

The Building
The Problem
Sustainability
SBT
Research

# RESEARCH FINDINGS

12 Characteristics

# THE LOCATION

Needs of Eindhoven
Aim of Eindhoven
Connections
Concept

## THE DESIGN

People
Planet
Profit
Authenticity

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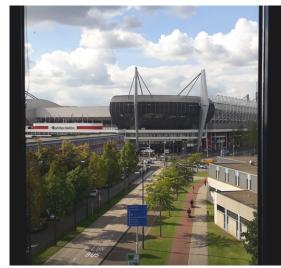
"But beauty will be perceived differently in the next century than in the last, because the term is subjective and timebound."

- Herman Kraaijvanger in an Interview from 1962











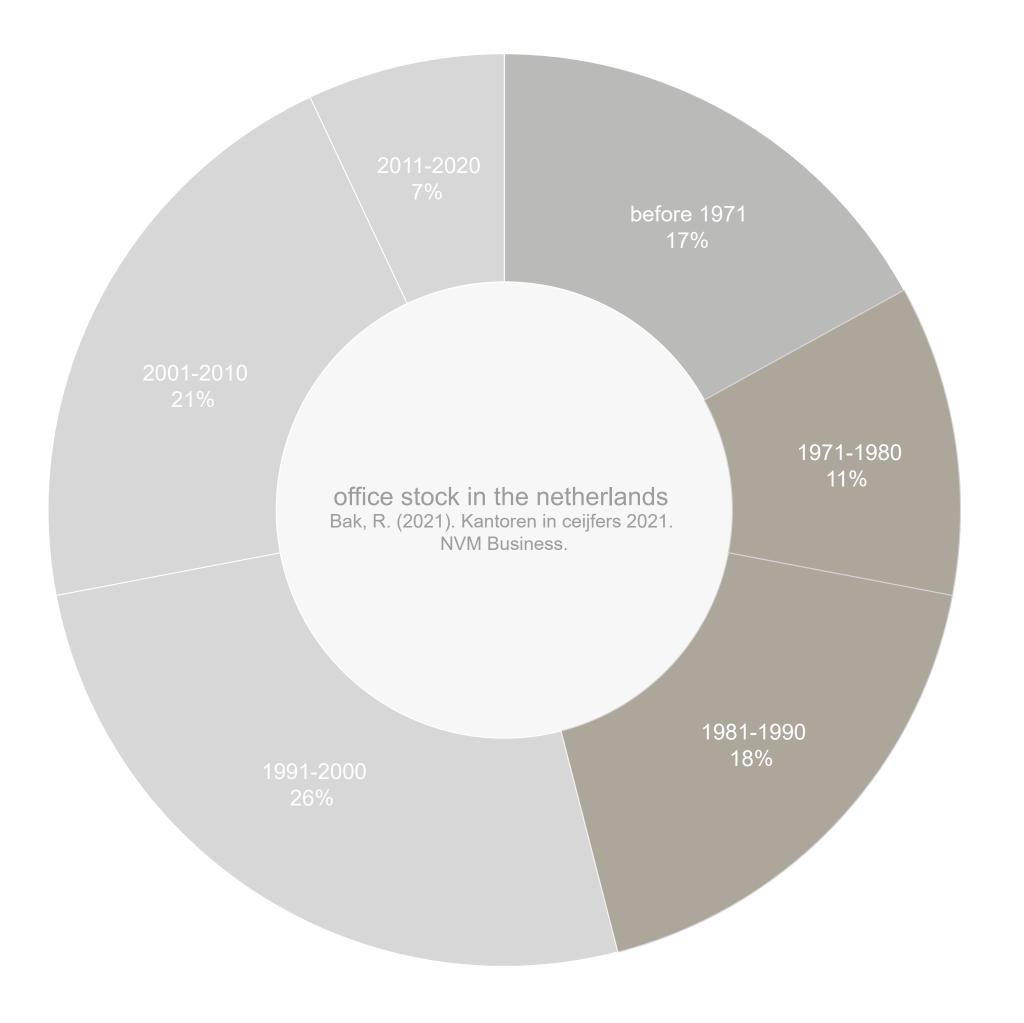


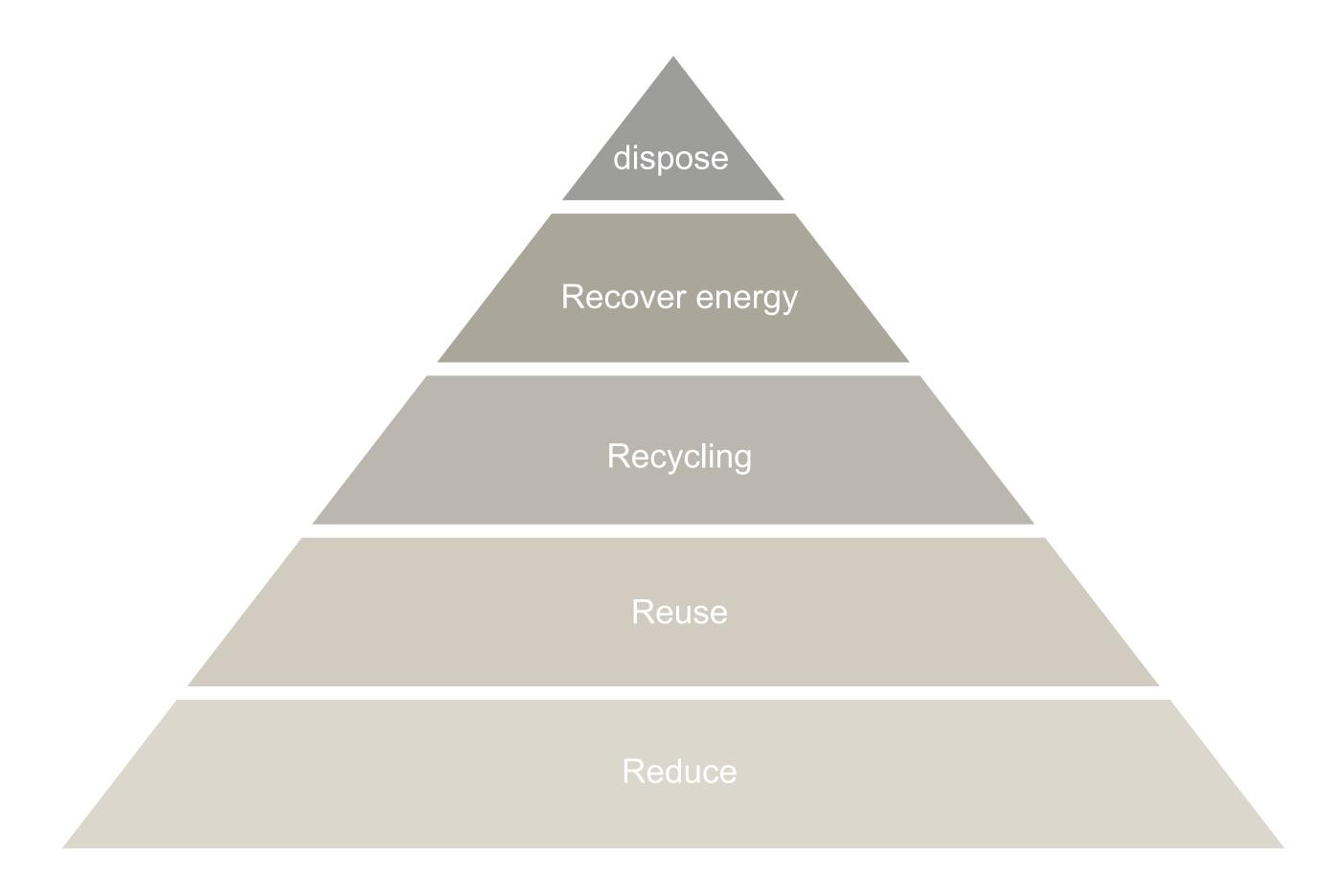






\*Photos of the Policebuilding from the inside (blackened)





How can the spatial characteristics of Dutch administrative office buildings from the late 1970s and 1980s be implemented into a sustainable adaptive reuse strategy, on the example of the Mathildelaan Police department in Eindhoven?

#### Police Building:

What are (sustainable) characteristics of 1970s and 1980s architecture and how to sustainably re-design these buildings?

#### Additions:

What to learn for today's Architecture (Test buildings creating a study of styles using the topic of typologic families)?

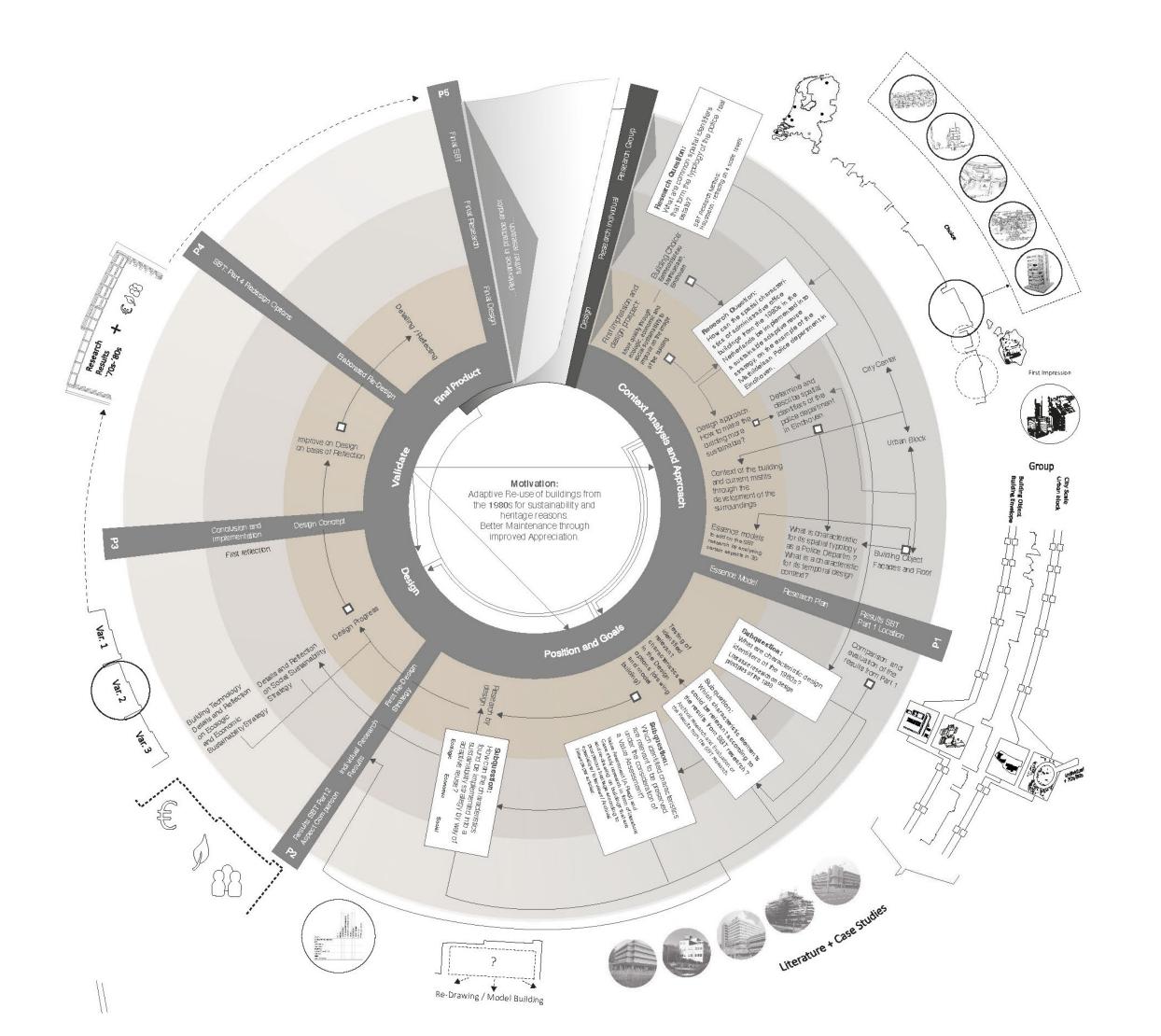
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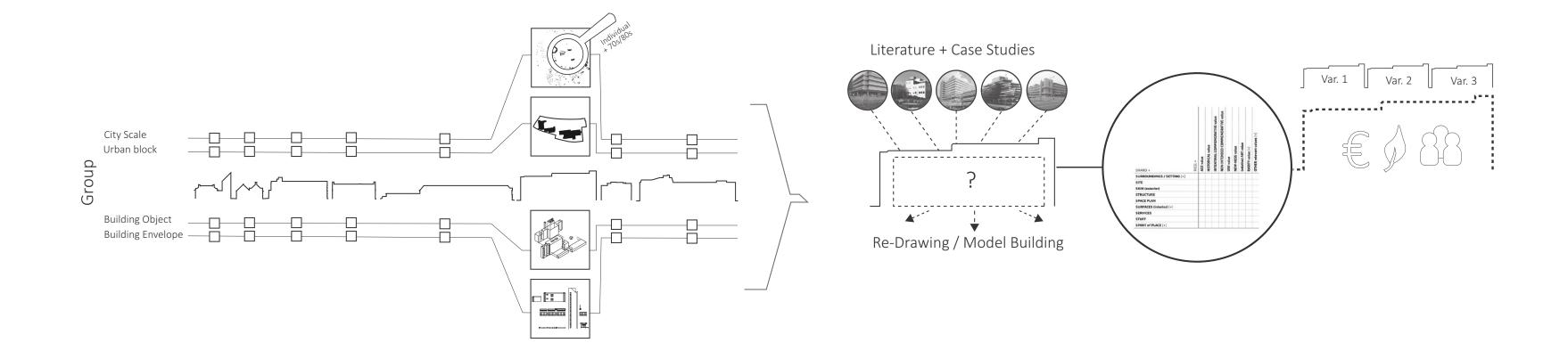
### Police Building:

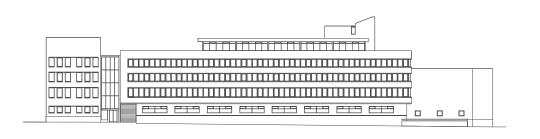
What are (sustainable) characteristic of 1970s and 1980s architecture and how to sustainably re-design these buildings?

