

Against the wall

Elderly Residential care and child daycare centre

Urban Architecture 2019-2020 | Spolia

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Spolia



A gift from a friend

Part
Urban Architecture 2019-2020

Context

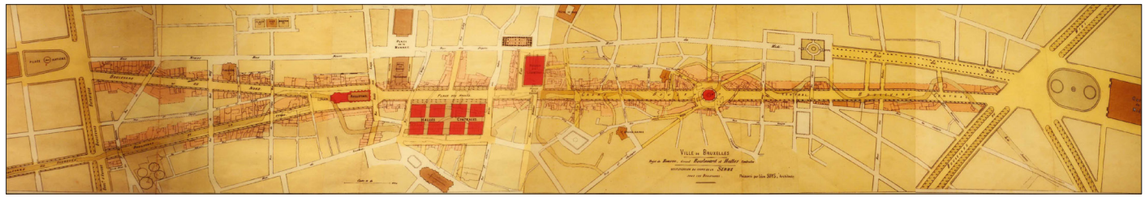
Part Content
Urban Architecture 2019-2020

Brussels

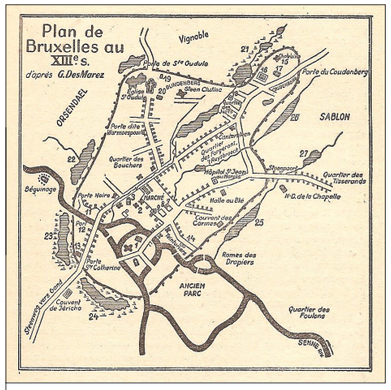


The Senne

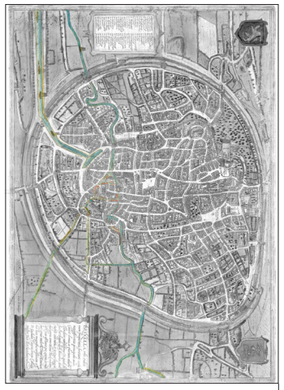
Historical time line of Senne



>Fig. Covering the Senne



>Fig. Map of Brussels in 1300



>Fig. Map of Brussels in 1600



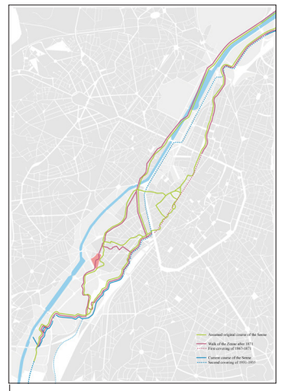
>Fig. Map of Brussels in 1830



>Fig. Map of Brussels in 1871



>Fig. Map of Brussels in 1930



>Fig. Map of Brussels nowadays

13th Century

13th Century
- The Senne served as the primary energy for factories, driving mills on the river banks.
- The Senne provided raw material for textile and food industry.
- The Senne served as the drain for domestic and industrial waste water.
- The Senne connected Brussels with Antwerp.

15th Century

1551-1561 Construction of Willebroek canal
- Port of Brussels (nowadays Sint-Katelijne) was built.
- The canal was much shorter than the Senne from Antwerp to Brussels.
- New types of buildings were built along the canal, e.g. warehouses, trading houses, factories and inns.
- The old industrial buildings along the Senne lacked maintenance and some of them were demolished.

18th Century

1830-1870 Construction of Charleroi canal
- New industries were erected along the Senne.
- The canal accelerated the construction of railway.
- The Willebroek canal was amended in order to be connected to the Charleroi canal.
- Economic and industrial complexes were built along the canal.

19th Century

End of 19th Century
- The Senne was replaced by canals and railway.
- The Senne was used to discharge household and industrial waste water.
- The flooding of Senne was serious.
- From 1867 to 1871, the Senne was covered by double brick arches.
- From 1931 to 1955, the Senne was covered to avoid flooding.

20th Century

Nowadays

Current problems
- Vacant sites along the Senne
- Youth unemployment of Brussels
- De-industrialisation: the port activities were much more than the production activities.

