

# Community Grid



Arpi Hovhannisyan

Elan- Drahotova studio

2024

Bachelor diploma project





# Introduction

Following the studio brief, research was done to identify the issues in nowadays Prague. The research on current brownfields and housing estates showed that housing estates have the potential to become the brownfields of tomorrow. This project addresses this issue in advance. The concept of this project applies to all housing estates. As a case study, Bohnice was chosen to show the concept in more detail.

As an approach to designing a new master plan, a rectangular grid was taken as a guide. The grid is creating a new concept of living in estates as it is creating urban blocks with inner courtyards.

It aims to improve the social life in these neighborhoods by creating more functional public spaces. The grid densifies the area and covers nearly triple the built footprint.

# Contents

04	INSPIRATION
06	CONCEPT
12	MASTER PLAN
20	PROJECT DESIGN
22	BUILDING CONCEPT
24	SITE PLAN
26	GROUND FLOOR
28	SECTIONS
30	TYPICAL FLOOR
32	TECHNICAL DETAILS
34	3 <sup>rd</sup> FLOOR
36	ELEVATIONS
38	FACADE
40	5 <sup>th</sup> FLOOR
42	MODELS



# Inspiration



"The Fight Between Carnival and Lent" by Pieter Bruegel

The inspiration driving this project emanates from the timeless works of Dutch Renaissance painter Pieter Bruegel the Elder. Renowned for his vivid depictions of everyday life, Bruegel's paintings capture the essence of community living and human interaction within cohesive environments.

Drawing from Bruegel's legacy, this project seeks to emulate the spirit of community depicted in his paintings.

# City scale

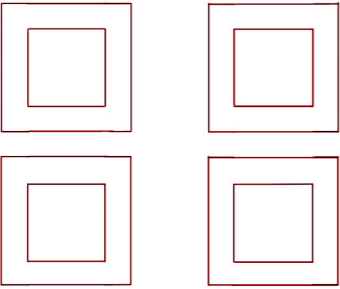
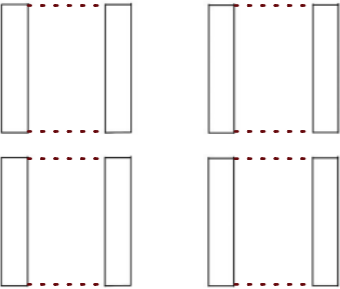
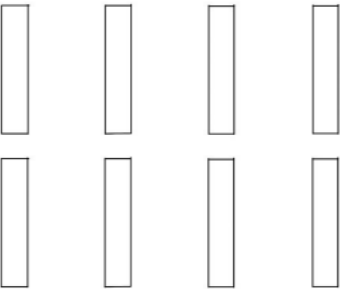


Bohnice was established in the 1970s, due to the growing demand for accommodation after the Second World War. The land chosen for housing estates of the 1970s was flat. The housing estates were designed for 30.000 inhabitants, and around 10.000 apartments were built. As the other districts alike the buildings

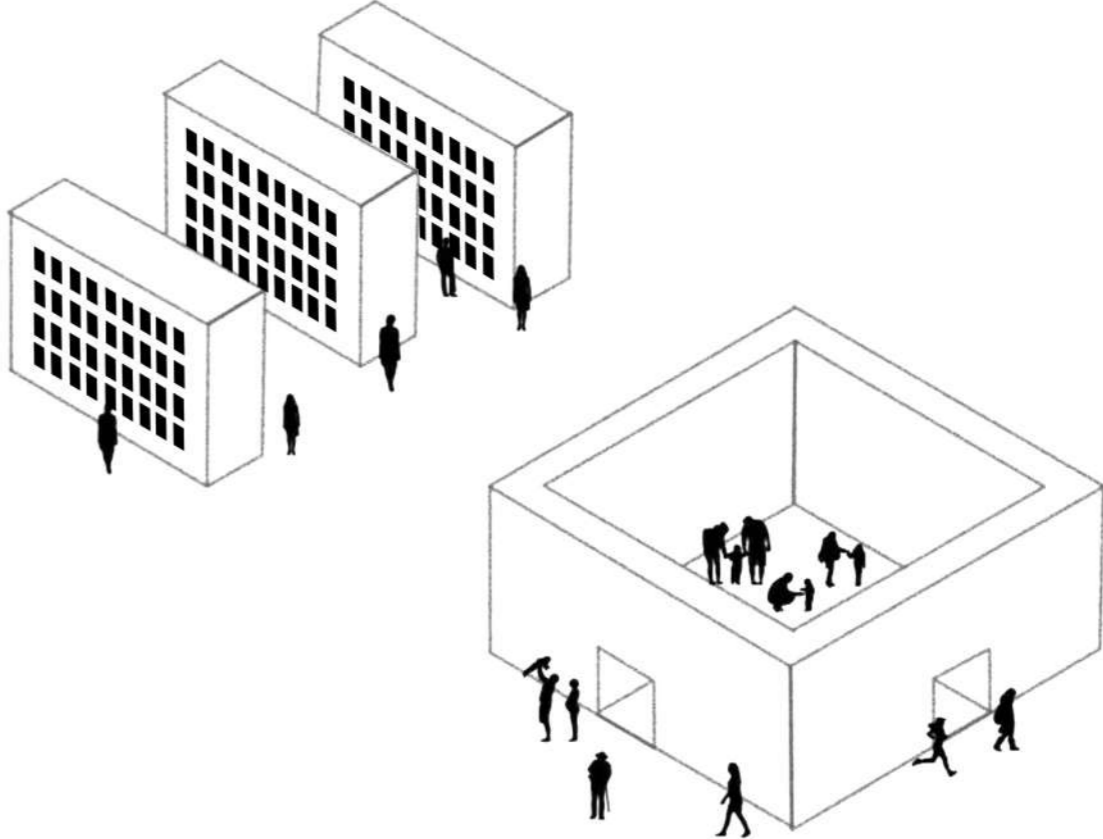
were made using panel construction. Nowadays these buildings are losing their functionality and are becoming potential future brownfields. To accommodate the current needs and standards of living these districts need to change. This proposal shows one of the ways to tackle the issue before it gets critical.



# Concept

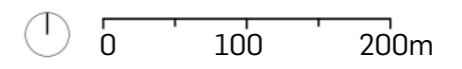
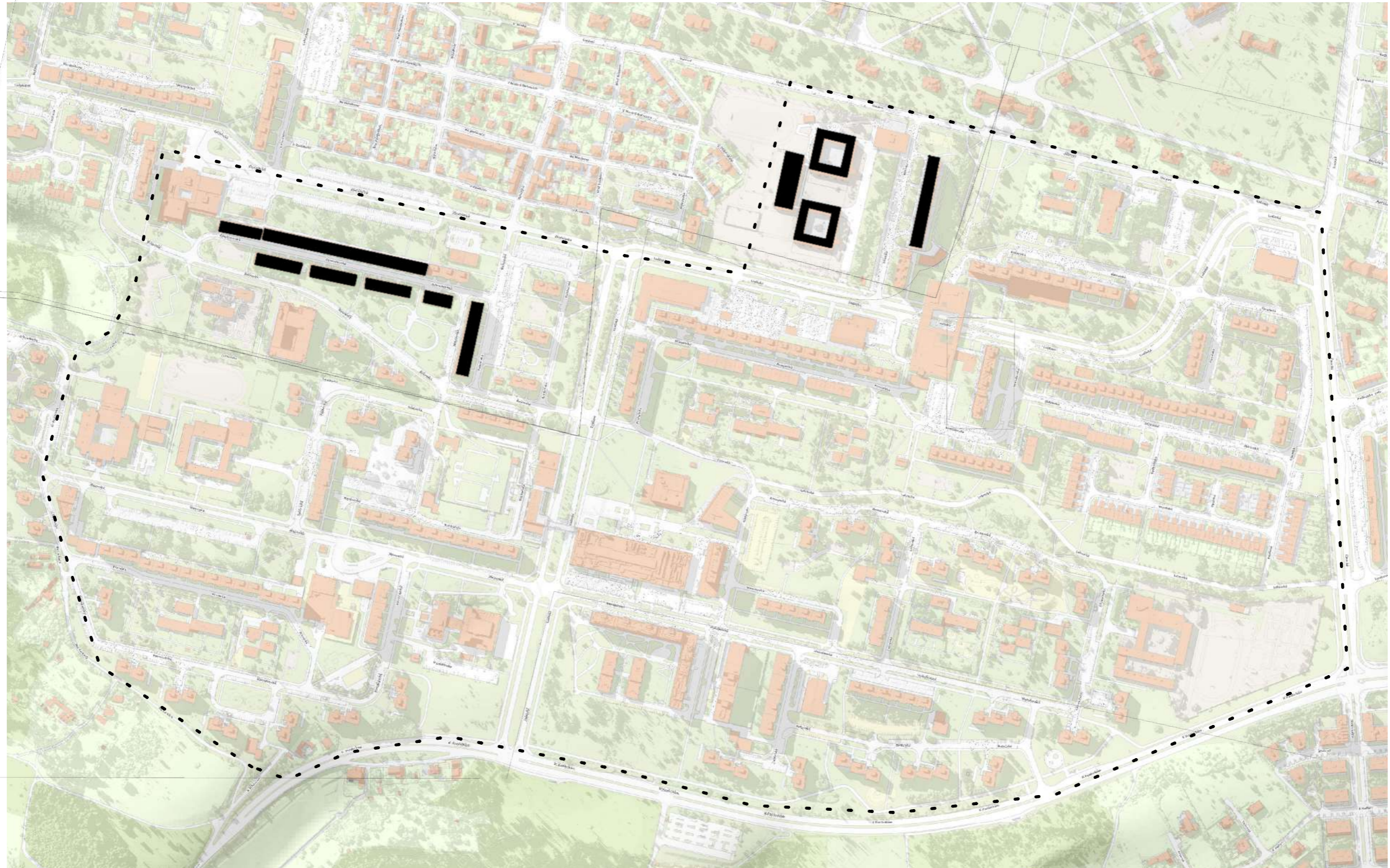