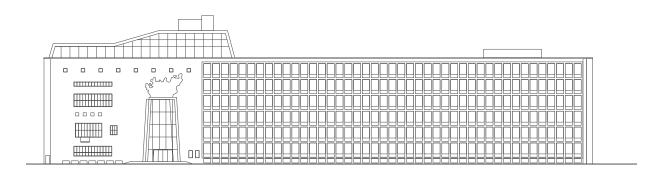
#### Additions:

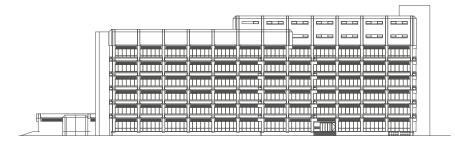
What to learn for today's Architecture (Test buildings creating a study of styles using the topic of typologic families)?











GRONINGEN 1971 THE HAGUE 1985 EINDHOVEN 1981

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#### **12 CHARACTERISTICS:**

#### The Surroundings

- 1.1. Location close to the city center Choice for dwellings
- 1.2. Low building hight
- 1.3. Relatively less dense **Densification**

#### The Building

- 2.1 Strong load bearing materials: Relevant for additions or changed use- Against large style demolition
- 2.2 Grid based design: Flexible Re-use- see above





#### Issues

3.1 Insulation: Heating, Cooling, Sound - Facade,

#### **Additions, Insulation, Materials**

- 3.2 Fire Protection and Escape Ways
- 3.3 Harmful Materials (e.g.) Asbestos









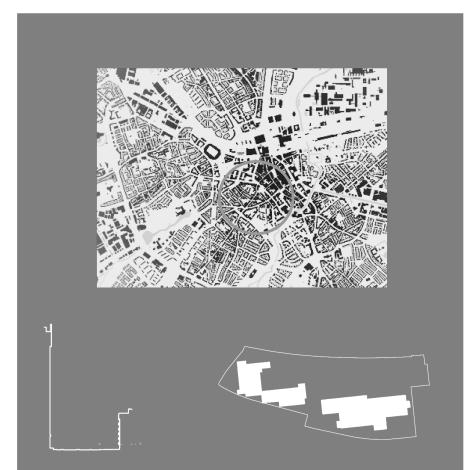


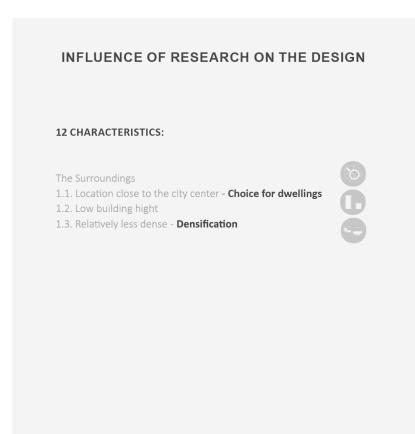
- 4.1 Prefabrication saving time and money stay visible
- 4.2 More awareness for modern heritage
- 4.3 Play of form and Colour (e.g. Brutalism, Structuralsim,
- Post Modernism) relevant in every design decision
- 4.4 Accessability: Basis for current Status

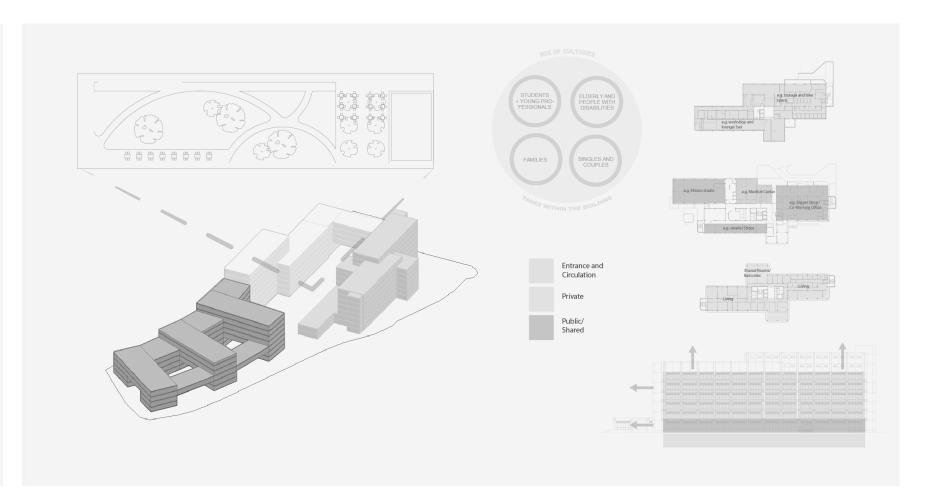






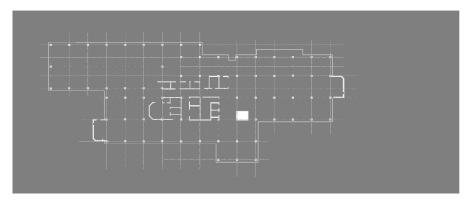






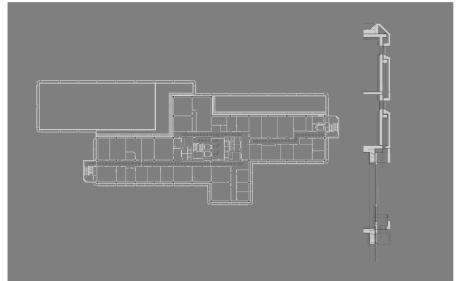
## The Surroundings

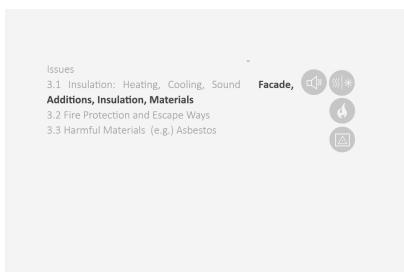
- 1.1. Location close to the city center Choice for dwellings
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- 1.3. Relatively less dense **Densification**

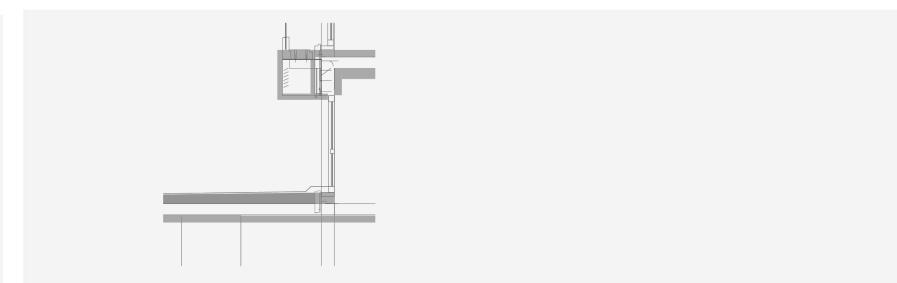










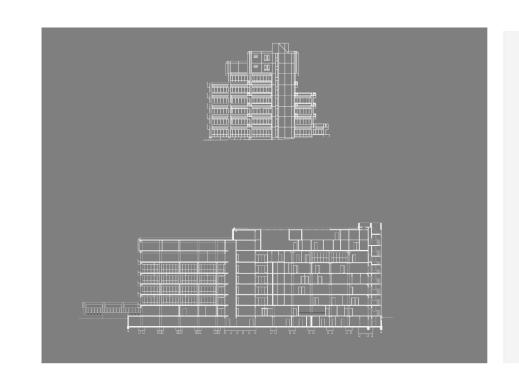


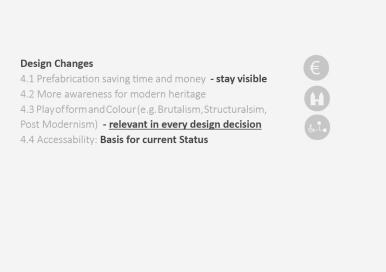
#### The Building

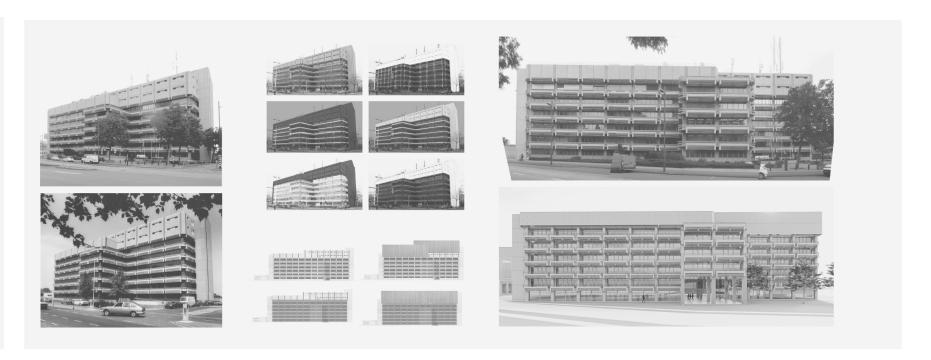
- 2.1 Strong durable load bearing materials: Relevant for additions or changed use- Against large style demolition
- 2.2 Grid based design: Flexible Re-use- see above

#### Issues

- 3.1 Insulation: Heating, Cooling, Sound Facade, Additions, Insulation, Materials
- 3.2 Fire Protection and Escape Ways
- 3.3 Harmful Materials (e.g.) Asbestos







### **Design Changes**

- 4.1 Prefabrication saving time and money stay visible
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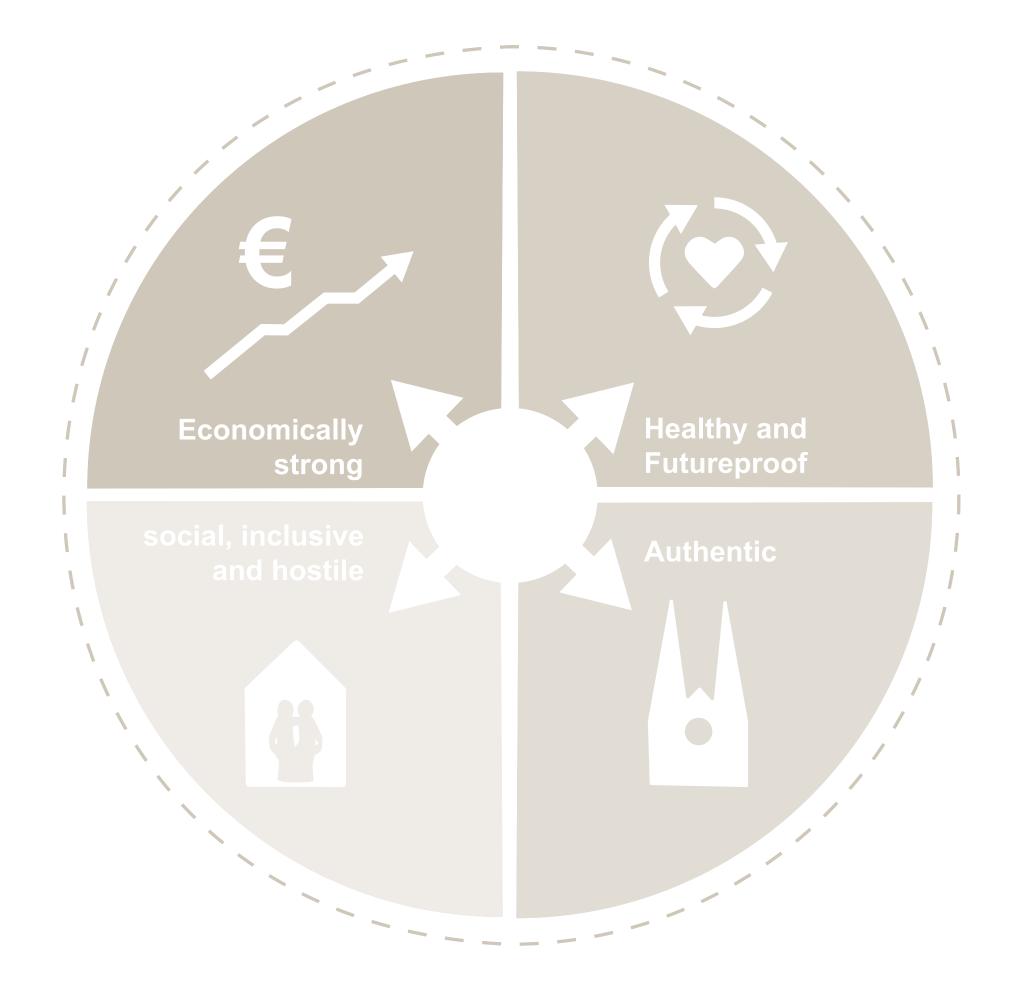
## THE DESIGN