Current remnants



Boulevard Paepsem - constructing park



Rue Bollinckx - the island





Schaarbeek - industry



Rue Saint-Christophe - historical monument

Memory of Senne



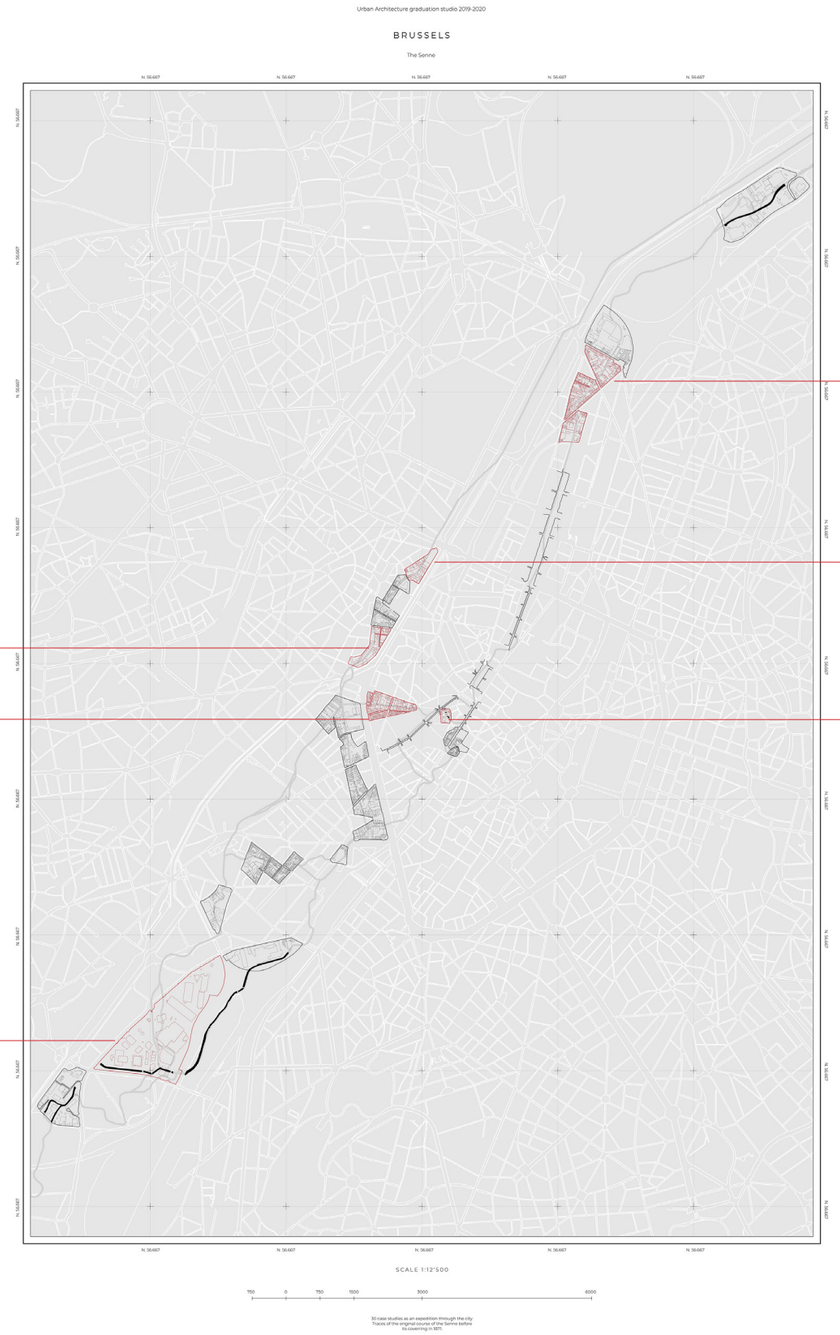
Lambic beer