To address the issues of panel housing estates, this concept offers a new master plan that can be applied to other housing estates in Prague. However, for this project, the focus will be on implementing it in the district of Bohnice. One of the major disadvantages of Bohnice is its low density, with residential buildings occupying only 9% of the current footprint. Even though buildings are dispersed, they leave insufficient public space in between them. Most of the public space is underdeveloped and is not being used.



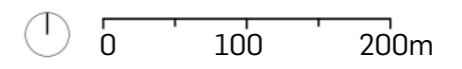
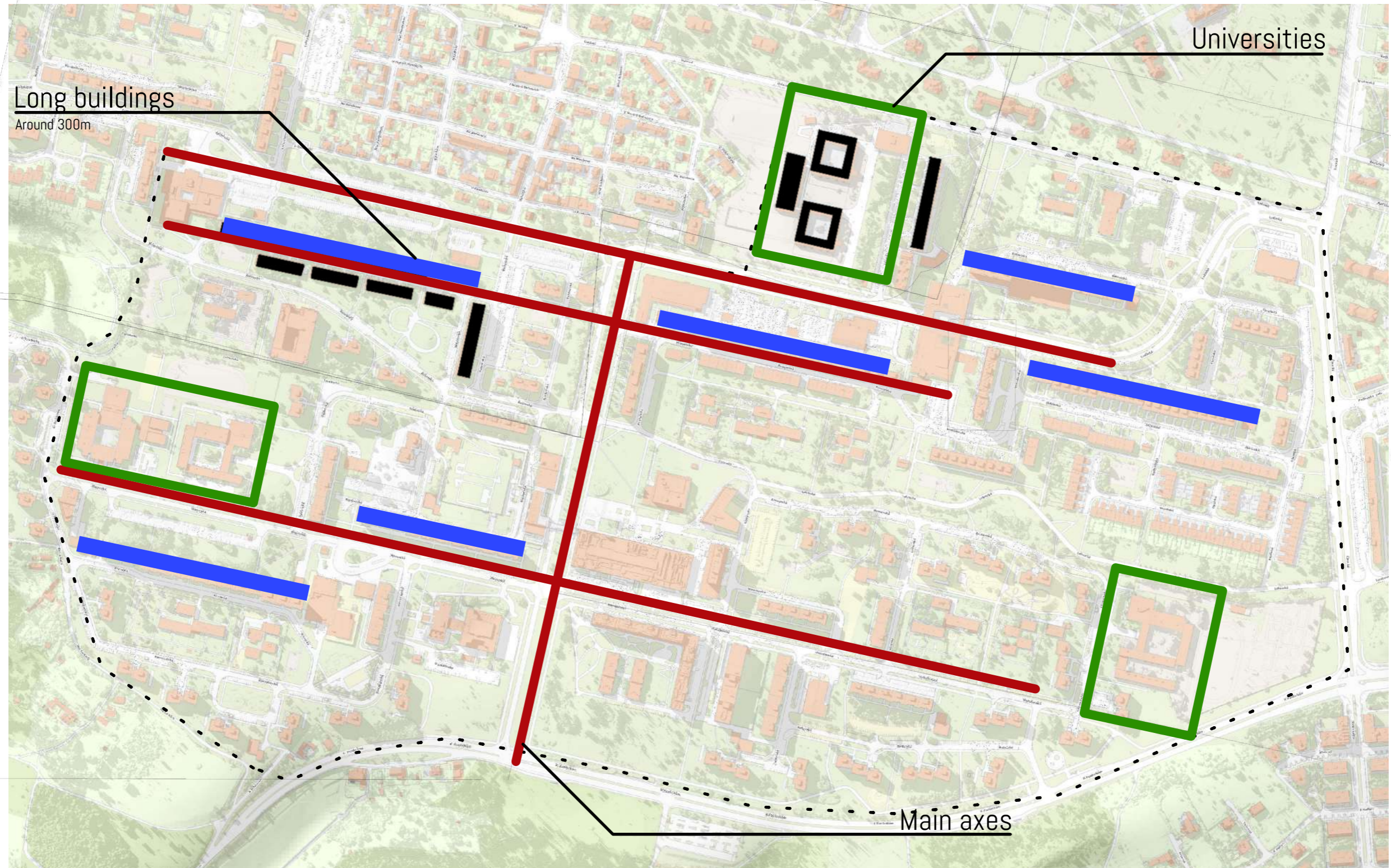


# Bohnice Schwarz plan



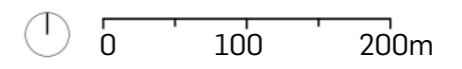


# Bohnice Schwarz plan





# Master plan



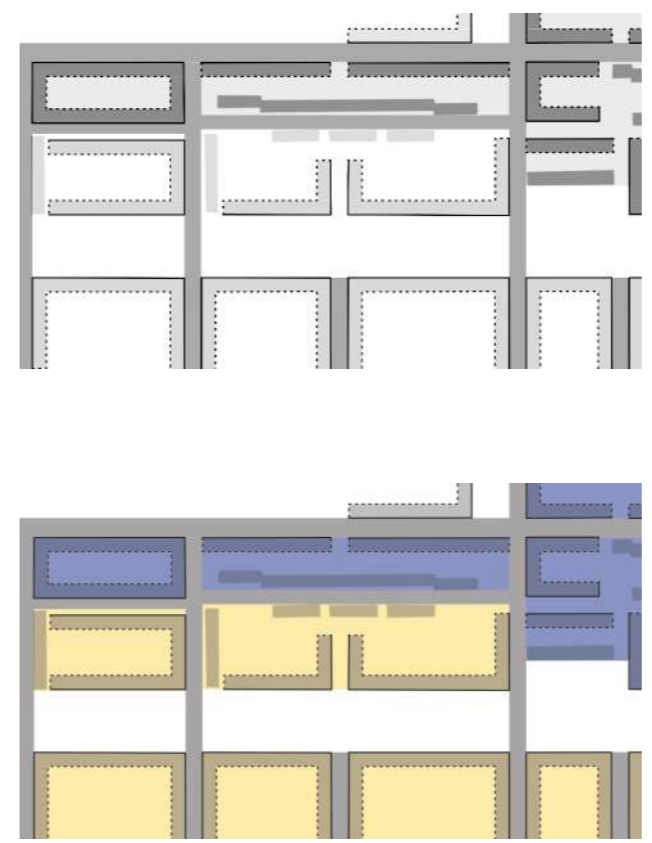


# Master Plan



Current footprint of residential buildings - 103.000m<sup>2</sup>  
 Area of the district - 1.01 km<sup>2</sup>  
 Current footprint of residential buildings in % - 9.5%

New footprint of residential buildings - 266.000m<sup>2</sup>  
**Capacity of new construction - 40.000 people**  
 New footprint of residential buildings in % - 26%



## Regulations

Solid lines- rigid street line facades  
 Dashed lines- free courtyard facades  
 .....