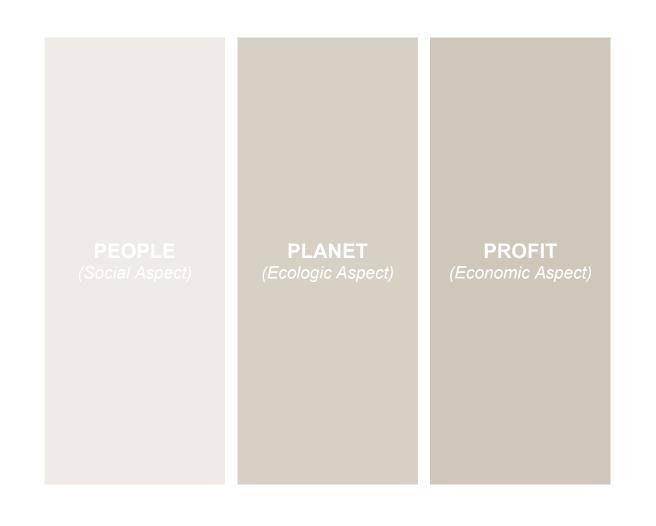
People
Planet
Profit
uthenticity

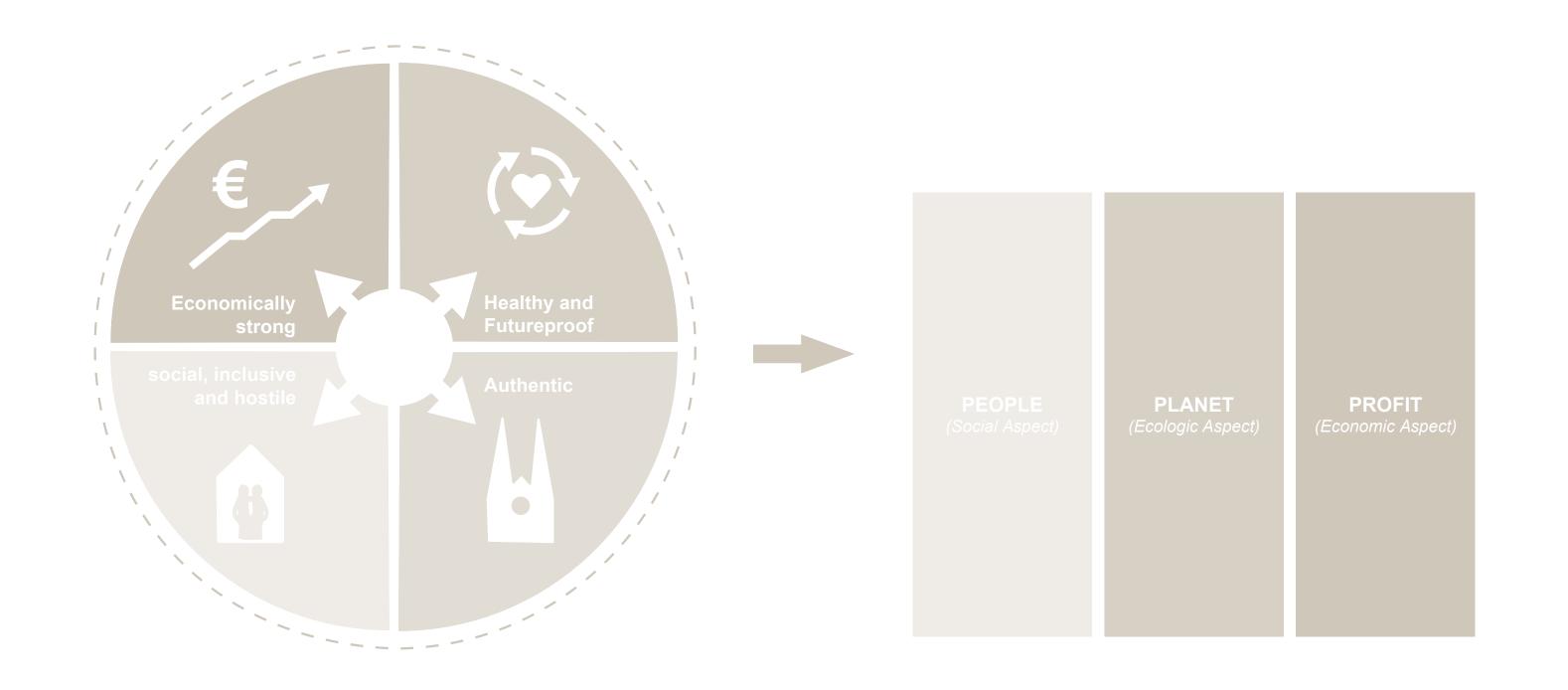


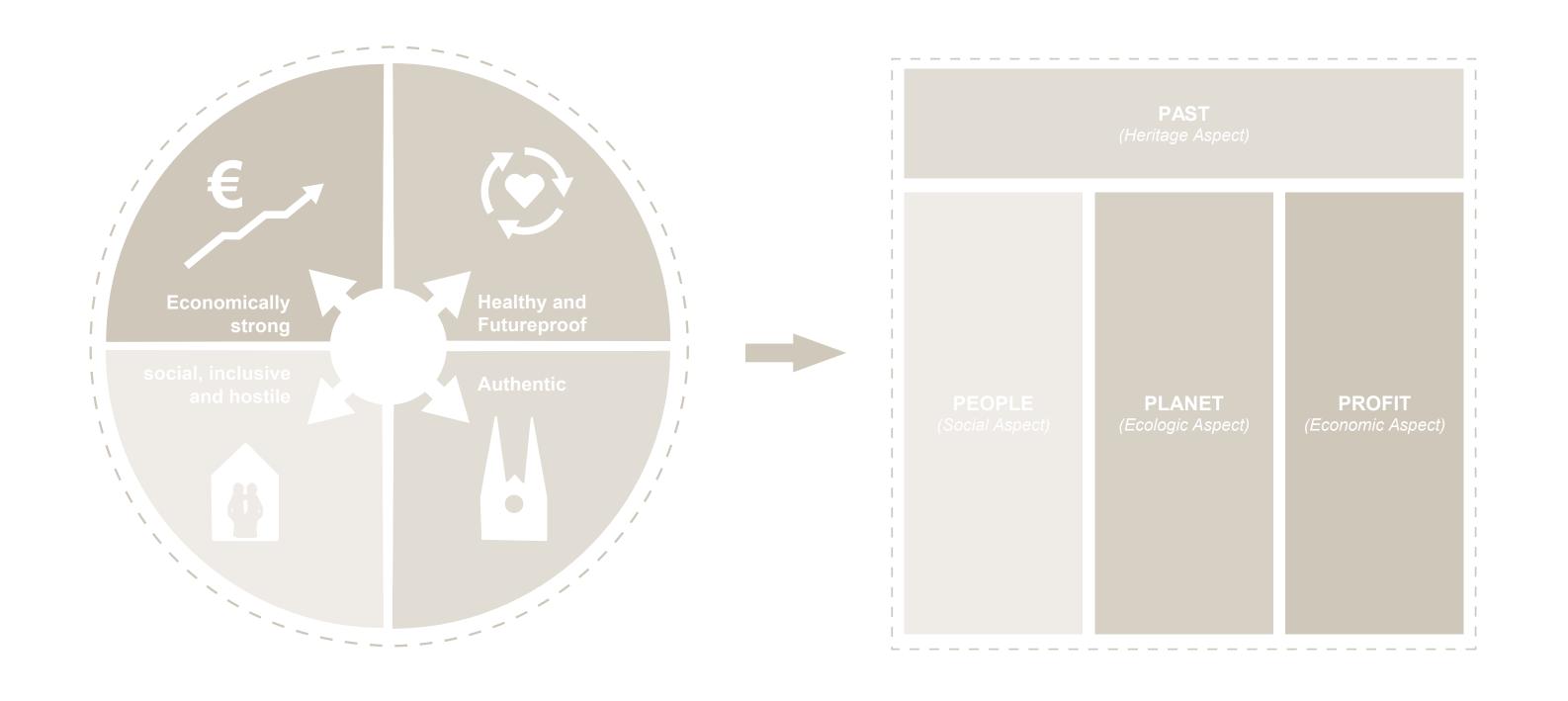


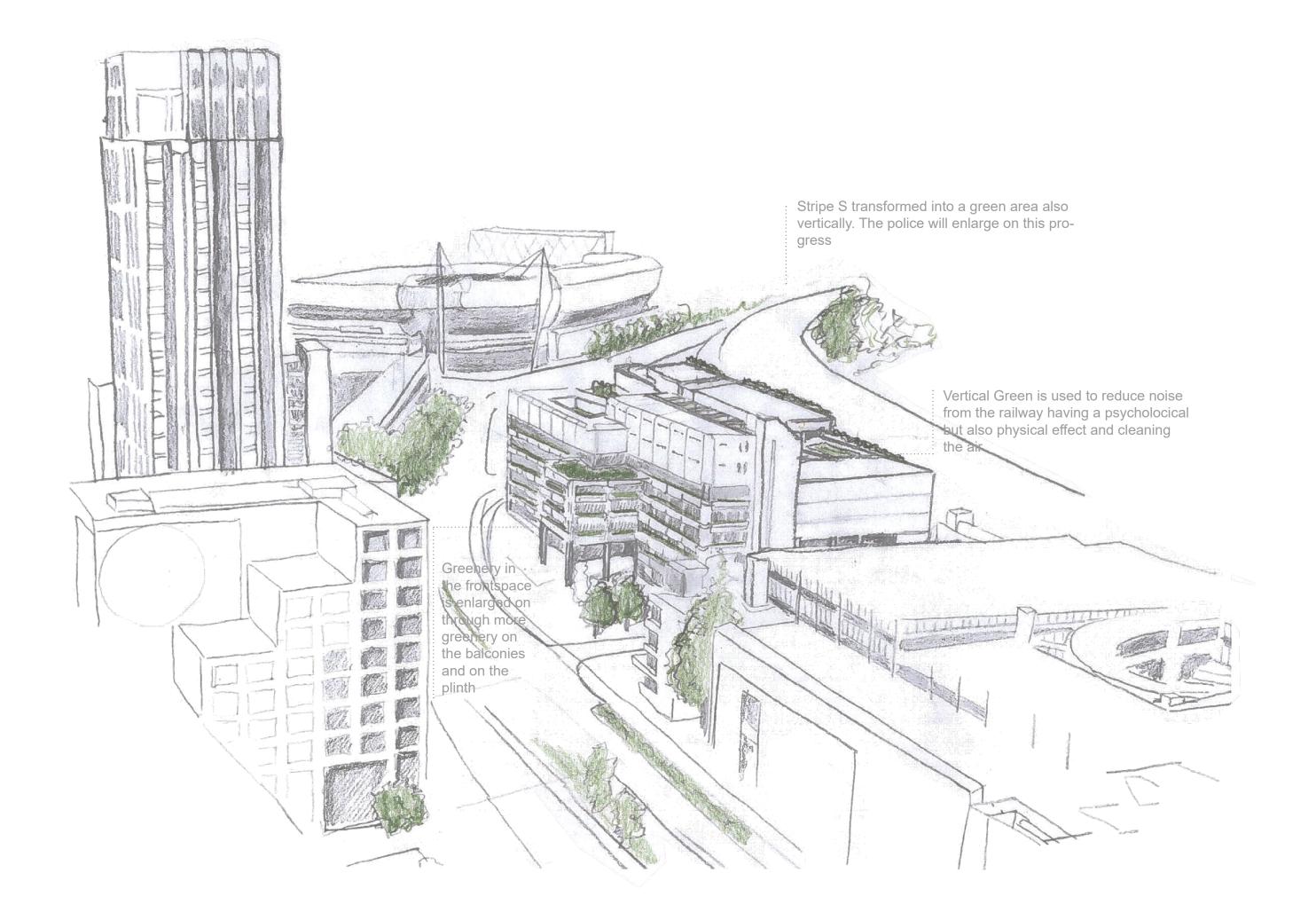
\*Newspaper article on housing shortage in Eindhoven (blackened)