Rue de la Senne



Boulevard Paepsem





Parc de la Senne

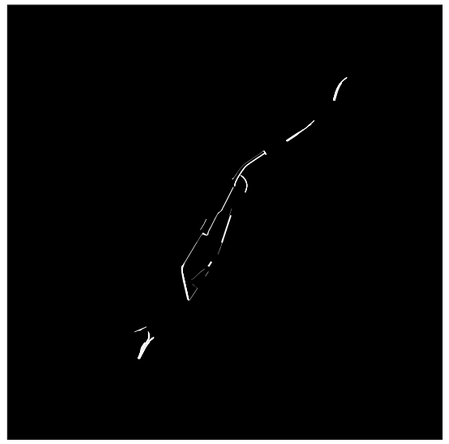


Parc de la Petite Senne



Rue Saint-Christophe

Urban elements influenced by Senne



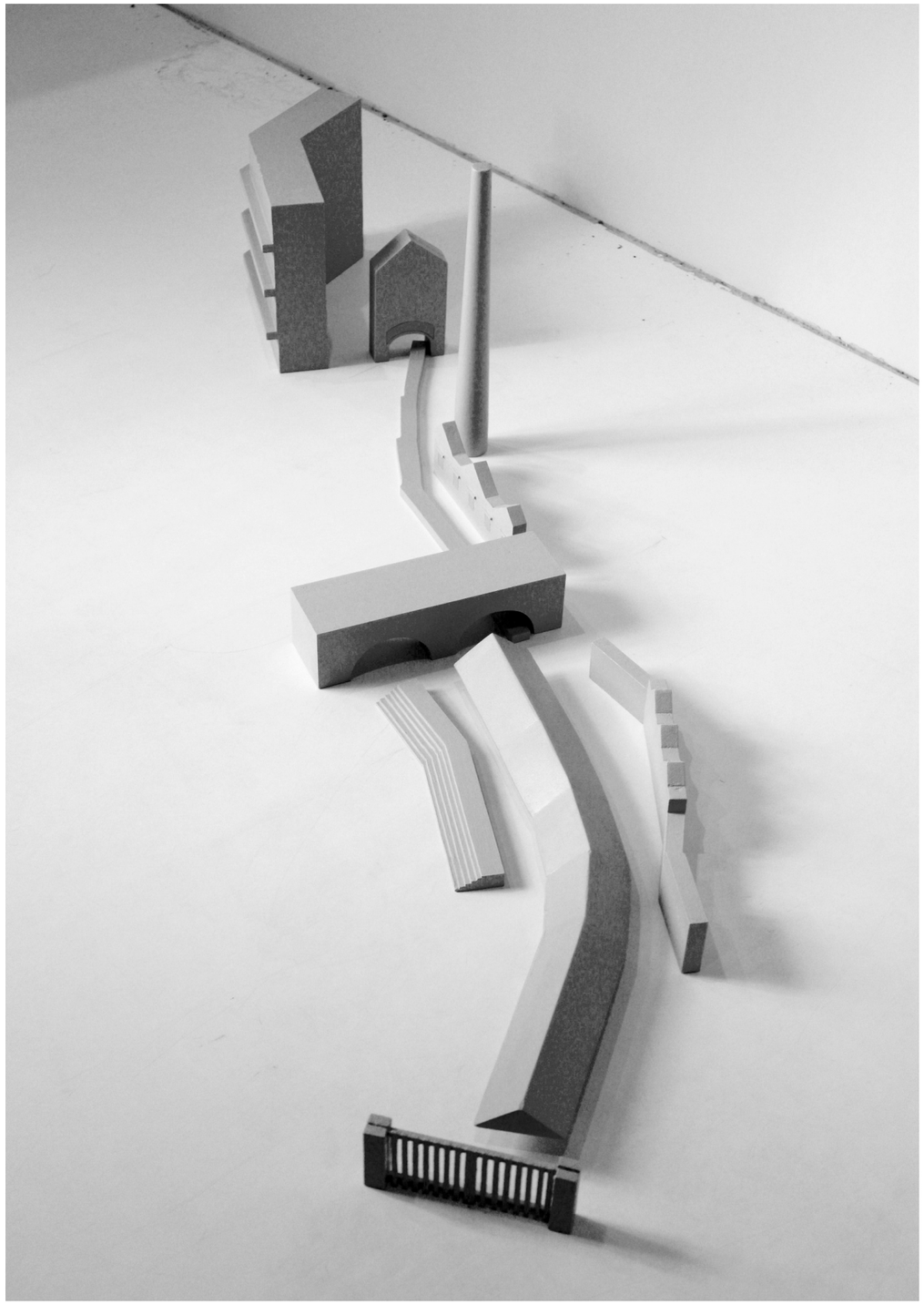