## Zoning

Maximum building footprint  
 Additional building footprint capacity

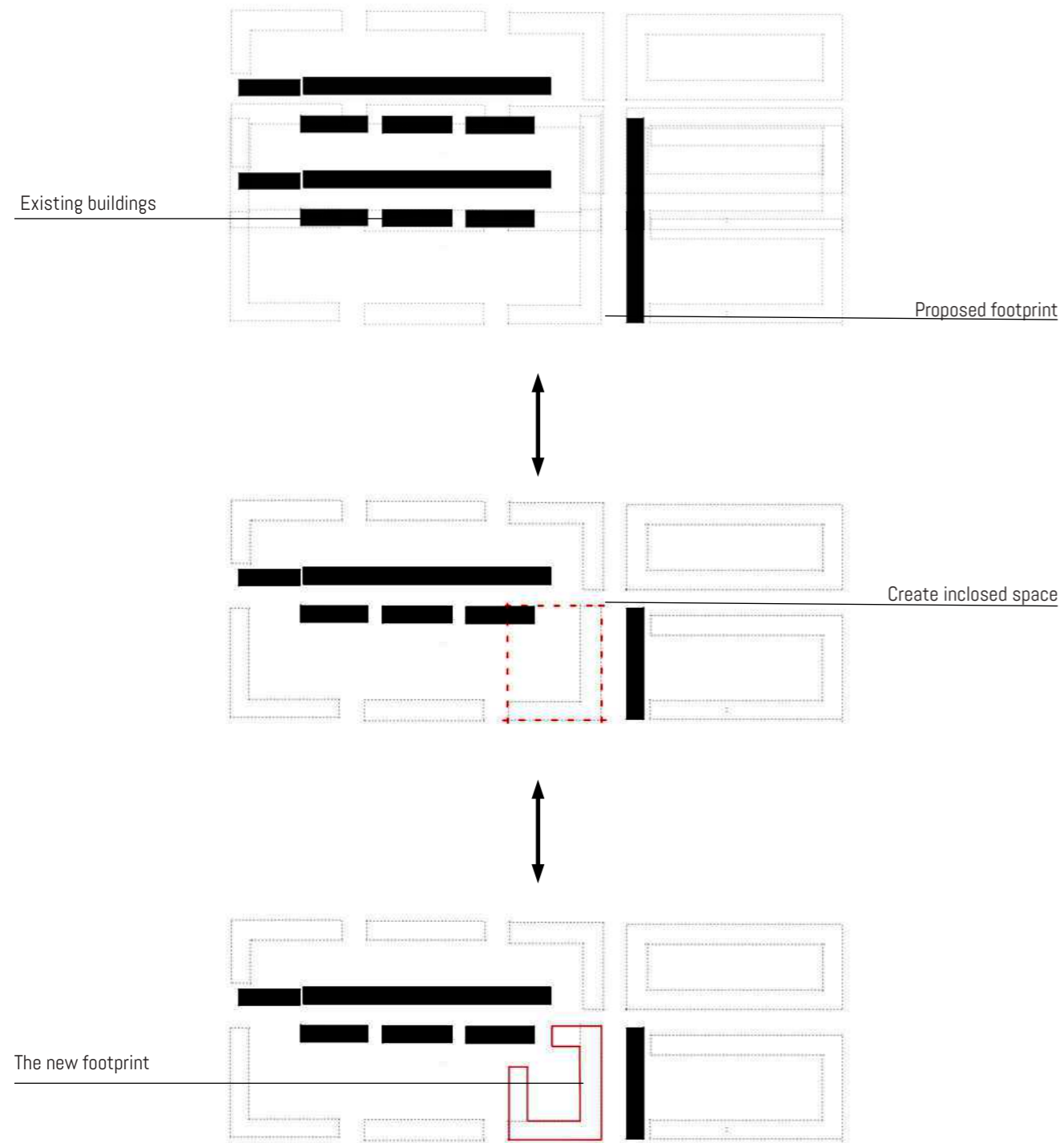




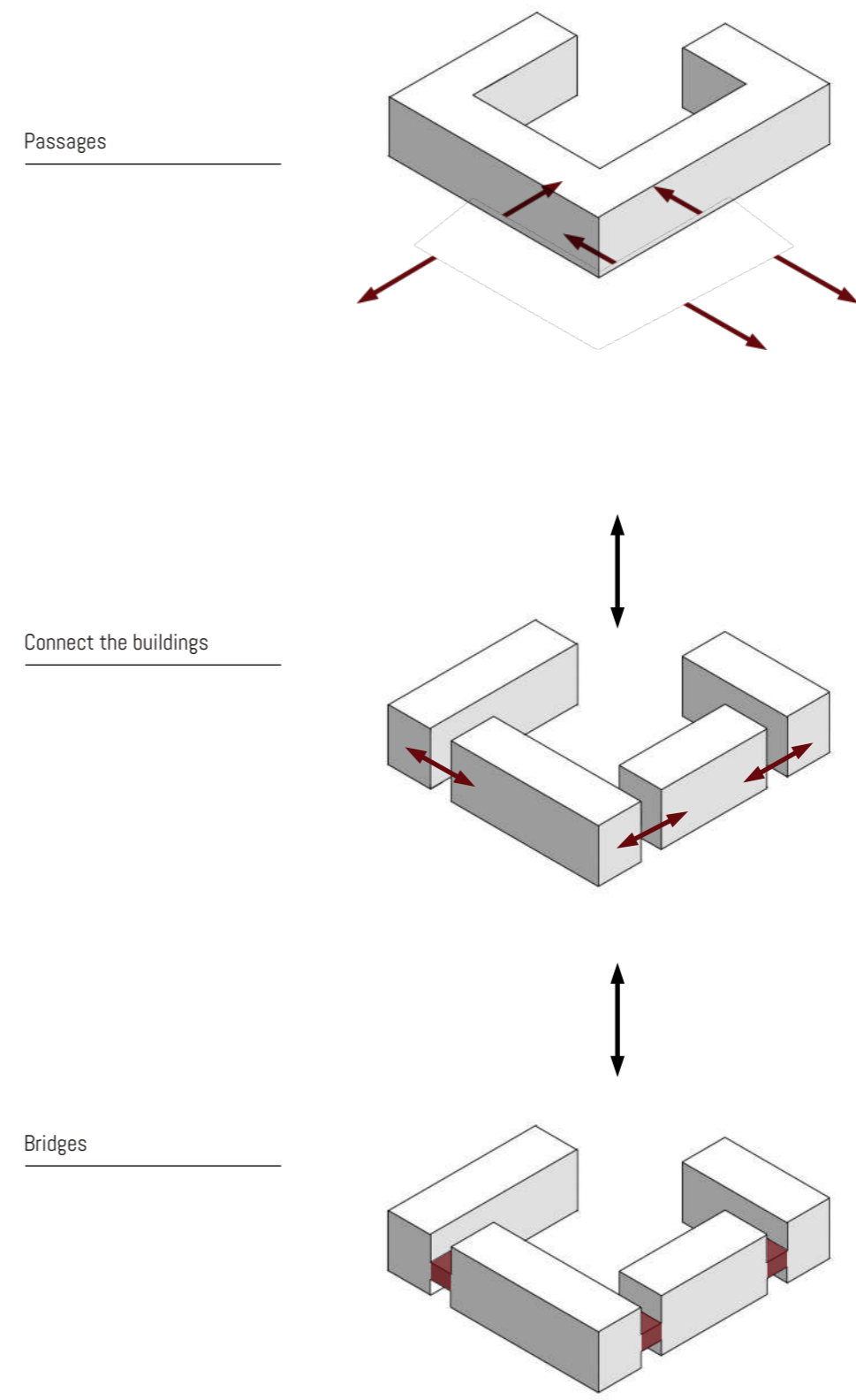
# Project Design



# Site



# Shape





# Site Plan

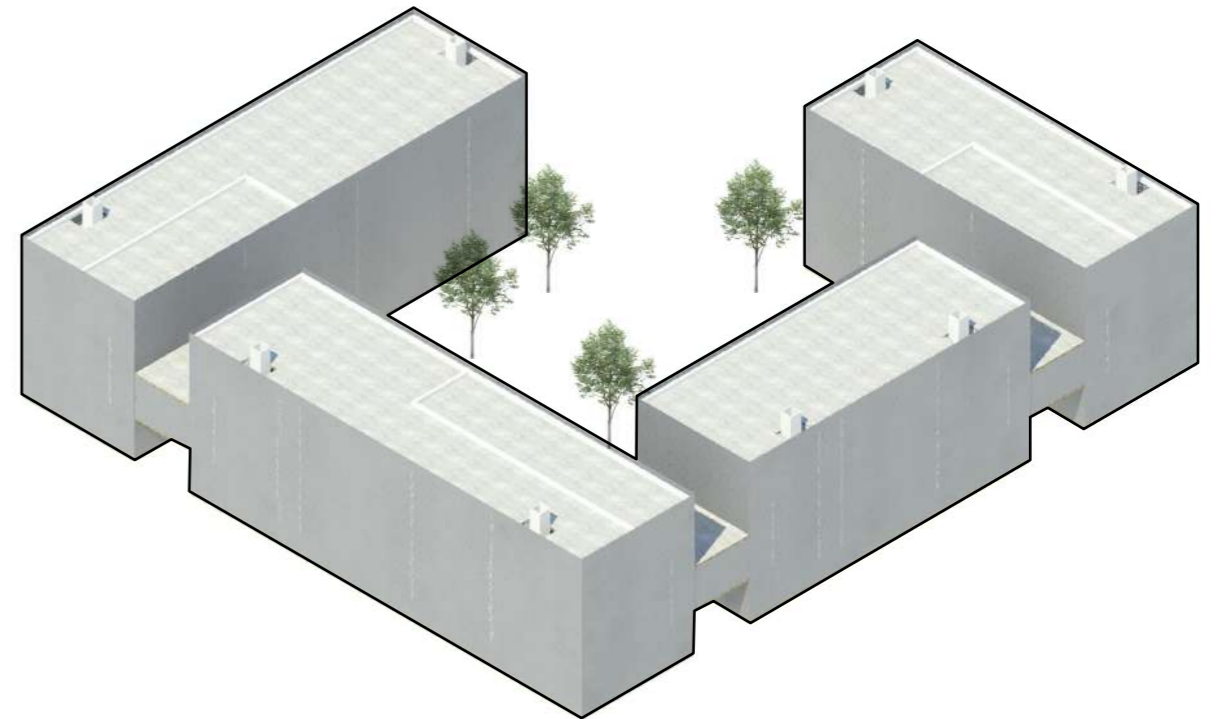
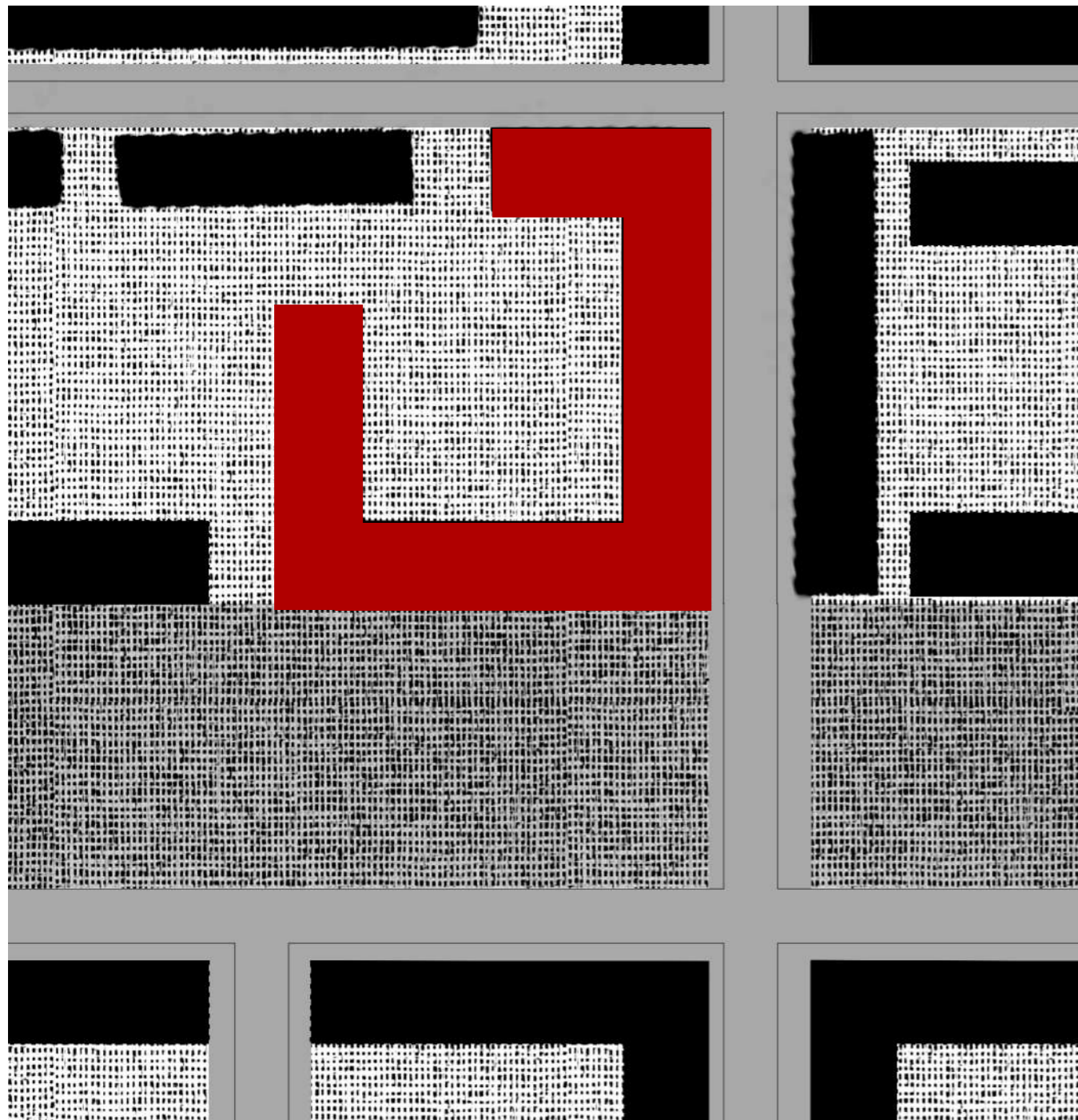
Cras gravida sem ut massa. Quisque accumsan porttitor dui. Sed interdum, nisl ut consequat tristique, lacus nulla porta massa, sed imperdiet sem nunc vitae eros. Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curae; Pellentesque sit amet metus. Nullam tincidunt posuere ligula. Aenean volutpat ultrices ligula. In tincidunt. Aenean viverra suscipit tellus.