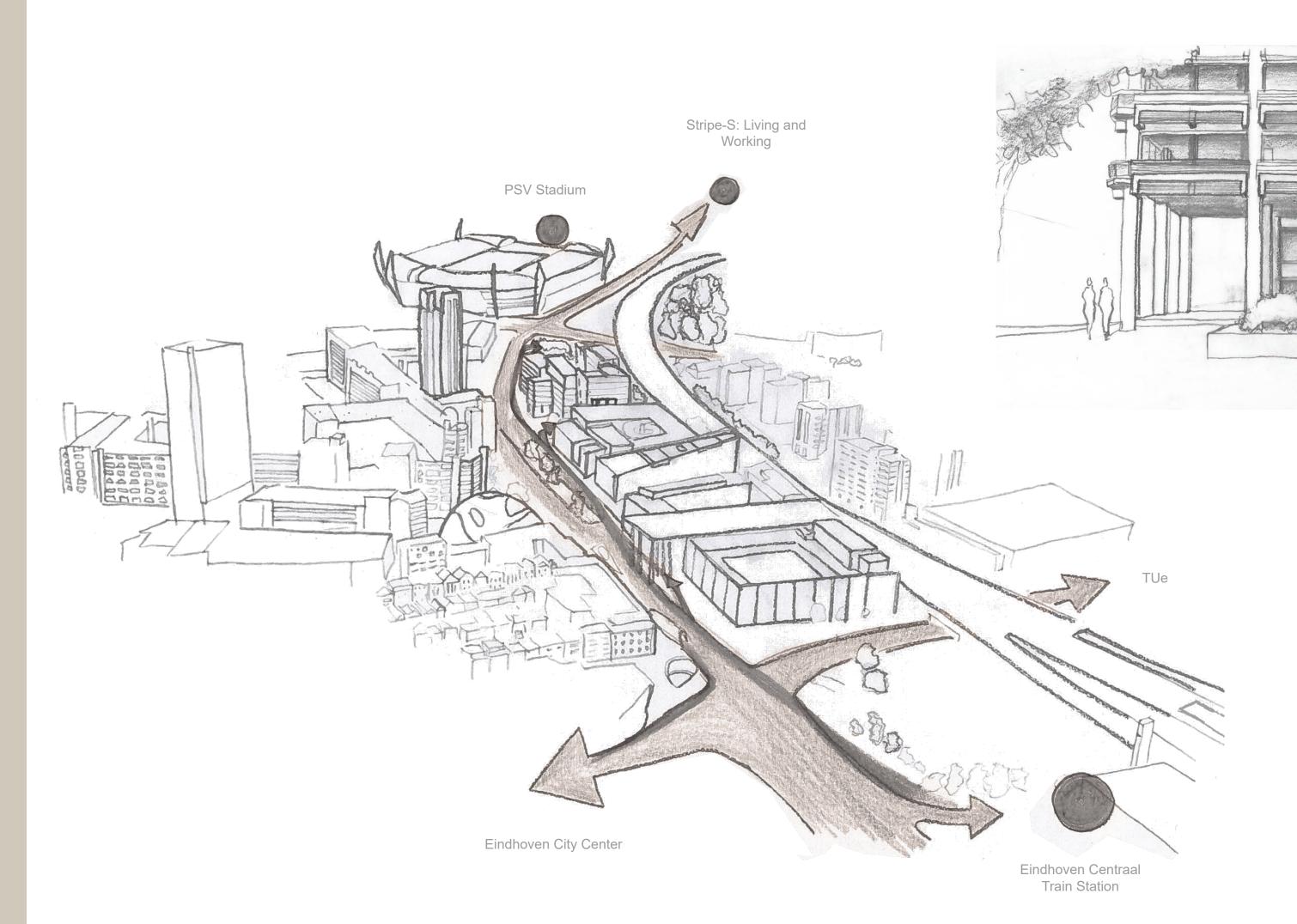














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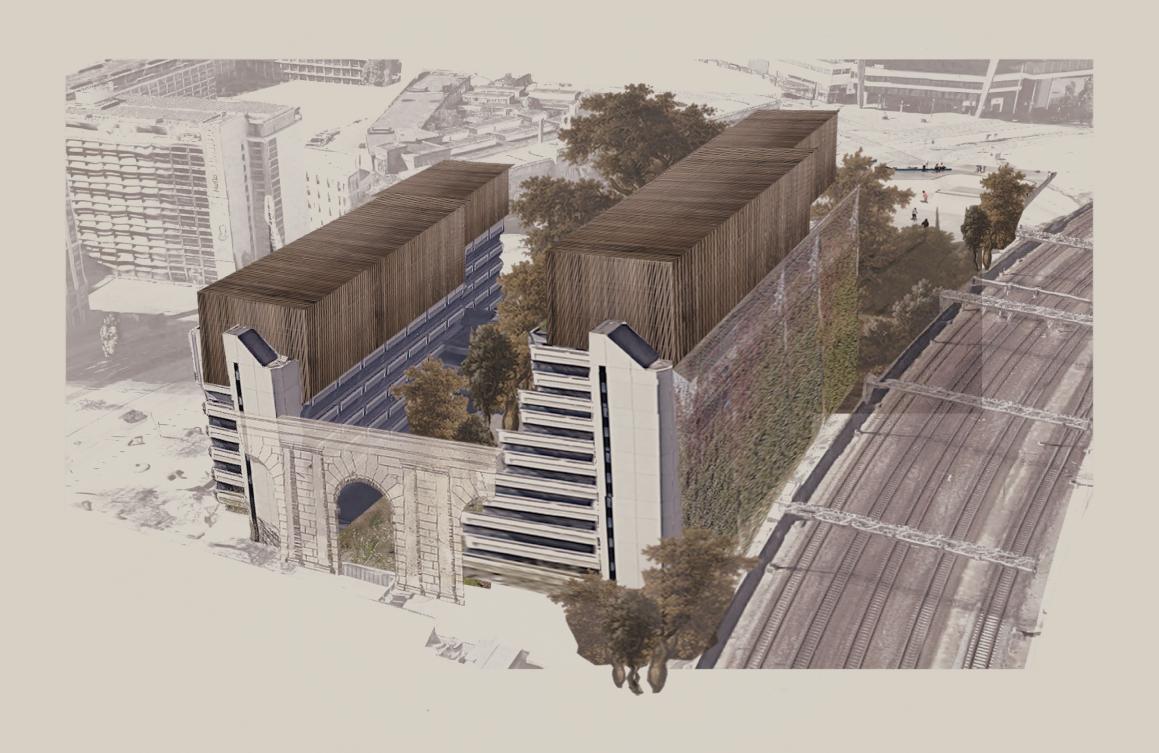
**PLANET** 

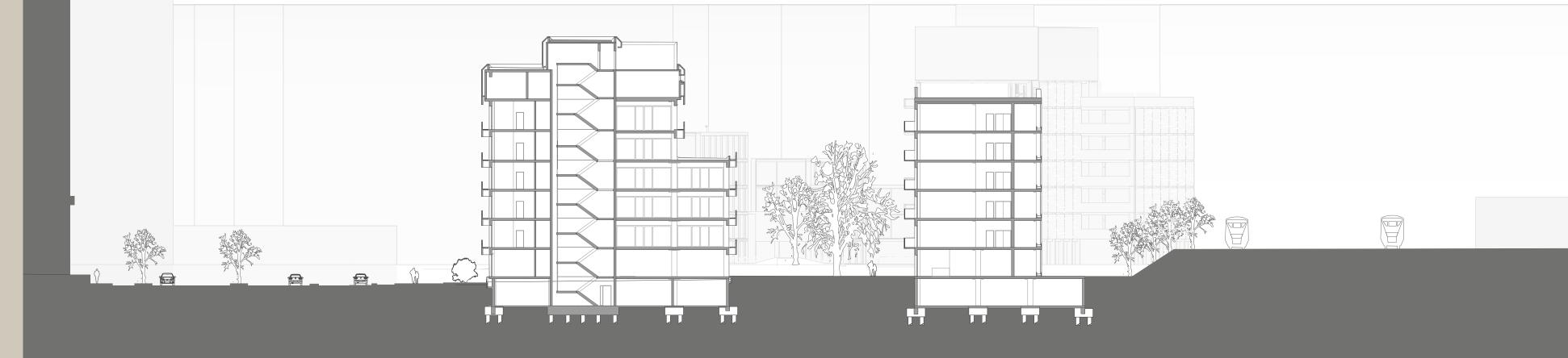
**PROFIT** 

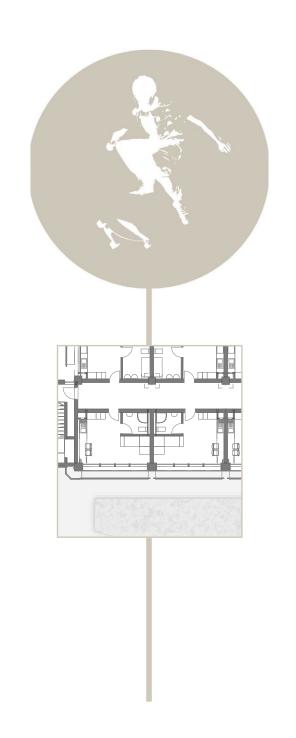
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# THE CITY IN THE CITY

Guiding Principle



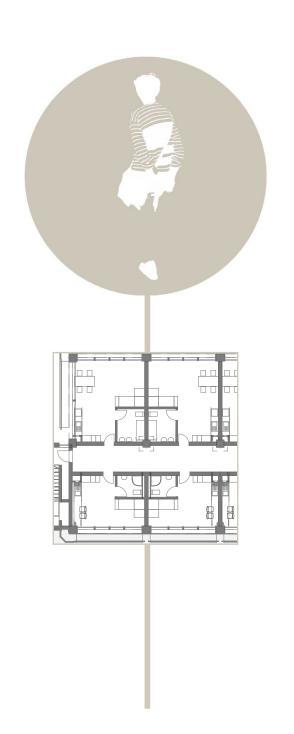




## SINGLE UNIT

< 30 qm

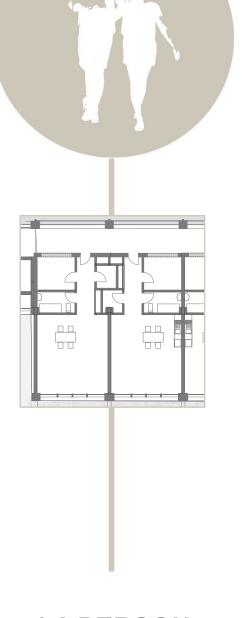
People in Education Singles Non permanent living