>Fig. Roads and railway



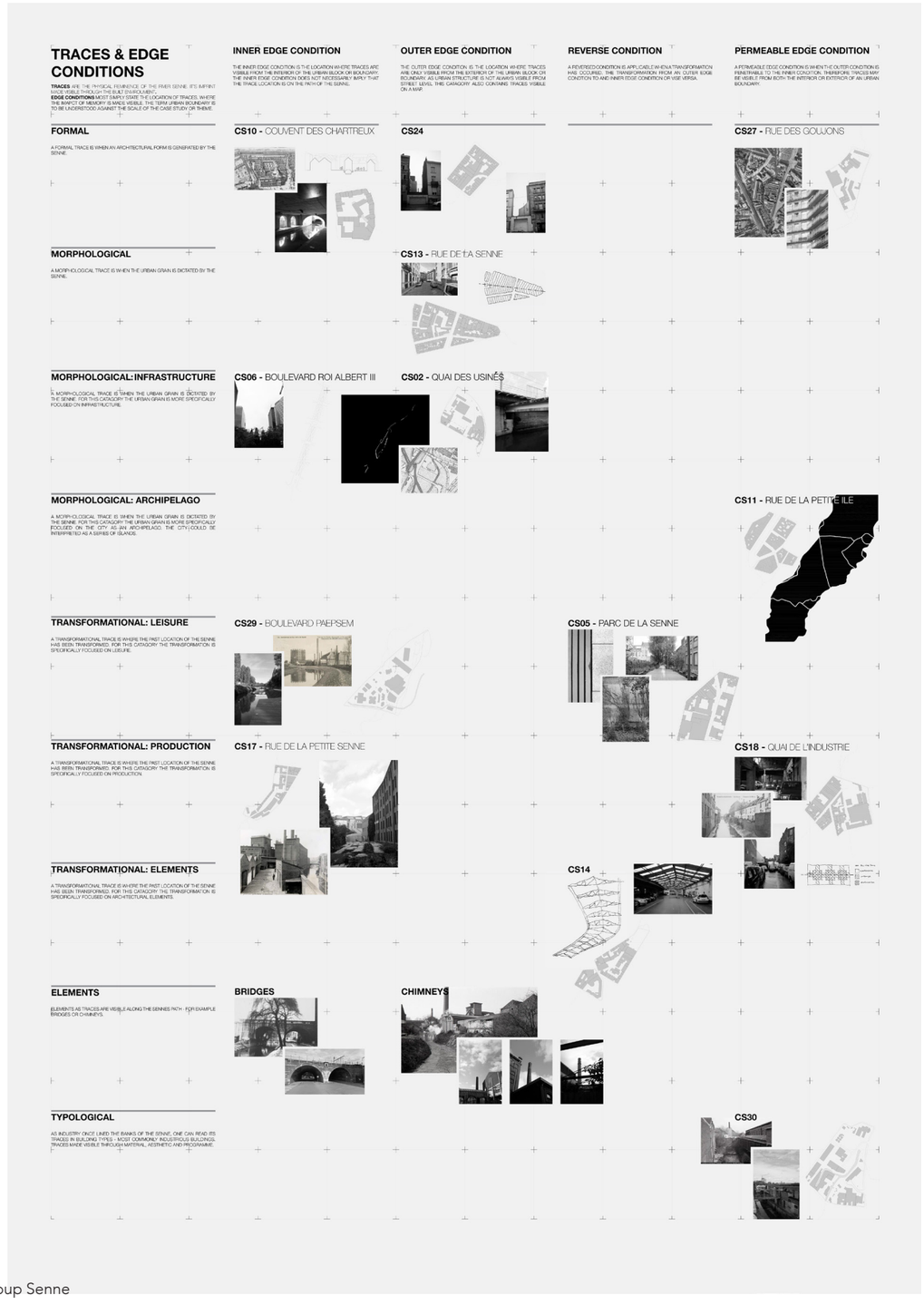
>Fig. Blocks



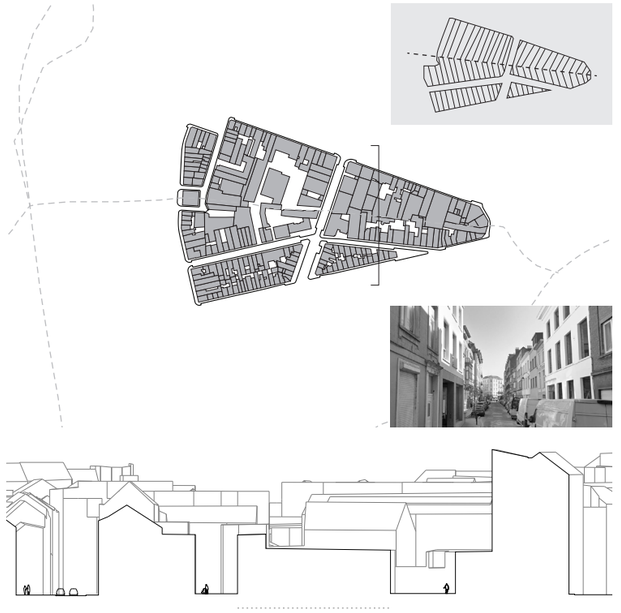
>Fig. Spaces in-between



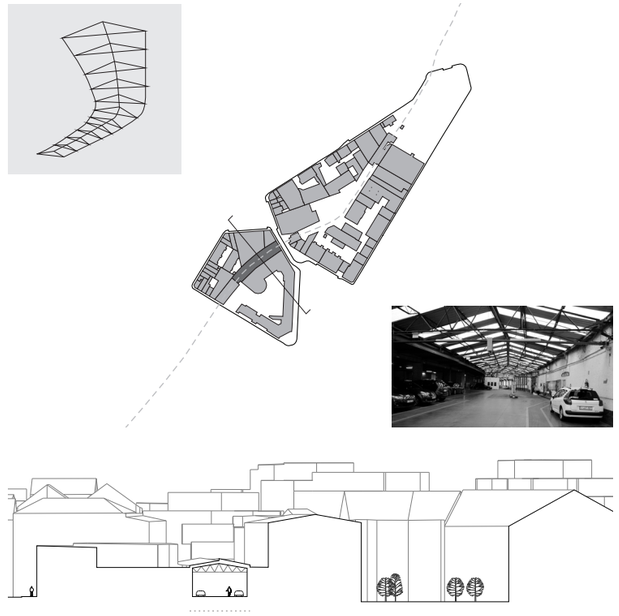
Spaces created by Senne



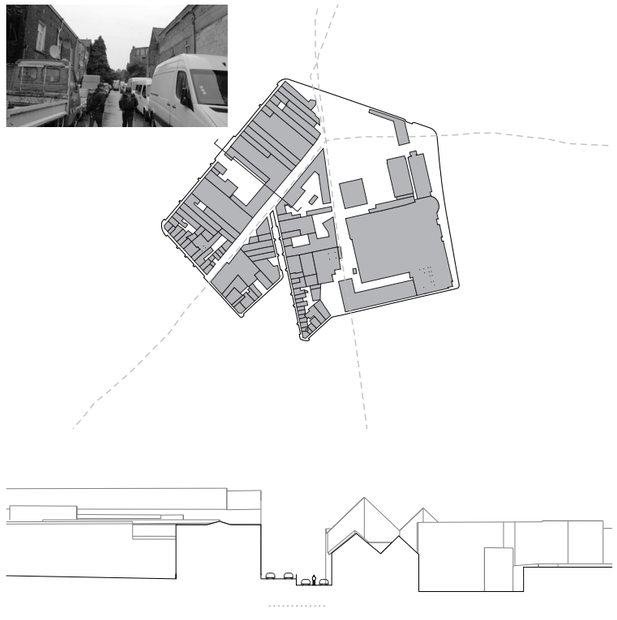