Suspendisse sem lorem, ornare non, vestibulum ut, tempor porttitor, est. Quisque convallis aliquet eros. Nunc nec nulla eget urna convallis eleifend. Nulla feugiat eros

# Axo

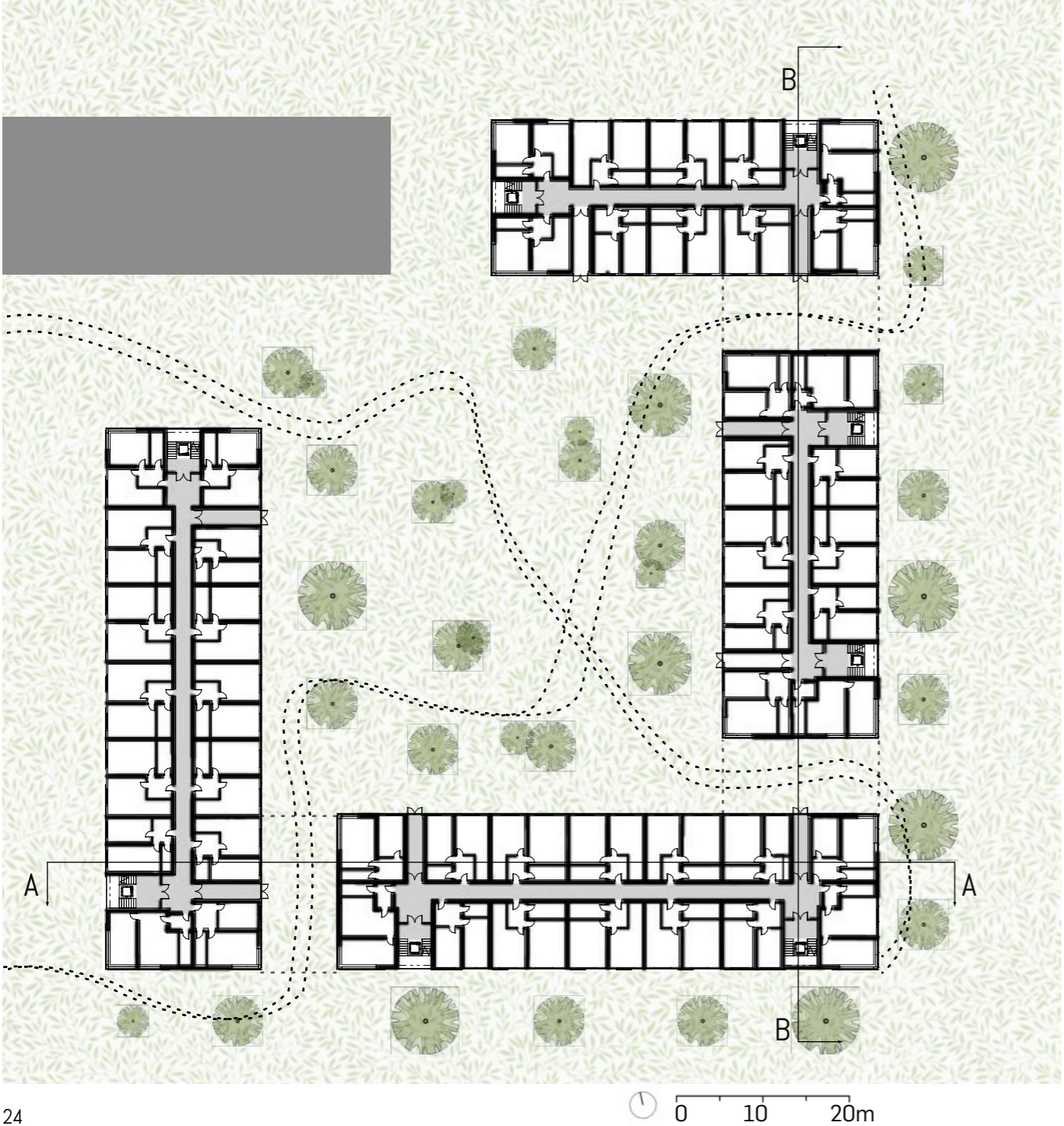
Etiam vulputate, sapien eu egestas rutrum, leo neque luctus dolor, sed hendrerit tortor metus ut dui. Etiam id pede porttitor turpis tristique lacinia. Suspendisse potenti. Etiam feugiat.

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Cras gravida sem ut massa. Quisque accumsan porttitor dui. Sed interdum, nisl ut consequat tristique, lacus nulla porta massa, sed imperdiet sem nunc vitae eros. Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curae; Pellentesque sit





# Ground floor

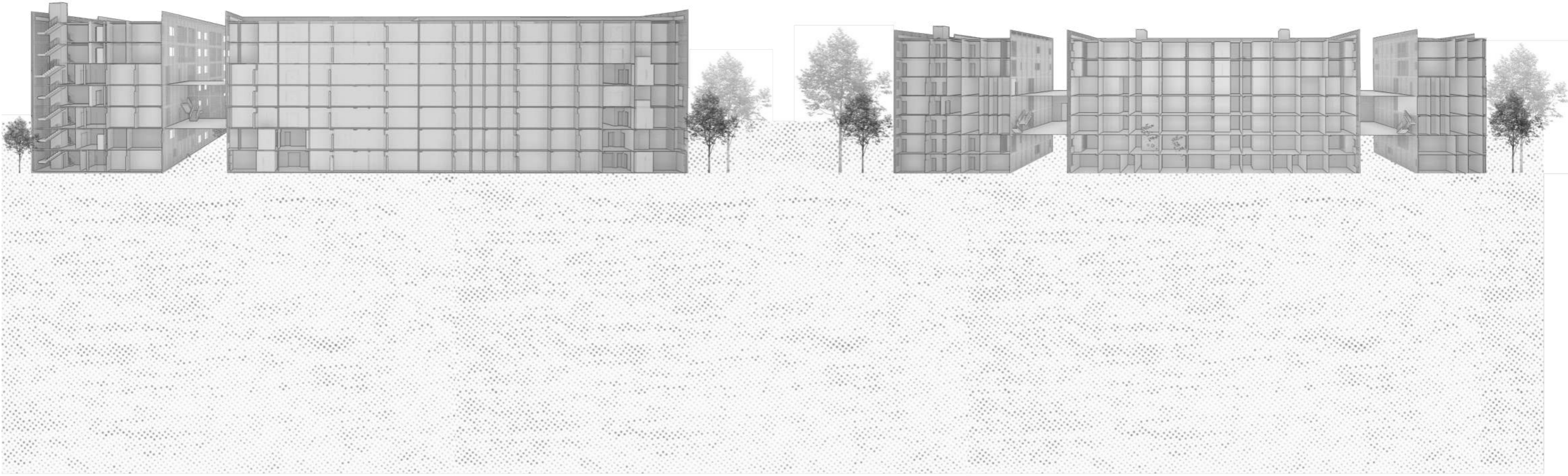
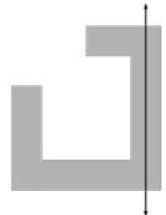


Day time scene looking north at the passage. The street view.