## SINGLE / DOUBLE UNIT

< 40 qm

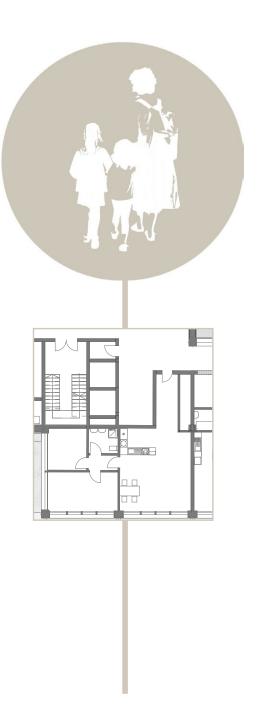
People in Education Singles



#### 1-3 PERSON UNIT

< 60 qm

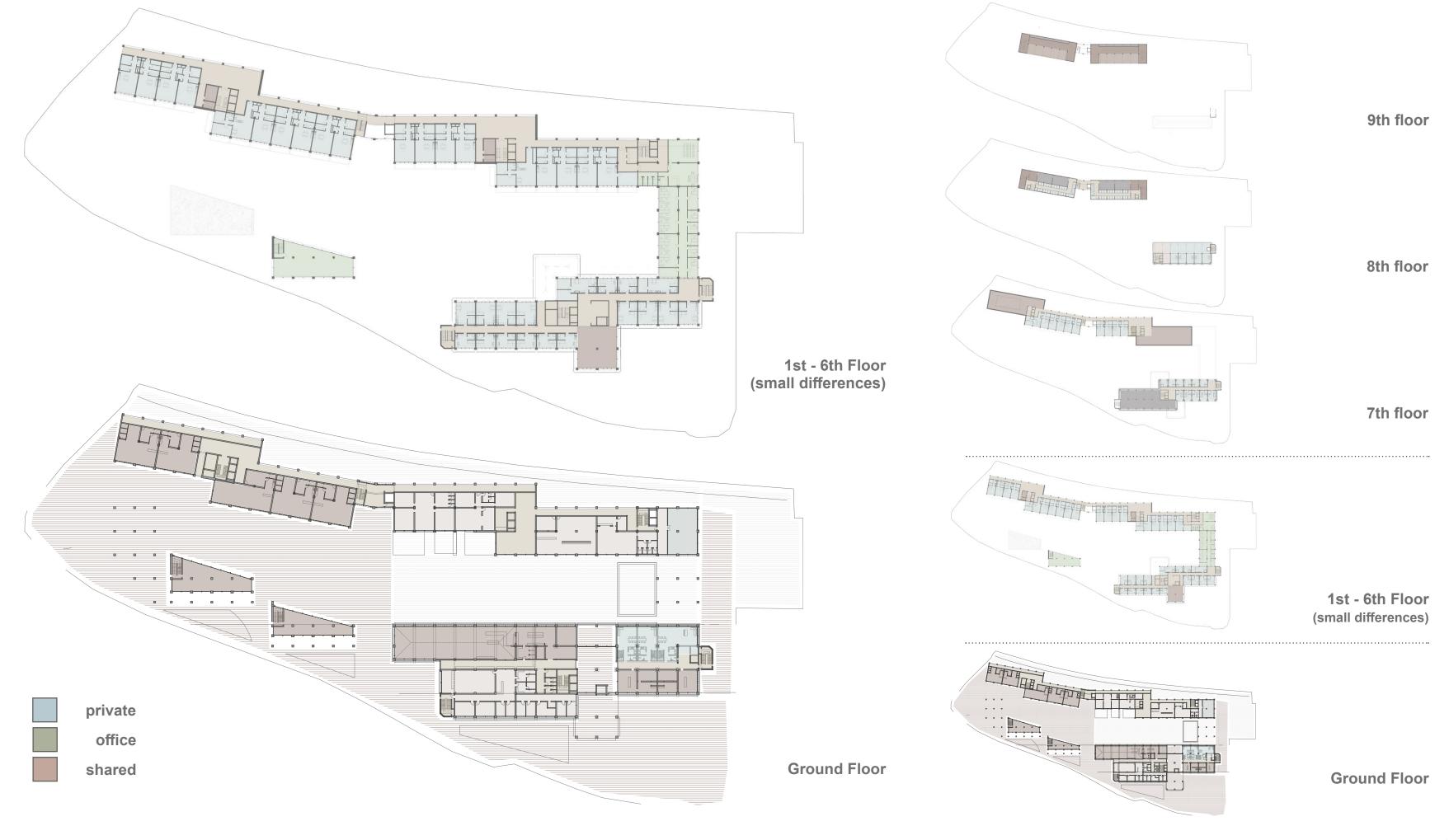
Couples in Education Singles



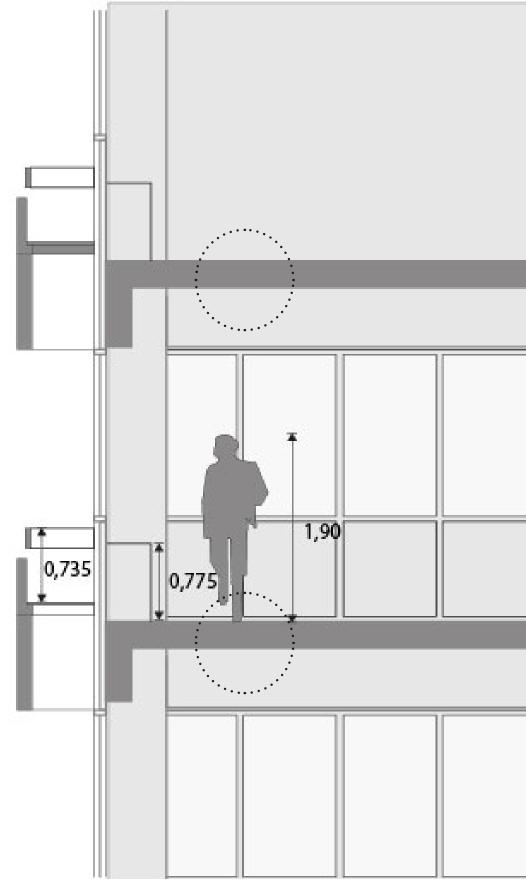
## 2-4 PERSON UNIT

> 60 qm

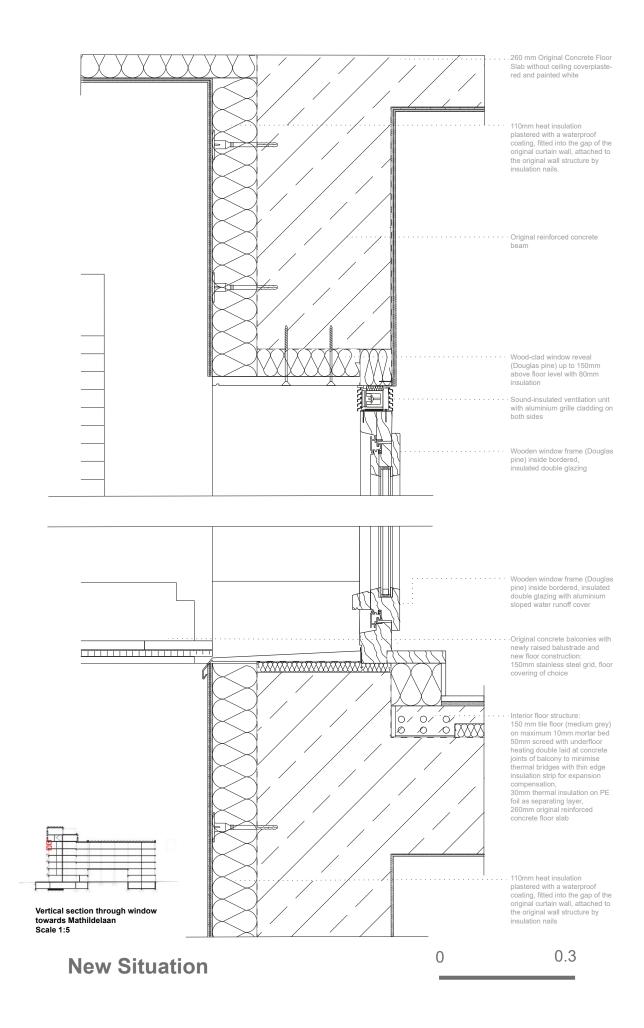
Loft use Families Shared living



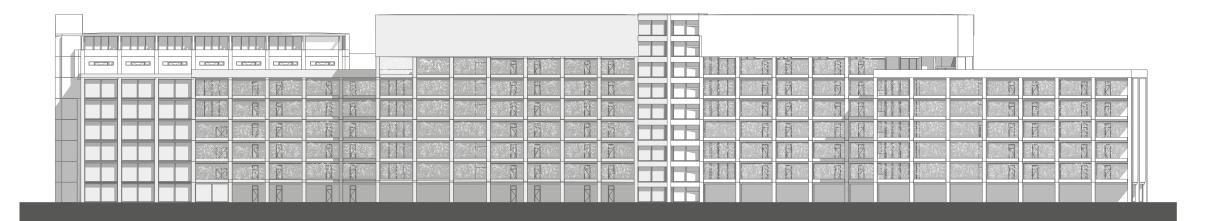


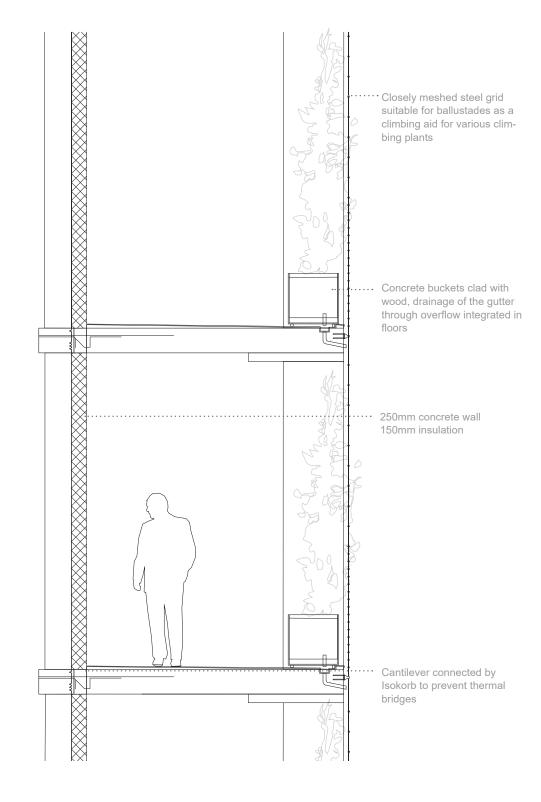


Current Situation

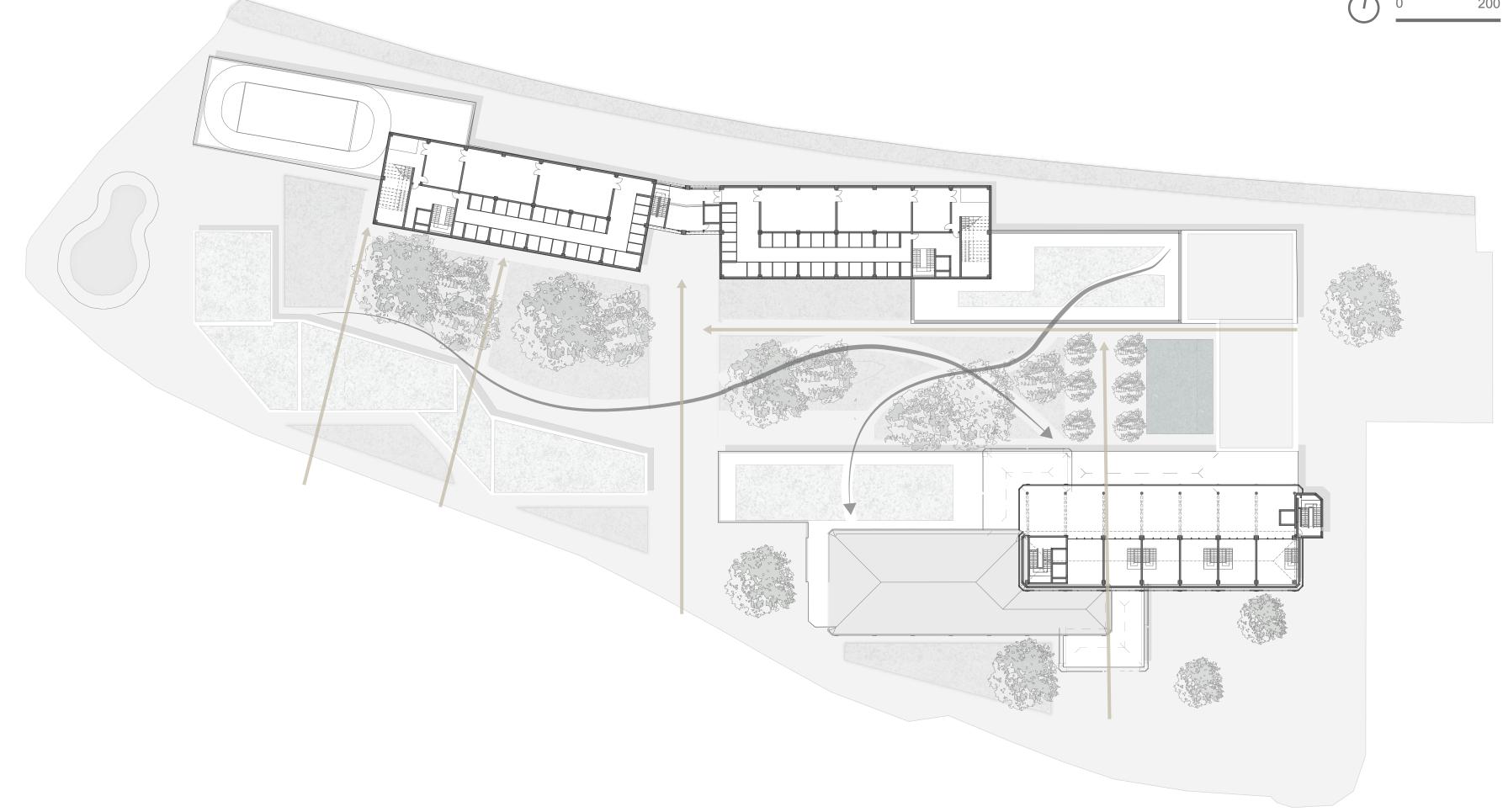








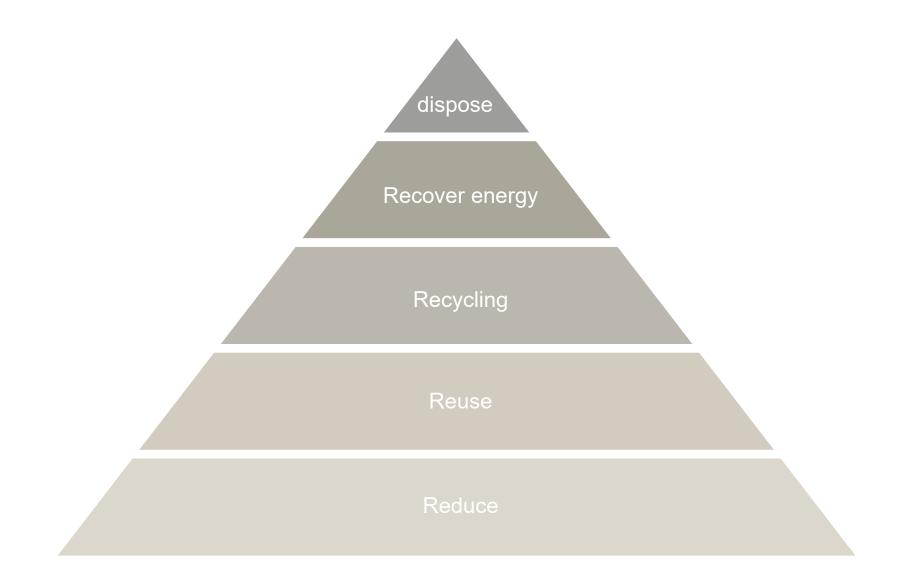
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PLANET

PROFIT

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RECYCLE AND RECOVER ENERGY:
MINIMIZE CONCRETE, REPLACE WITH WOOD AND CLEY
GREENERY, SUSTAINABLE ENEGY SUPPLY

#### **REUSE:**

REMOVED PARTS OF THE BUILDING REUSED E.G. IN INTERVENTION IN GRONINGEN (AISTE)

#### **REDUCE:**

CO2 EMMISIONS THROUGH DISPOSAL AND BUILDING NEW



> 435

Flights from Schipol to New York JFK



> 750

Cars driving for a year (12.000km)



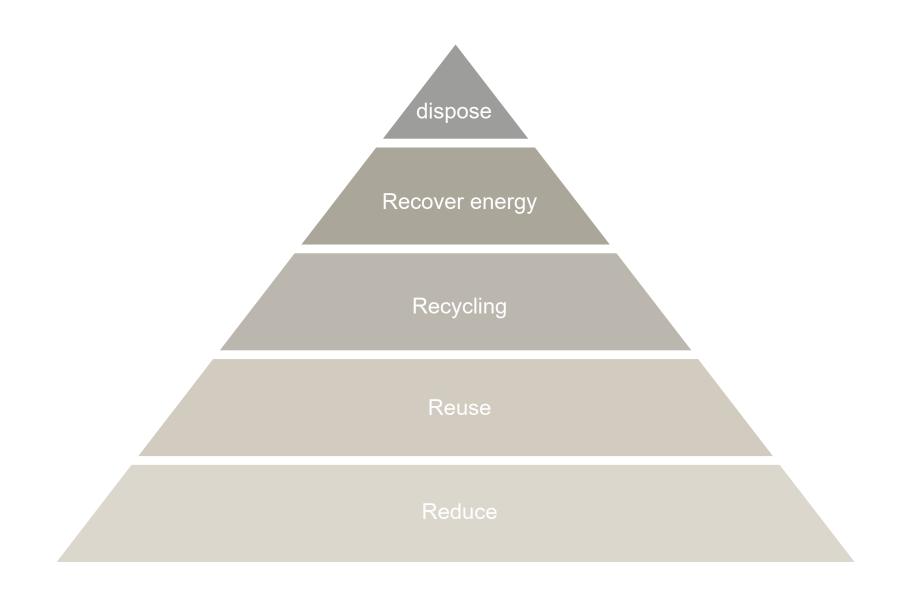
RECYCLE AND RECOVER ENERGY: MINIMIZE CONCRETE, REPLACE WITH WOOD AND CLEY, GREENERY, SUSTAINABLE ENEGY SUPPLY

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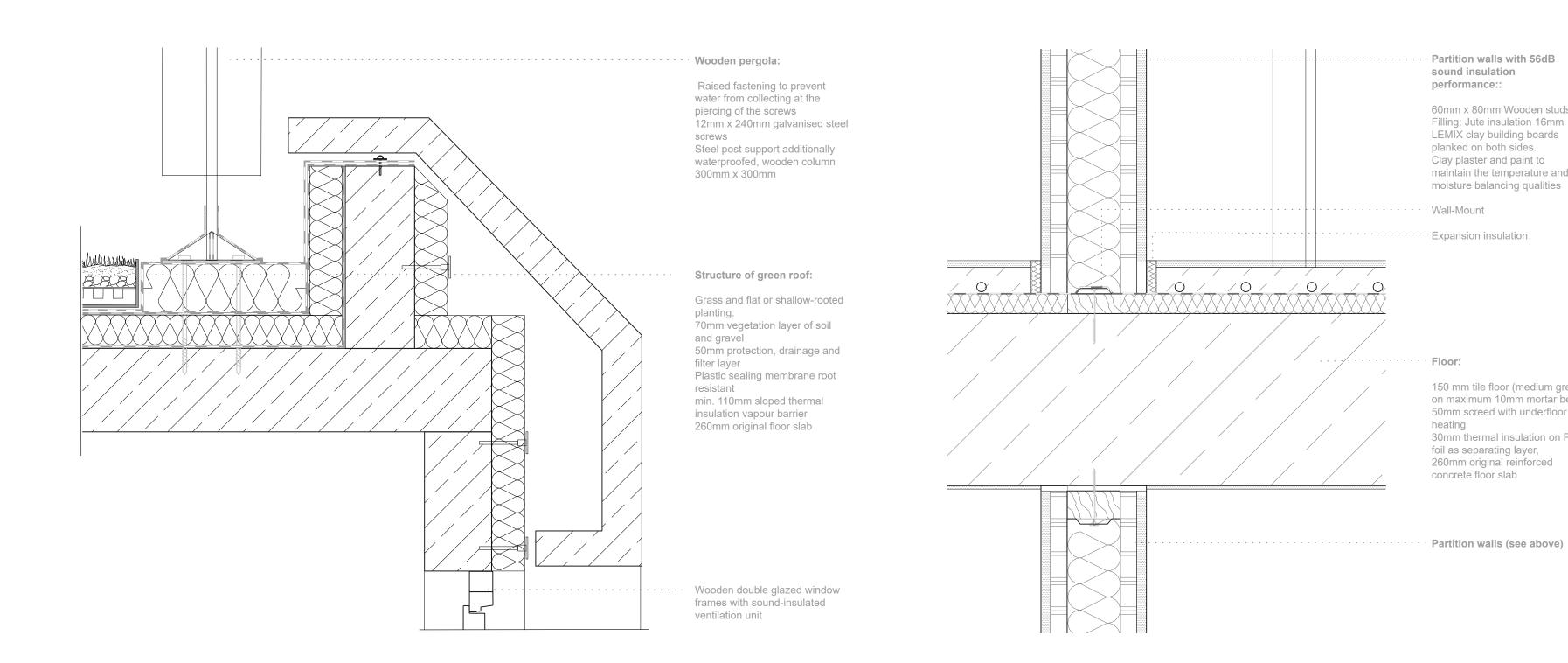
RECYCLE AND RECOVER ENERGY:
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REDUCE

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NEW



sound insulation performance::

60mm x 80mm Wooden studs Filling: Jute insulation 16mm

LEMIX clay building boards planked on both sides.

