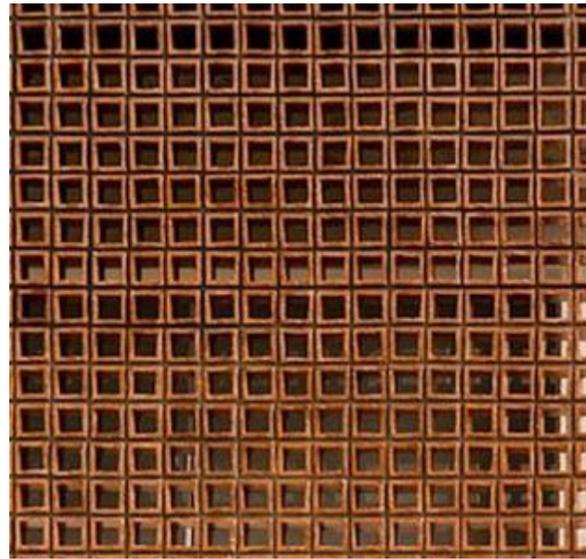
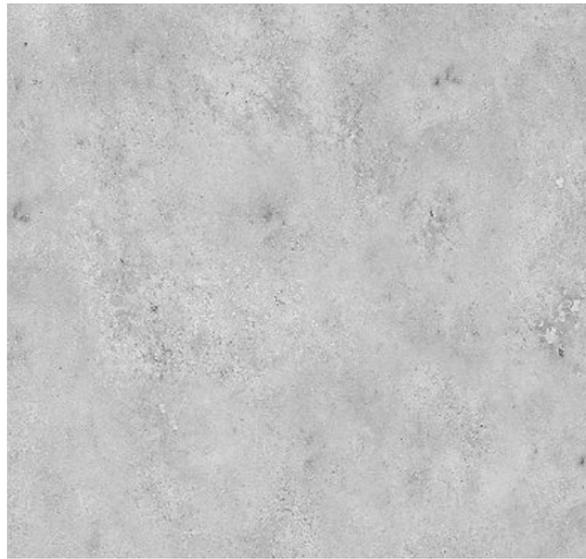
structural system

[pre-cast column + beam]