# Section A

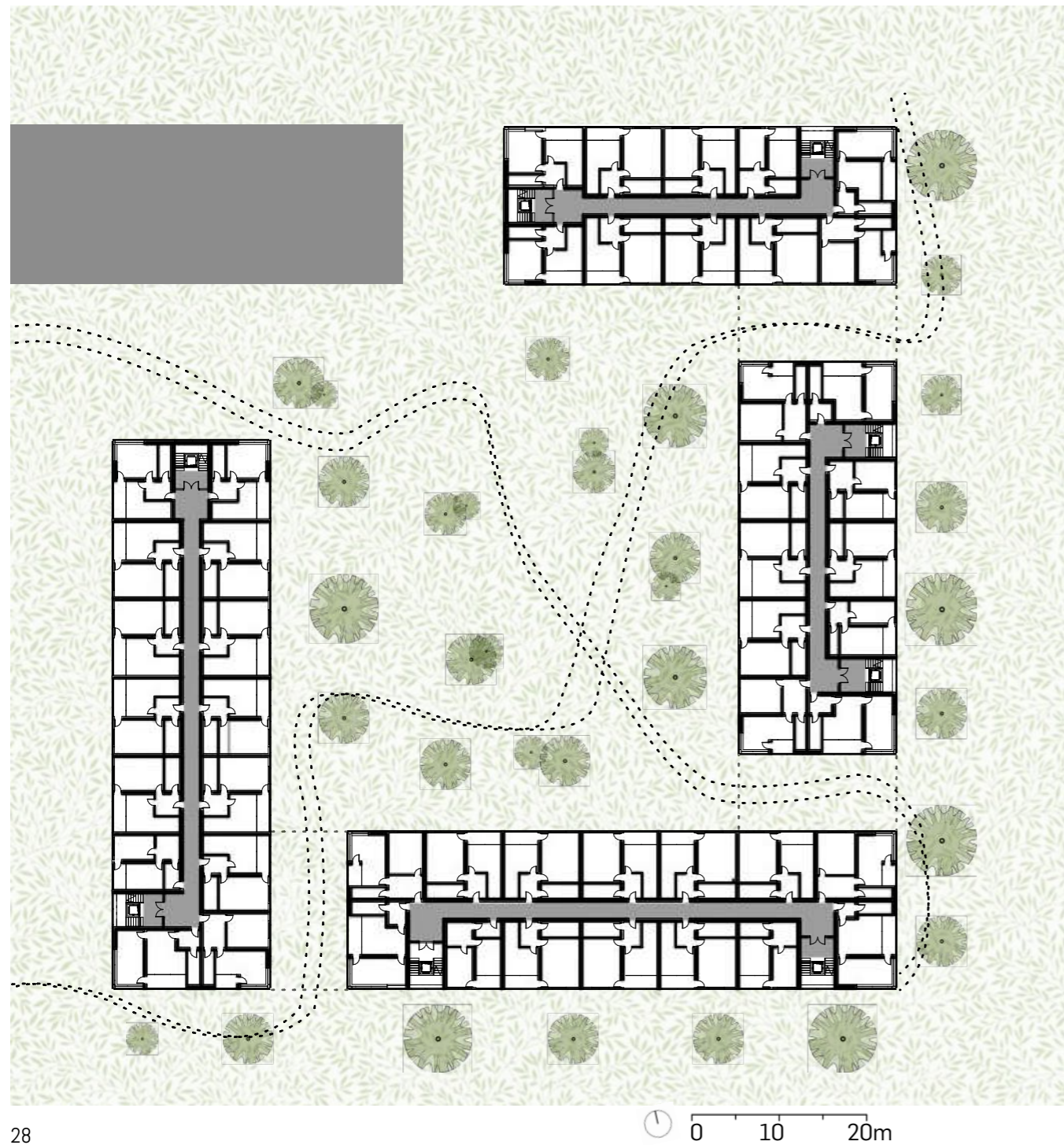
# Section B





# Typical floor

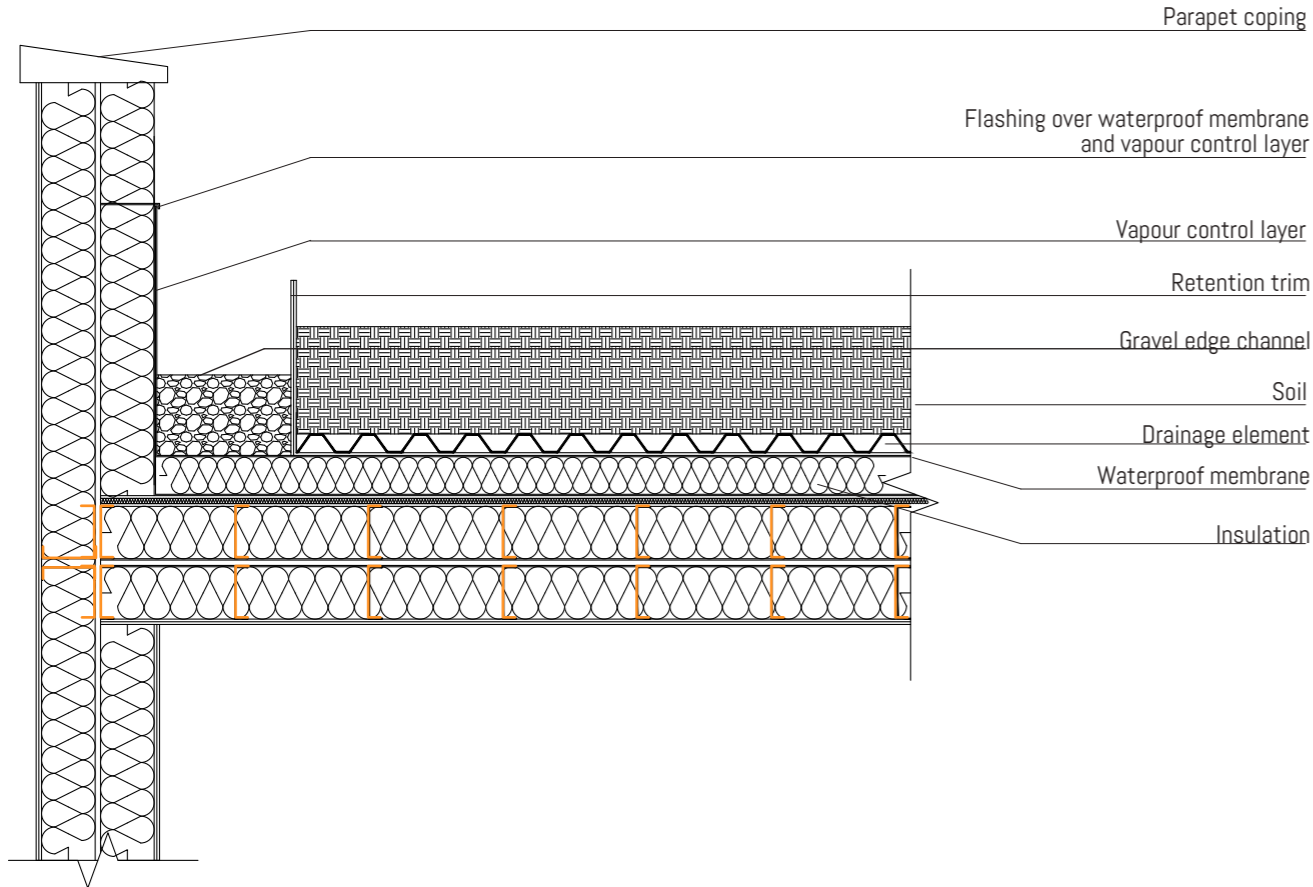
This plan shows the 2<sup>nd</sup> 6<sup>th</sup> and 7<sup>th</sup> floor plans.



Night time scene, looking north. View from the street.



# Technical details



0 50 100sm

Each wall is composed of C-section steel members and rock wool insulation between them. The non-load

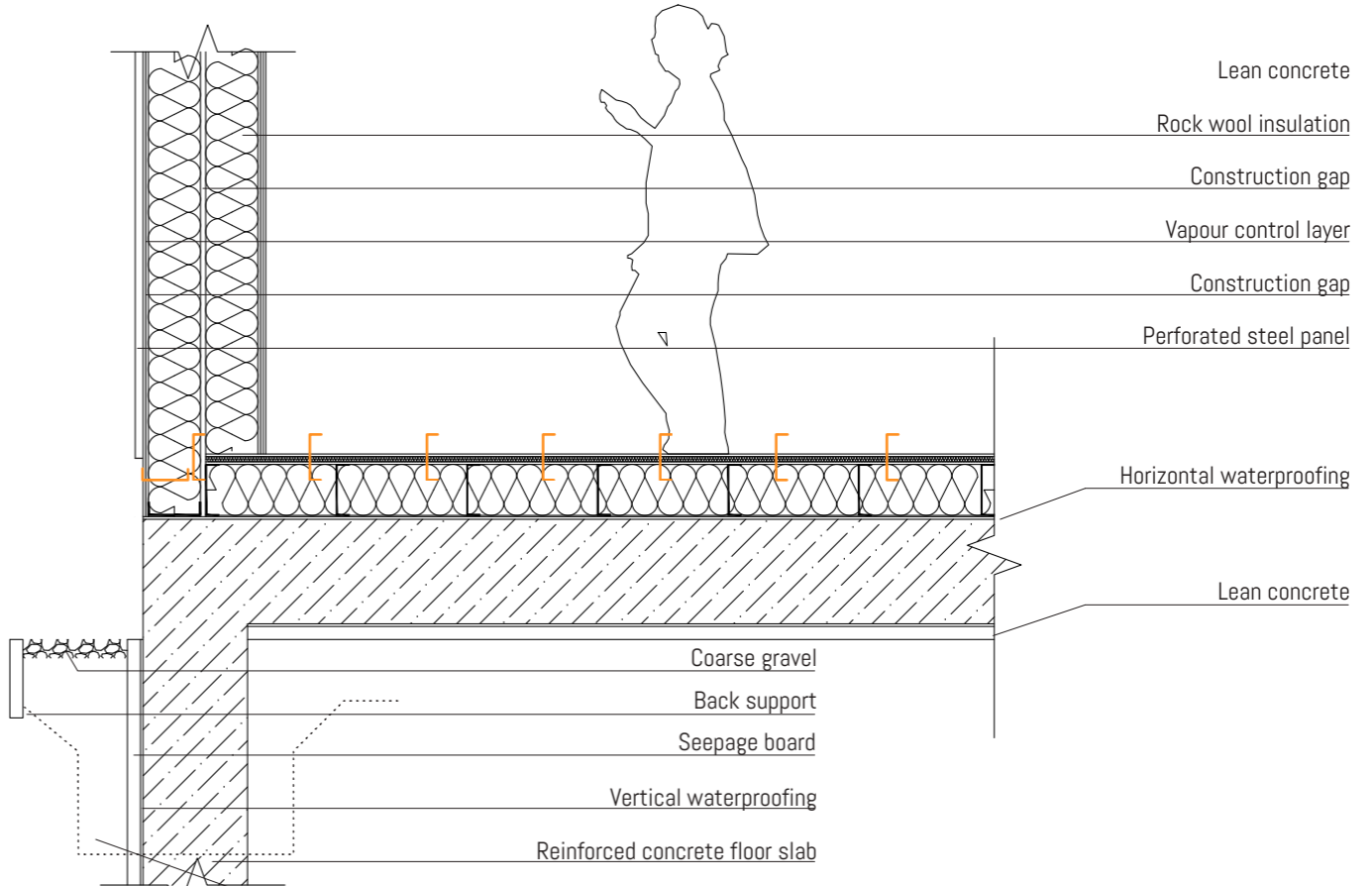
bearing walls use 150mm by 1.6mm C-section steel members. Each wall has a 5mm sheet from one side