>Fig. By Group Senne



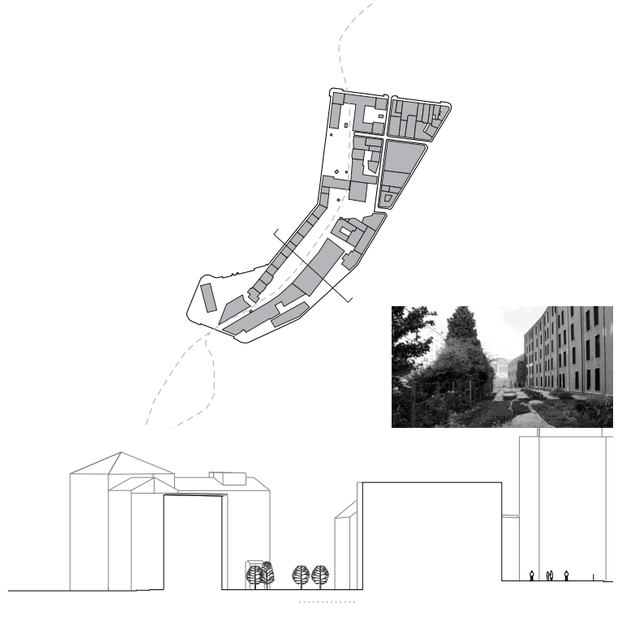
The line of the river as a pivot point for the direction of the buildings within the block



The building built on the top of the covered river followed the path of the original riverbed.