maintain the temperature and moisture balancing qualities

150 mm tile floor (medium grey) on maximum 10mm mortar bed

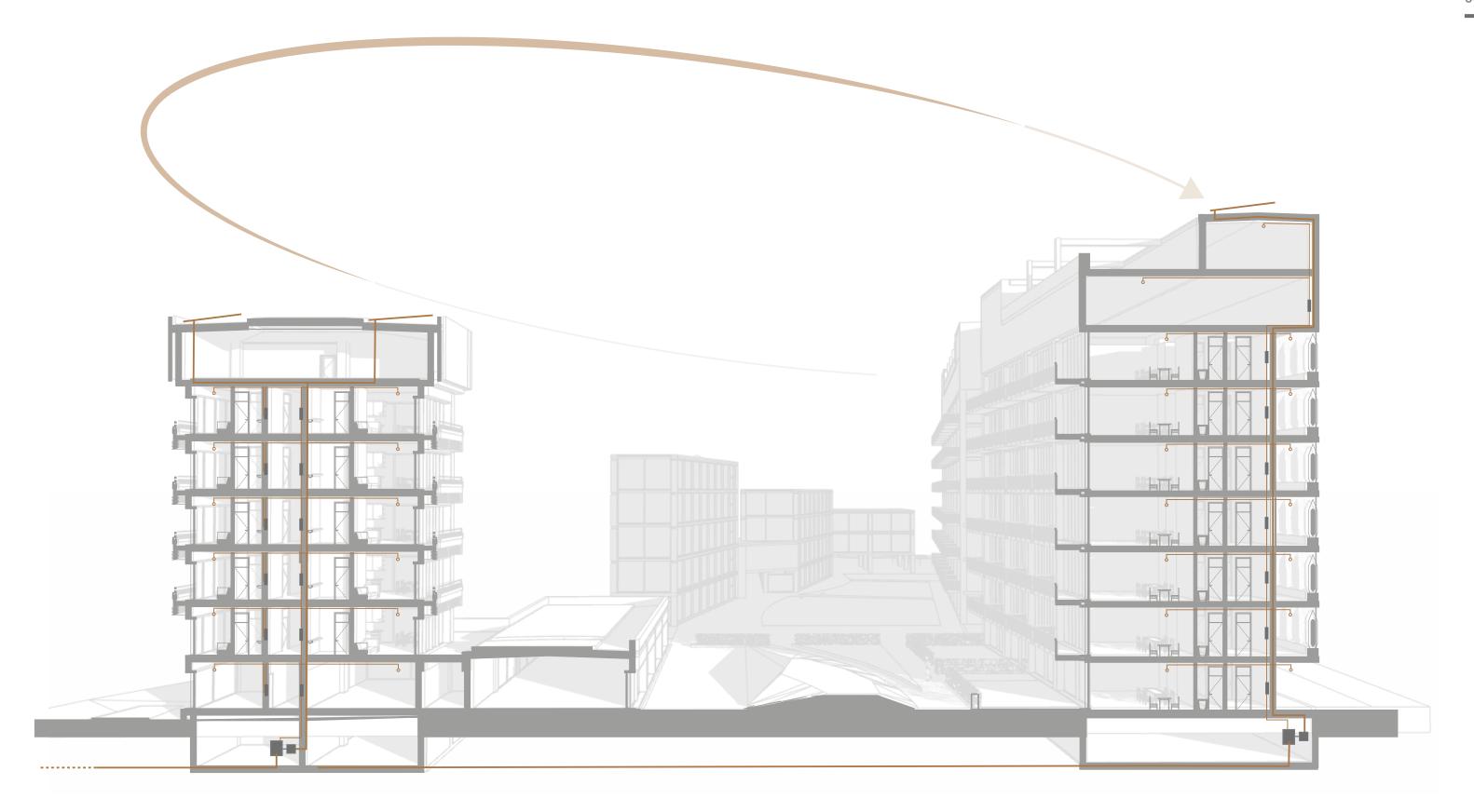
50mm screed with underfloor

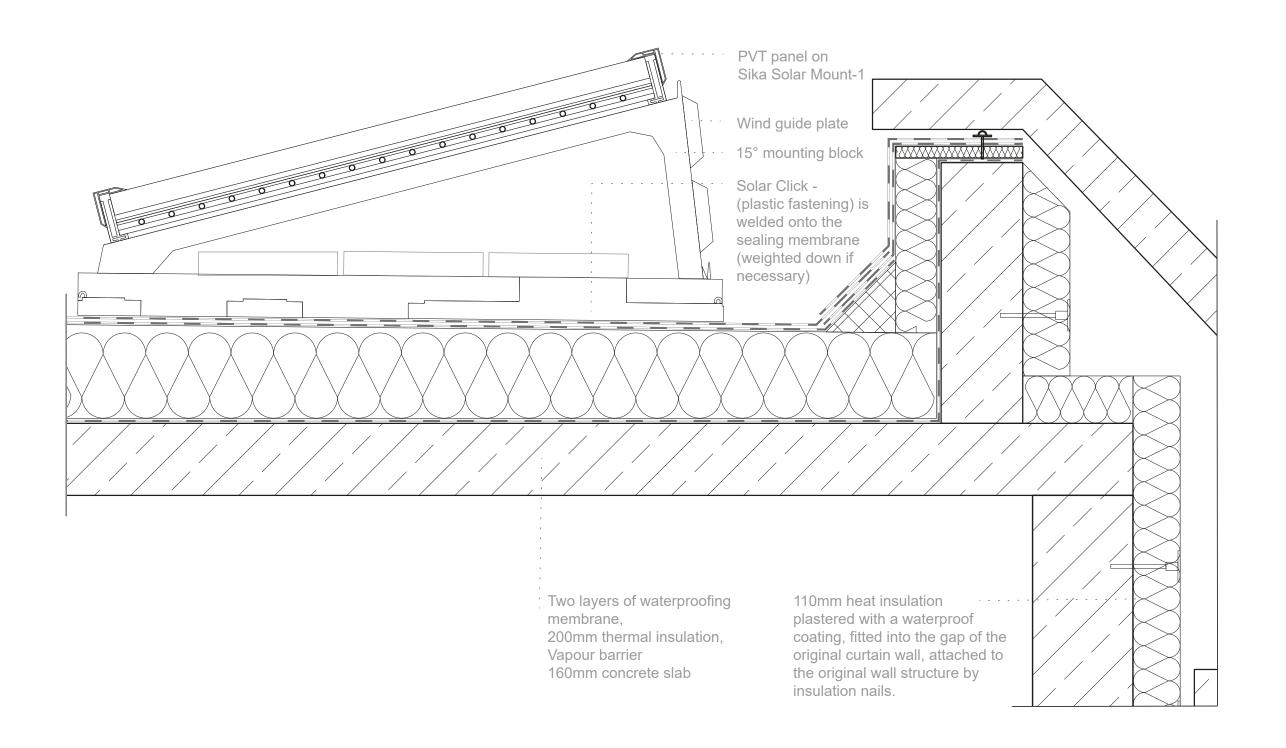
30mm thermal insulation on PE foil as separating layer, 260mm original reinforced concrete floor slab

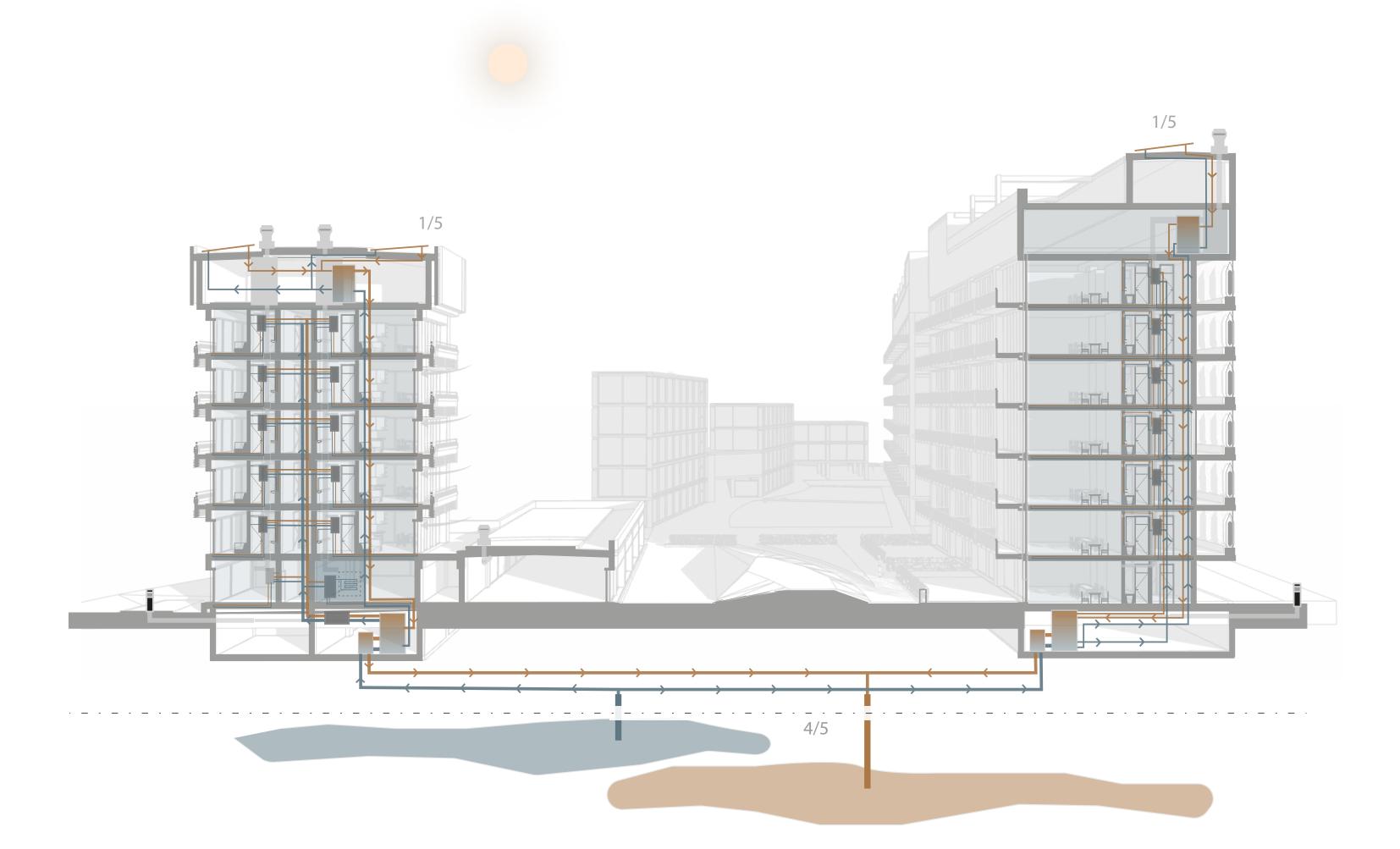
Clay plaster and paint to

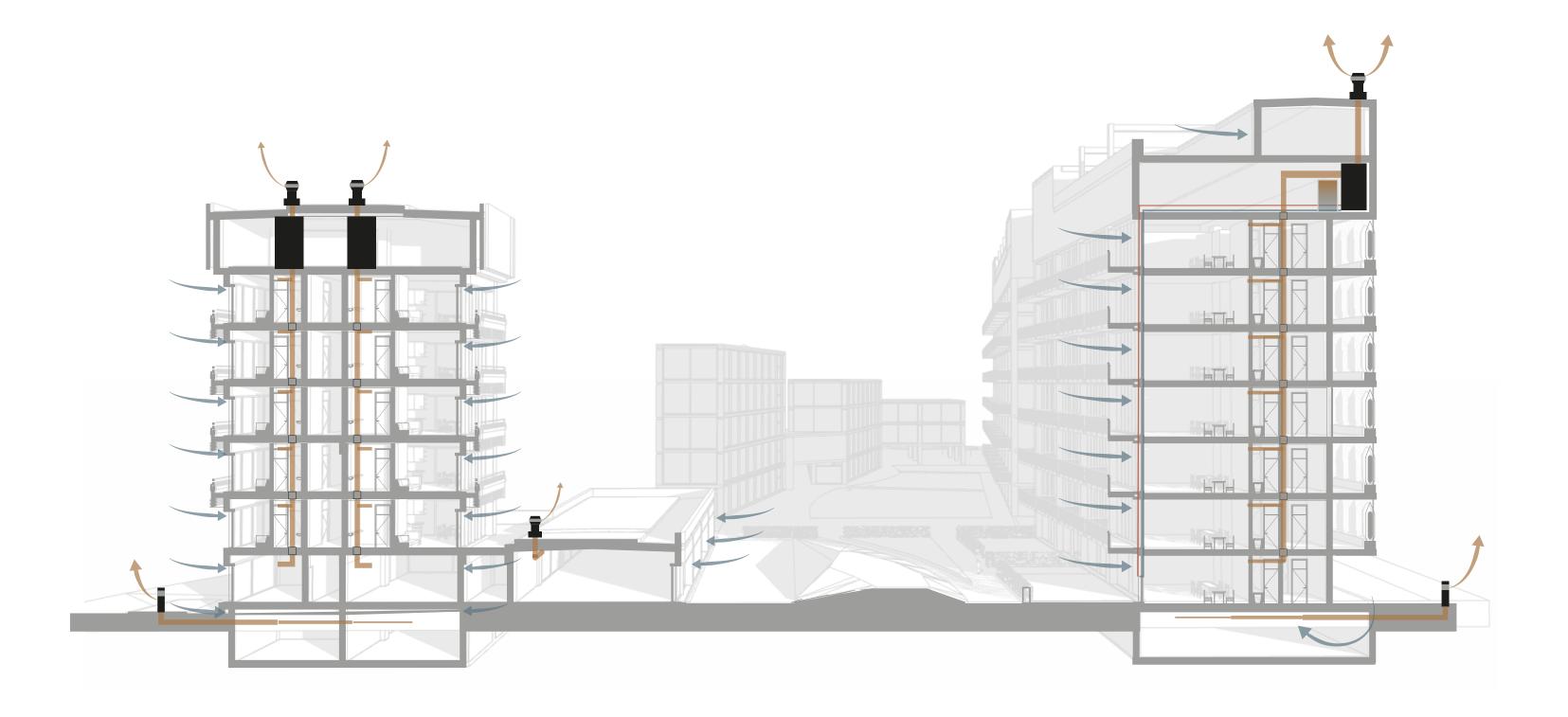
· Floor:

heating





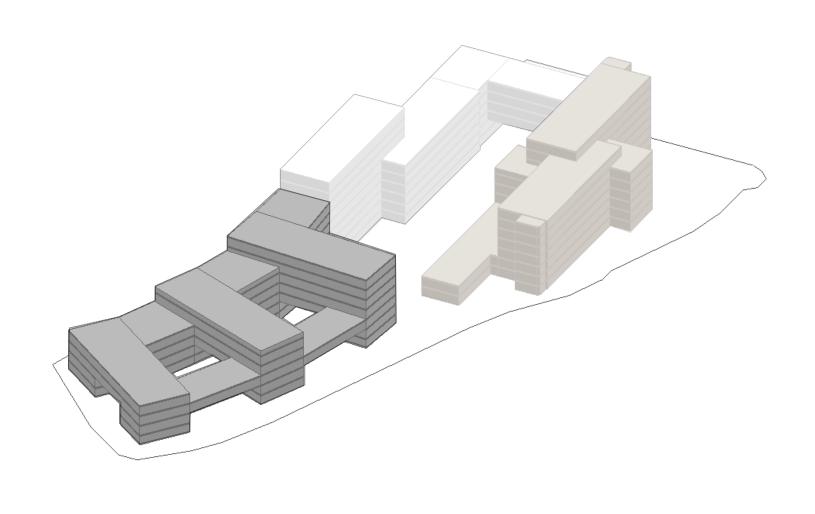


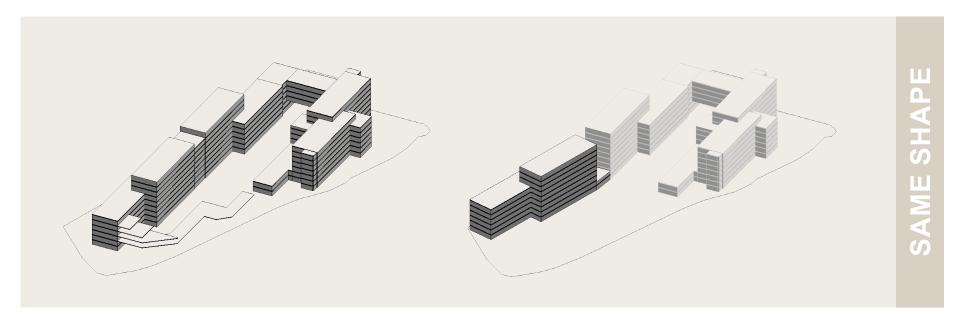


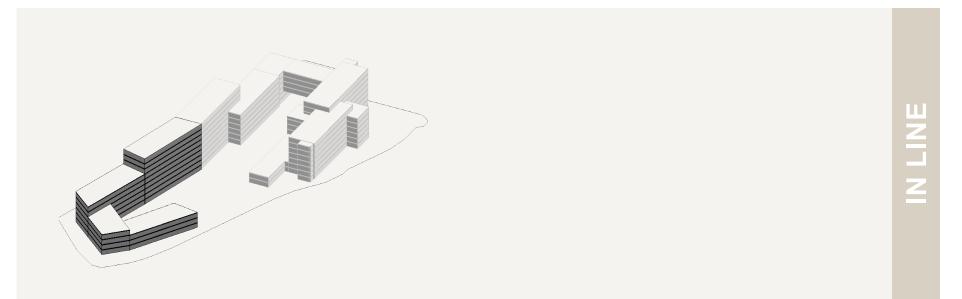
PLANET

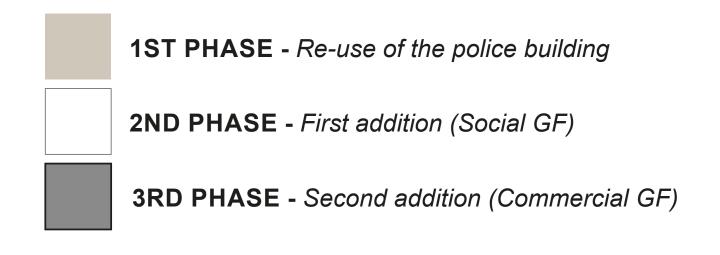
PROFIT

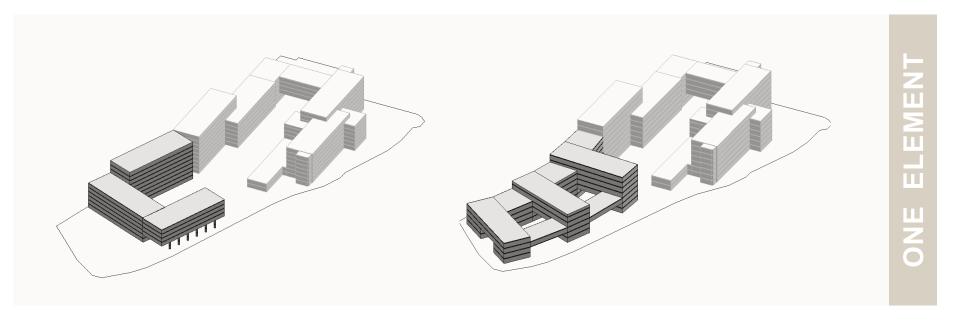
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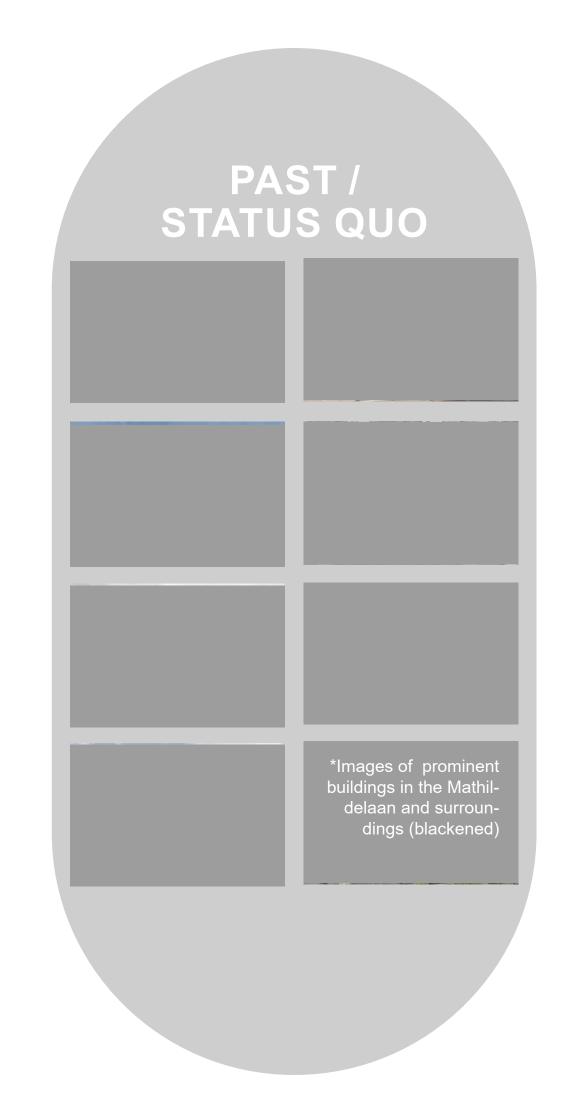




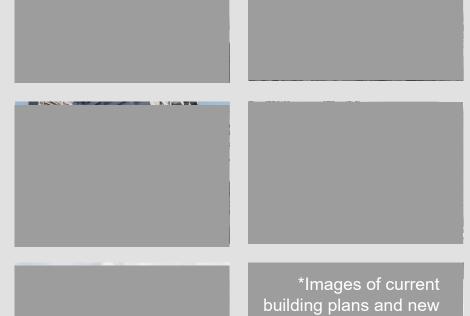
PLANET

**PROFIT** 

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# NEW BUILT / FUTURE PLANS



#### Sources:

(1) Eindhoven Centraal: https://nieuws.ns.nl/live-radio-vanuit-de-radio-eindhoven-centraal/

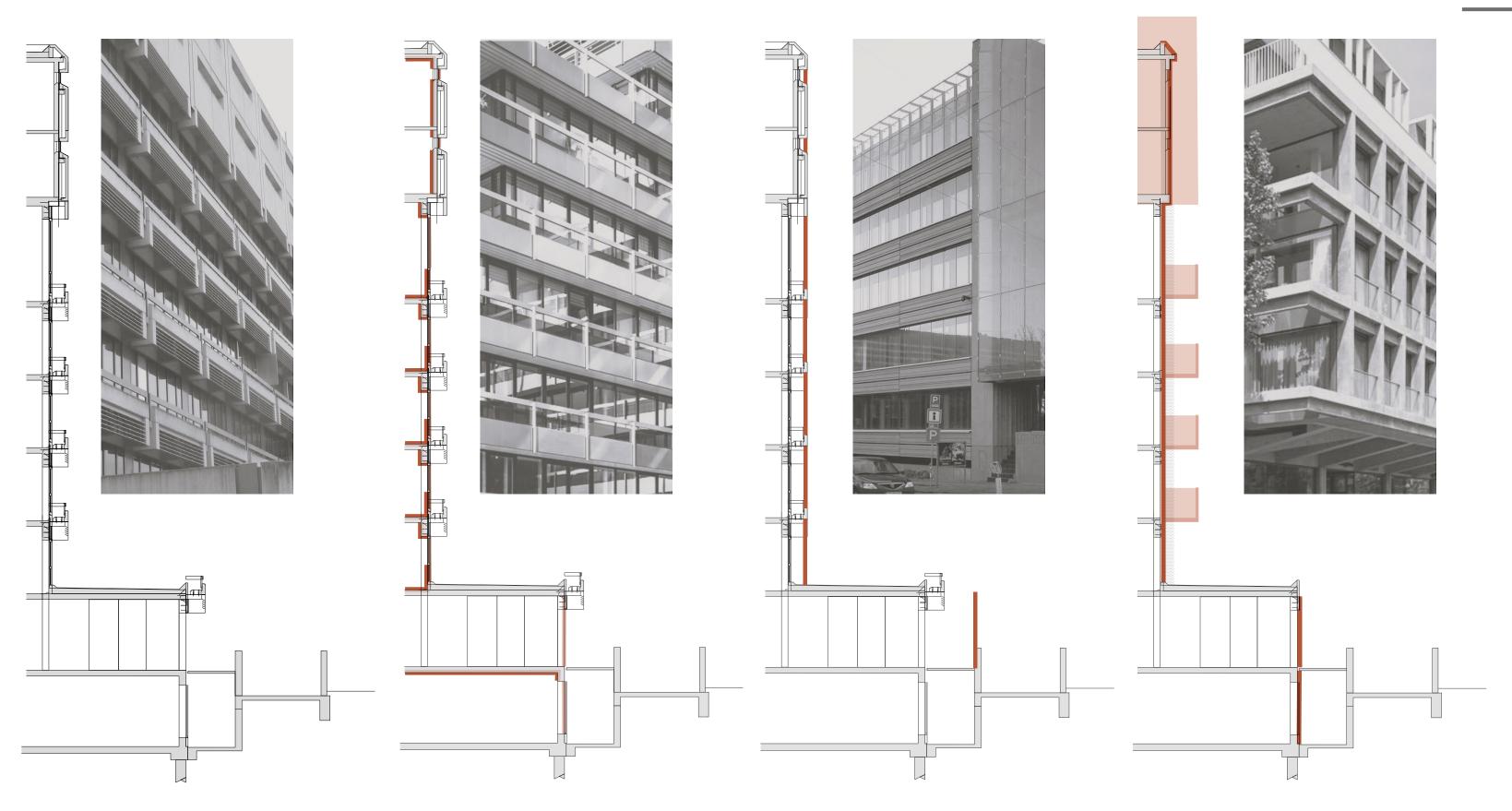
buildings (blackened)

- (2) De Blob and Witte Dame: https://www.amrathhoteleindhoven.nl/de/galerie
- (3) Victoria Park: https://holland2stay.com/parking-150-victoria.html
- (4) PSV Stadium: https://www.hendriks-graszoden.nl/referenties/philips-stadion-psv-eindhoven
- (5) Strijp S: https://www.peutz.nl/projecten/strijp-s-de-creatieve-stad-eindhoven
- (6) https://brainporteindhoven.com/en/discover/the-power/campuses/strijp-st
- (7) Bijenkorf: https://indebuurt.nl/eindhoven/gids/bijenkorf-eindhoven/
- (8) Onyxtower: https://architectenweb.nl/projecten/project.aspx?ID=40370

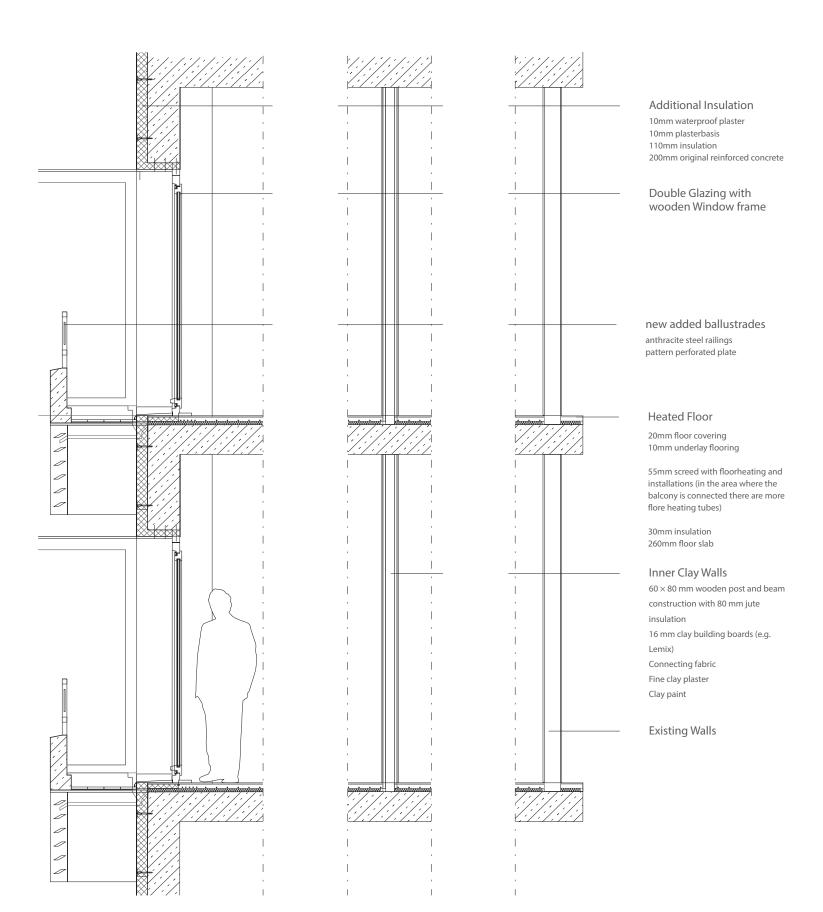
## ESSENCE:

INHERITED AUTHENTICITY + URBAN

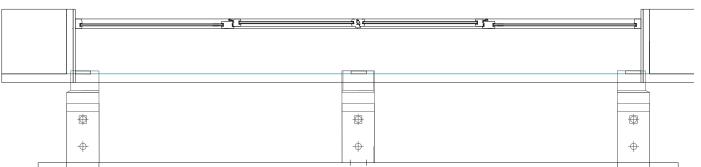


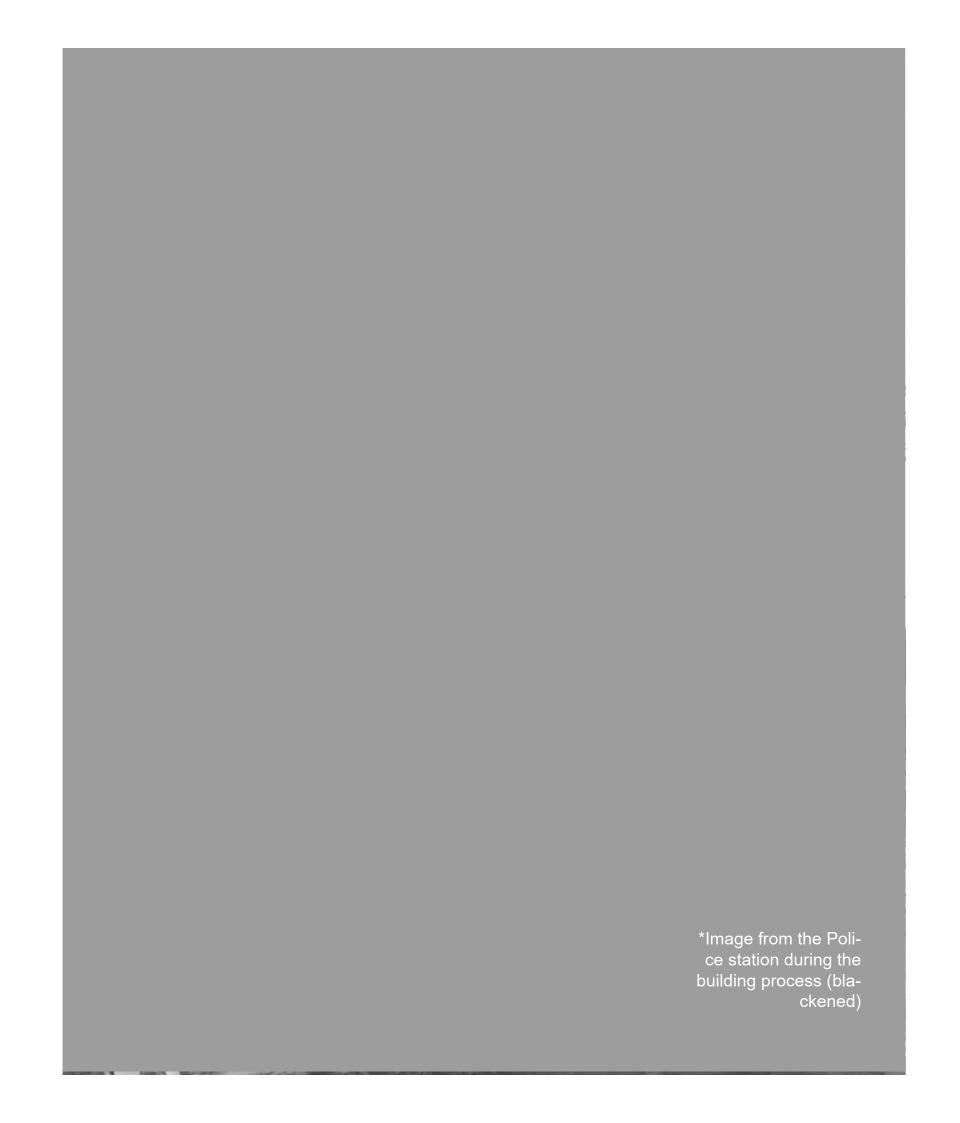


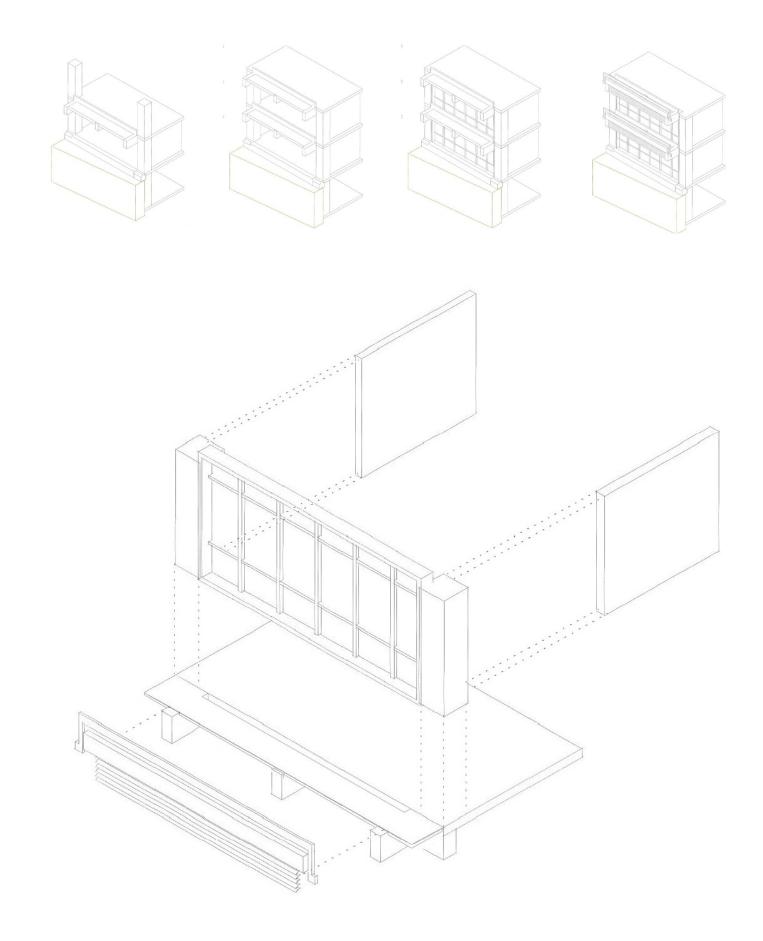
- Sources:
  1. Police Station Mathildelaan: Lucca Fischer (own image)
  2. Estel Residence, Norbert van Onna (n.d.), https://www.teakebouma.nl/
  3. Ministry of Finance, Imre Csany (2013), CC0, https://commons.wikimedia.org/wiki/File:Ministerie\_van\_Financi%C3%ABn\_wintertuin1.jpg
  4. Schubertsingel, Den Bosch Building, René de Wit (2019), https://www.archdaily.com/919869









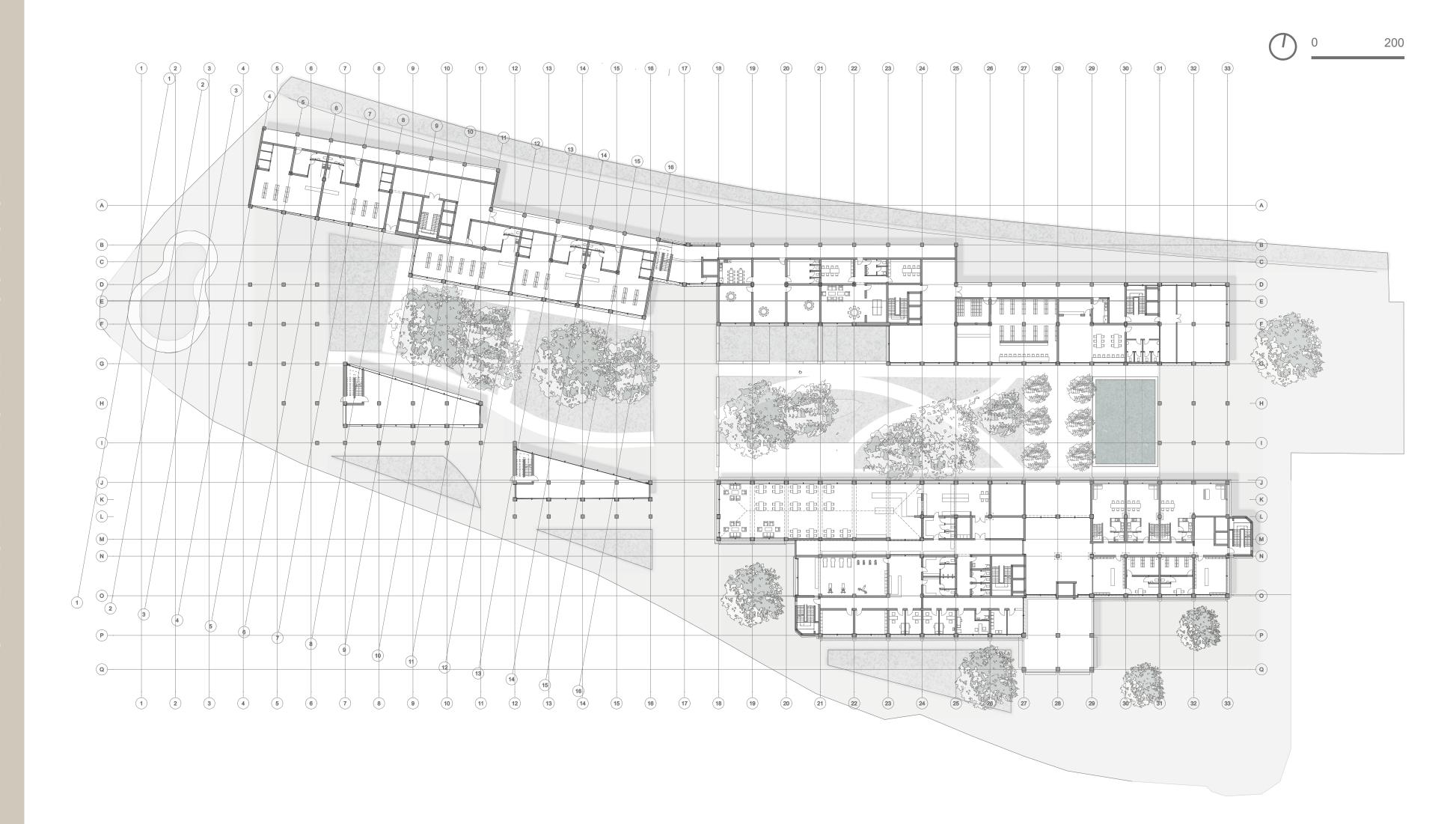


Source: Bouw politiebureau, Mathildelaan 4, 04-1980 R. vn Mierlo, Regionaal Historisch Centrum Eindhoven.











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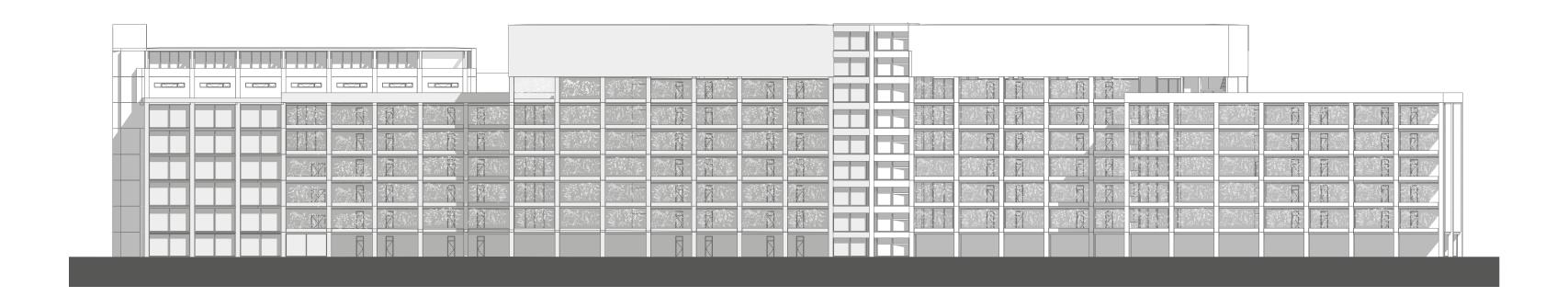
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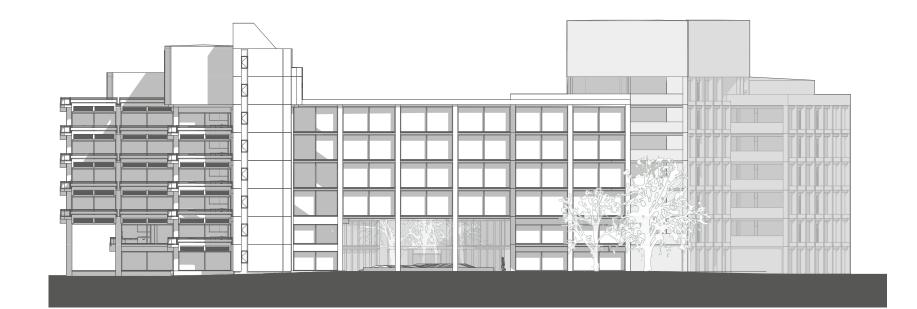
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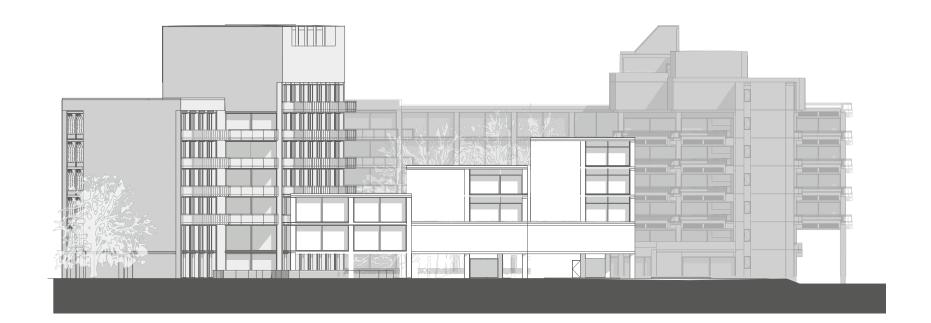
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REFLECTION









"But beauty will be perceived differently in the next century than in the last, because the term is subjective and timebound."

- Herman Kraaijvanger in an Interview from 1962