and a wall finish from the other. The floor and ceiling members have the same composition according to

the aforementioned dimensions (mentioned in 3.4.1) and with appropriate finishes.

Green roofs have additional insulation layers, drainage, vapor control layer, and water barrier. The

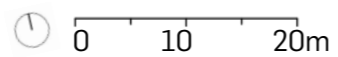
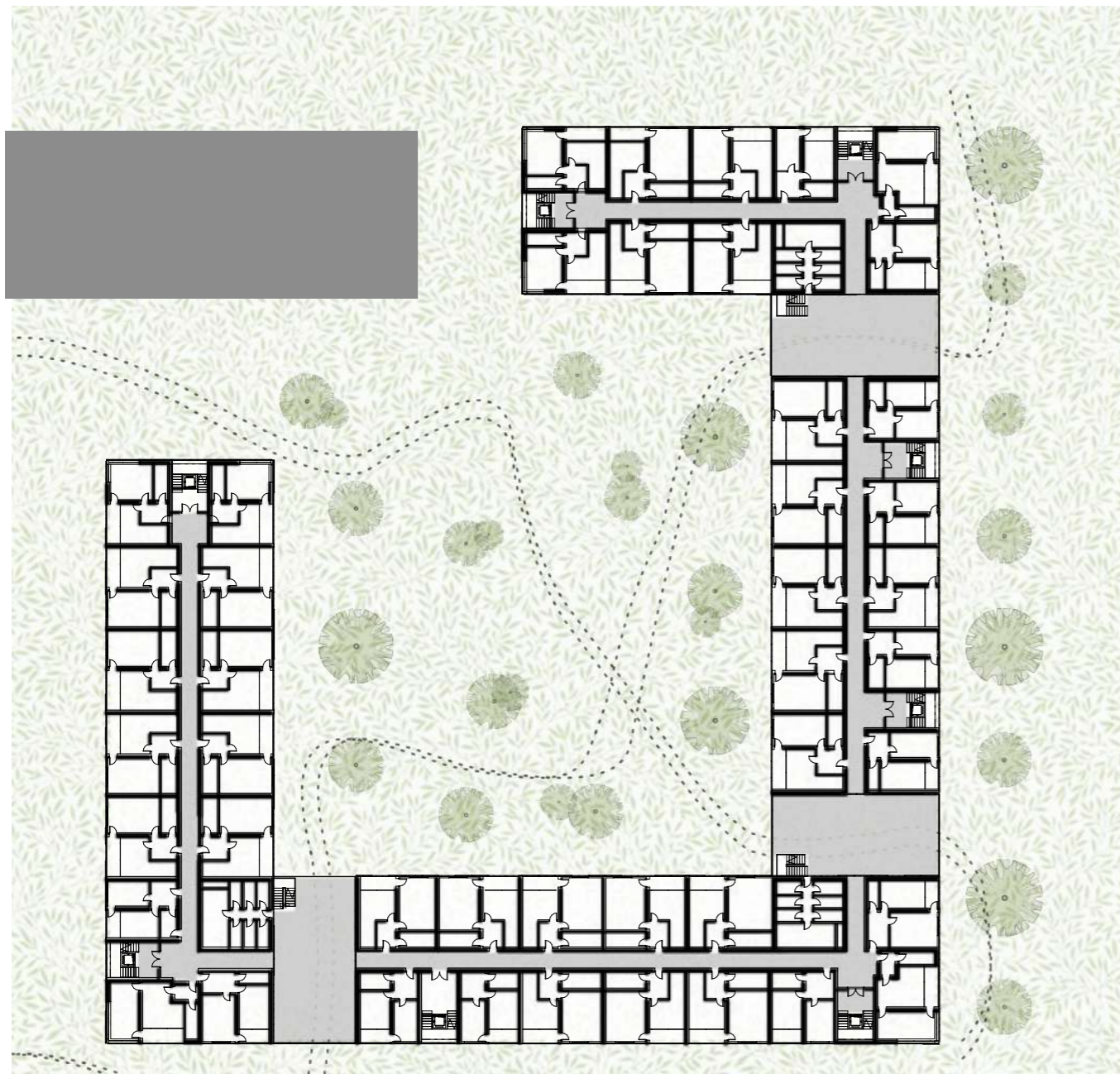
growing medium is 400mm deep to allow the growing of bigger-sized bushes.





# 3<sup>rd</sup> floor

The third floor is where the bridges connect the 4 buildings. The space is a common area for the residents.



Day time scene looking north. The street view.