The past location of the river was transformed into an inner alley and parking lot



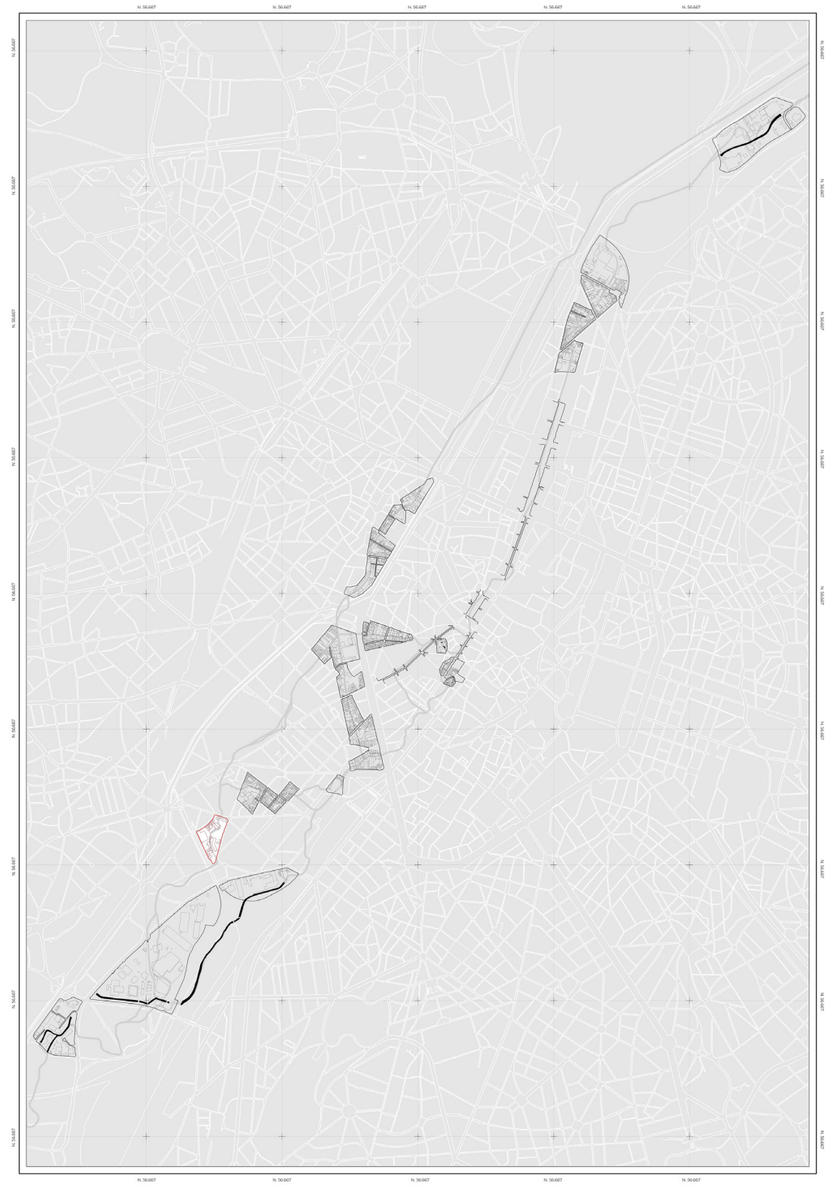
The past location of the river was transformed into an introverted garden