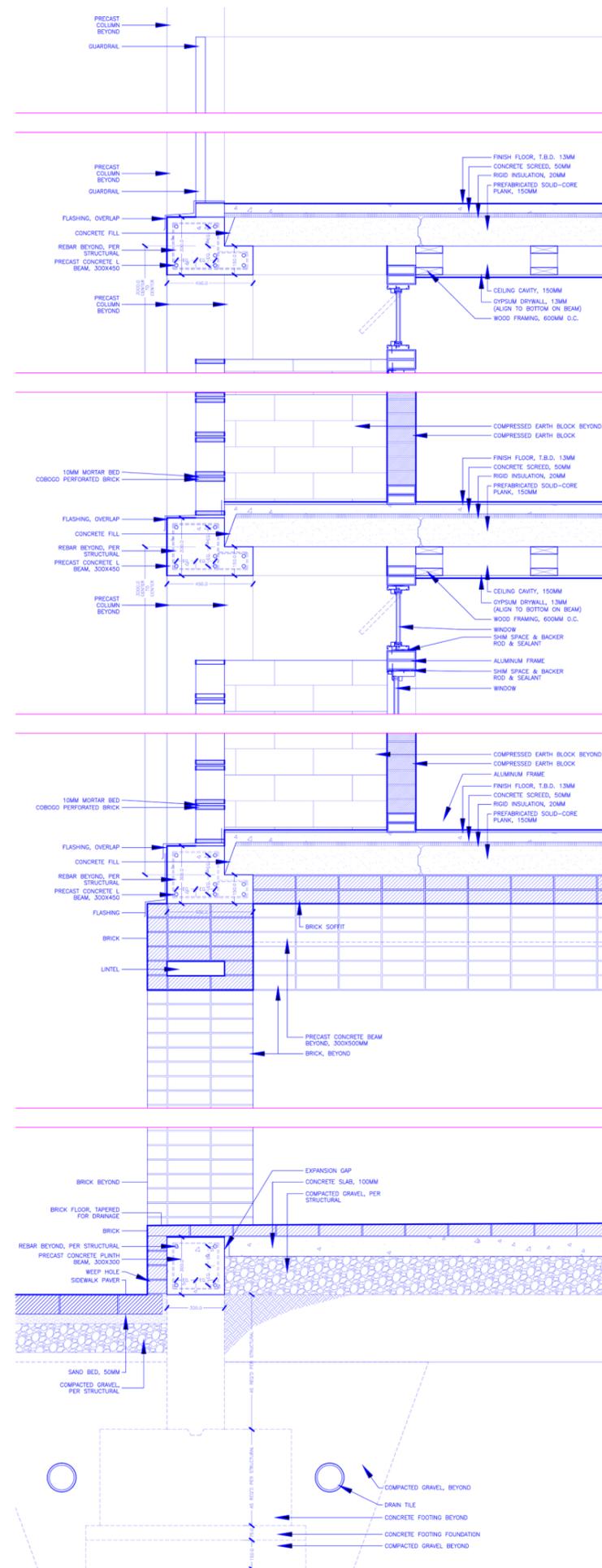




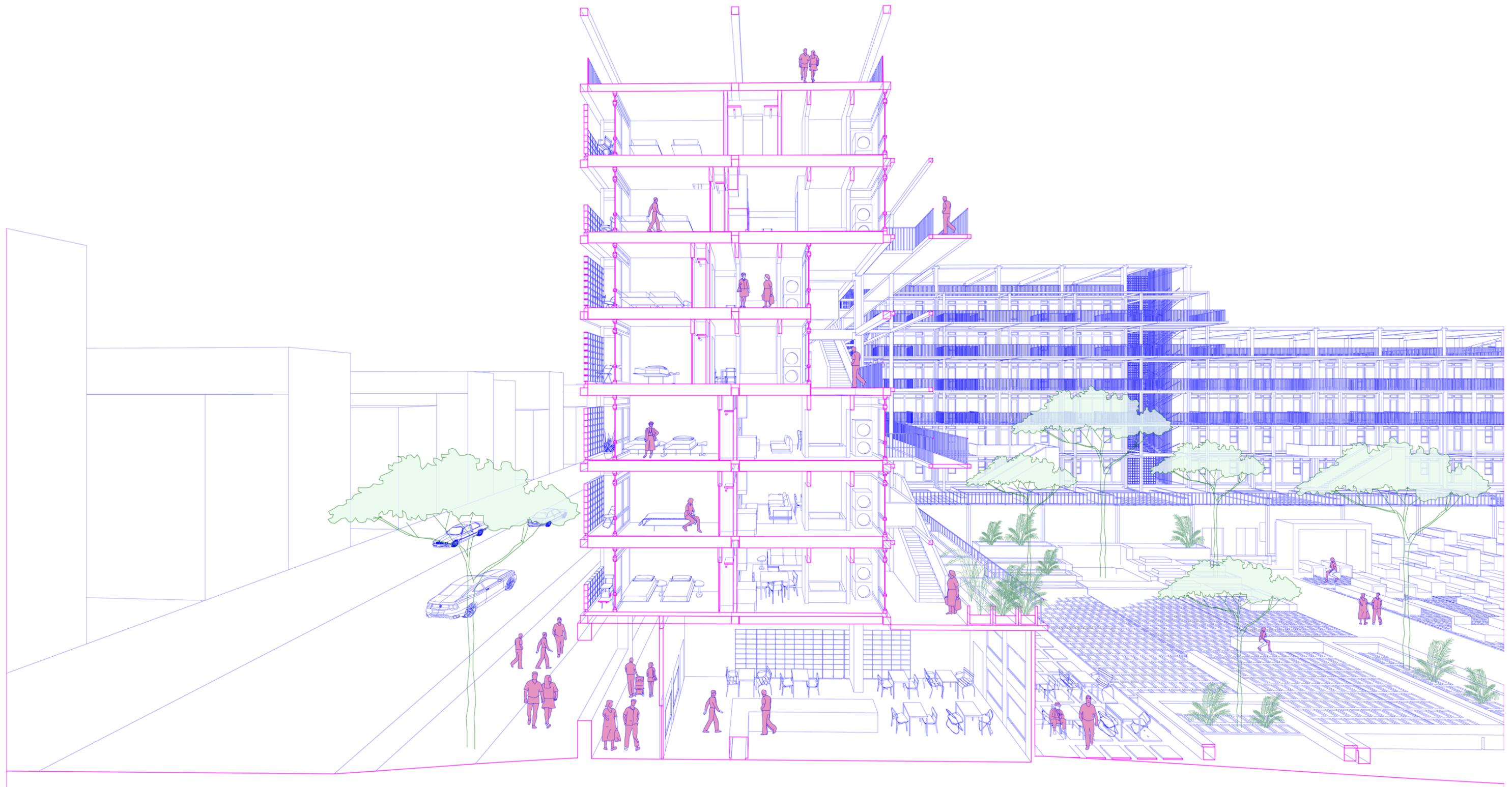
section | GIS 3 dwellings | west to east cut 1:100







detail | west facade 1:20



thank you!