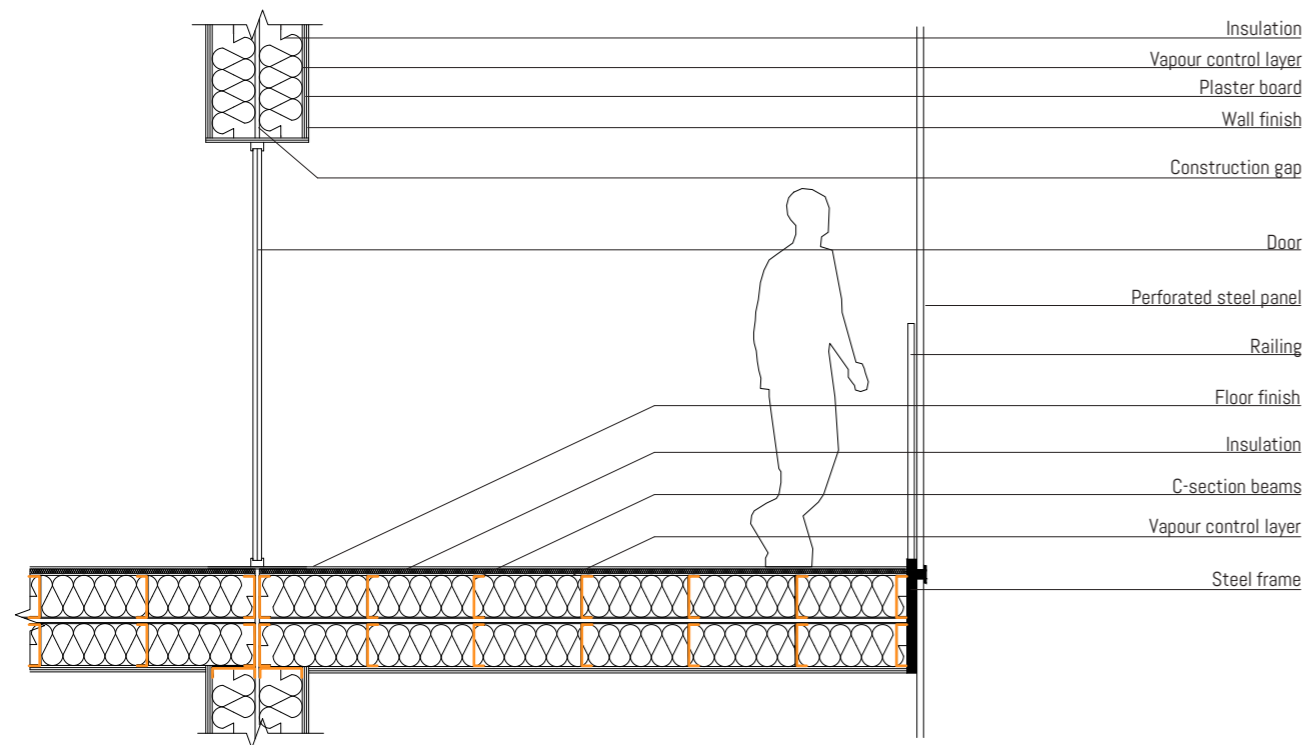
# South elevation

# East elevation





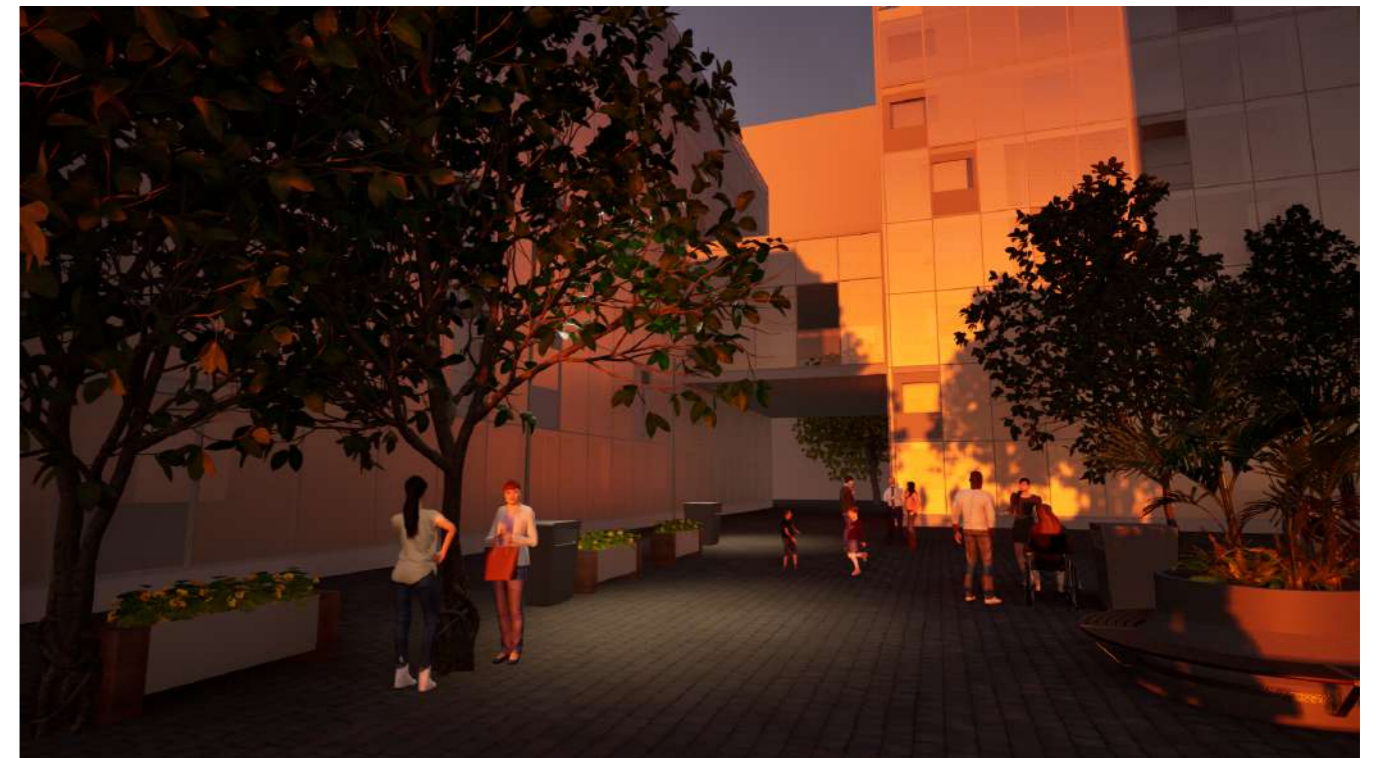
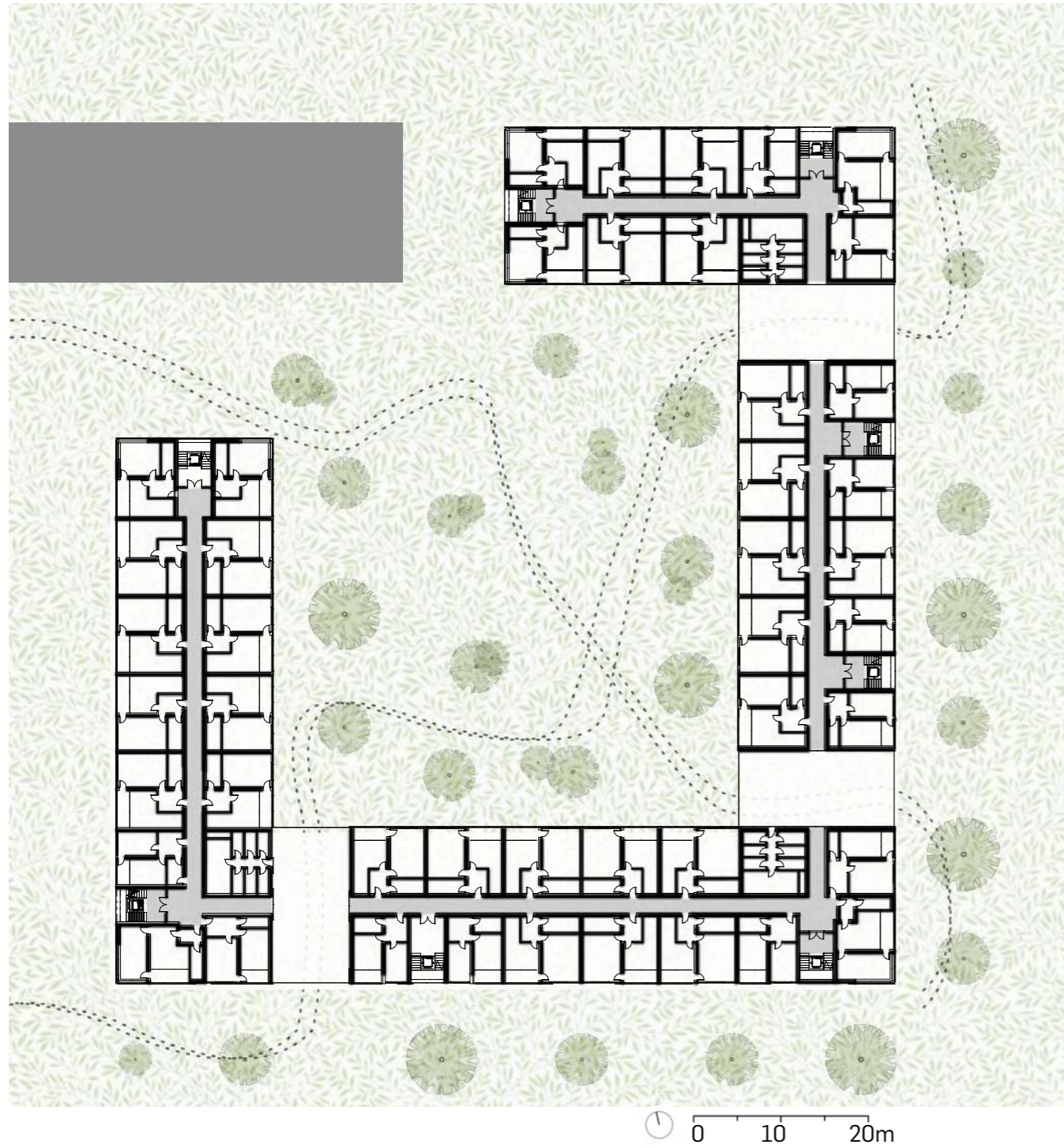
# Facade detail



0 50 100cm



# 5<sup>th</sup> floor



Afternoon scene looking east from the courtyard.





Model of the master plan.

Gray indicates the new structures. The blue indicates the existing.



Section model of the project.





**ARCHIP**

ARCHITECTURAL  
INSTITUTE  
IN PRAGUE