The site

Urban Architecture graduation studio 2019-2020

BRUSSELS

The Senne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The current state



Traditional housing with warehouses behind



Social housing



Rotor



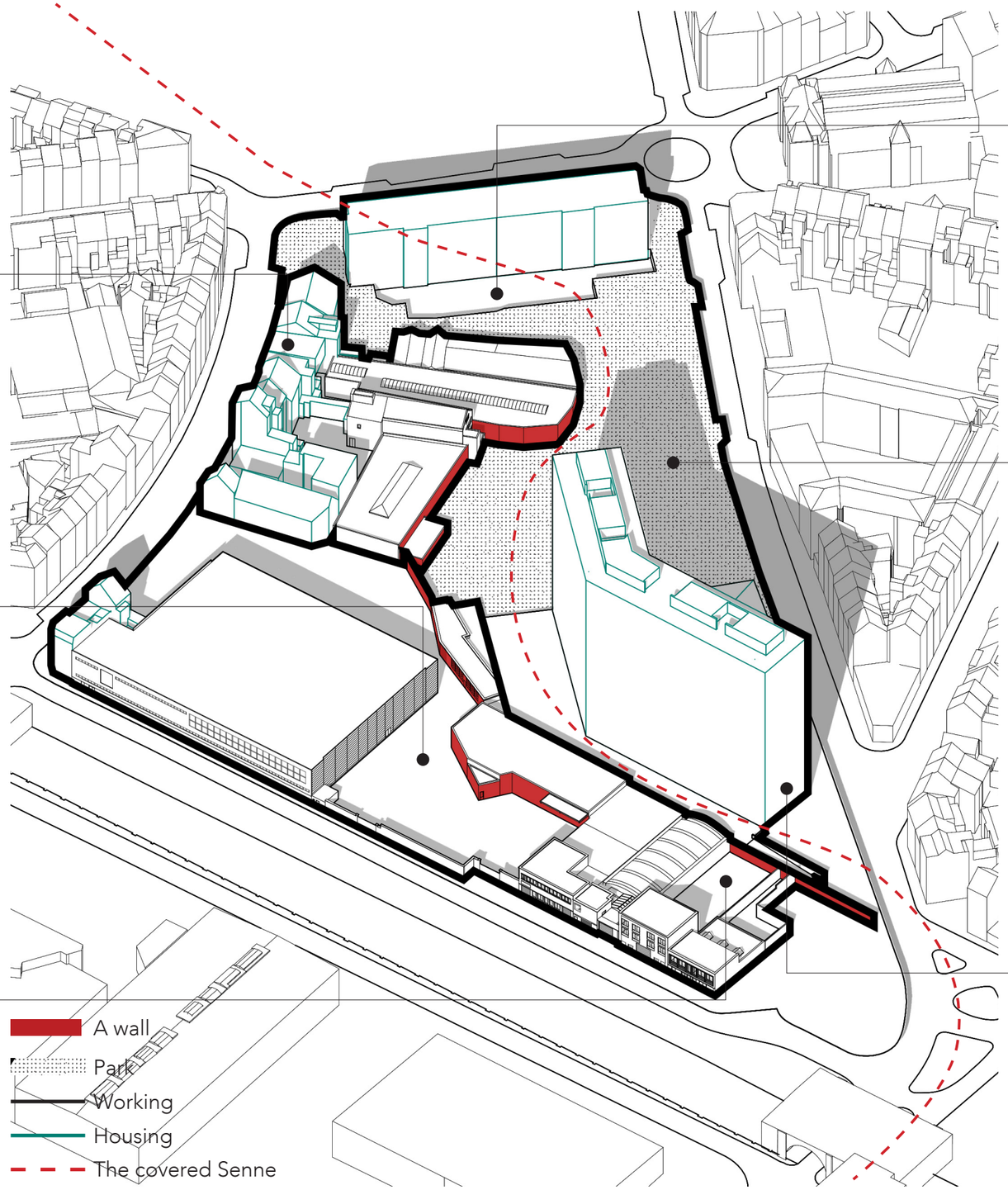
The park



Small warehouses, some deserted



Social housing (Les goujons)



History of the site



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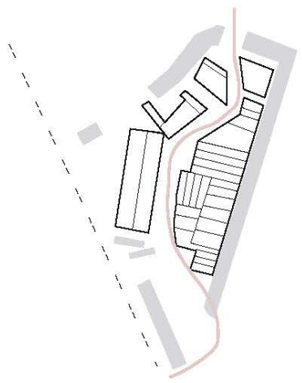
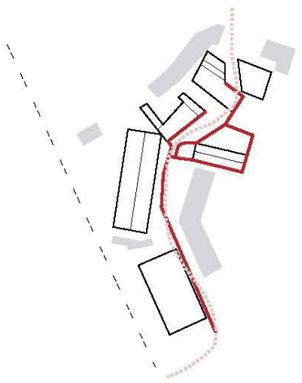
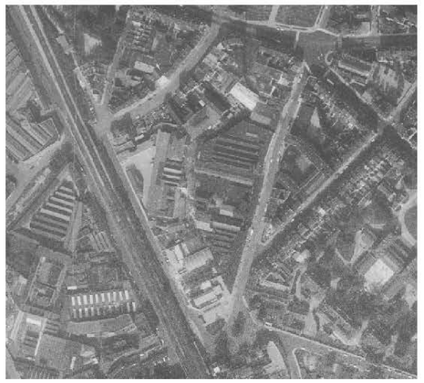


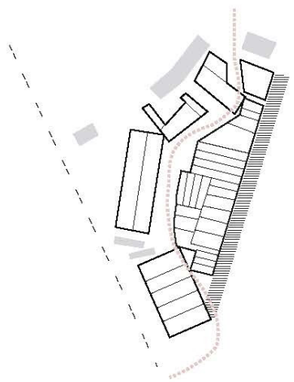


1987



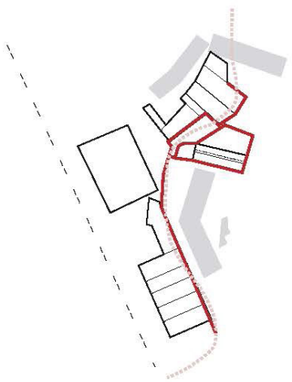


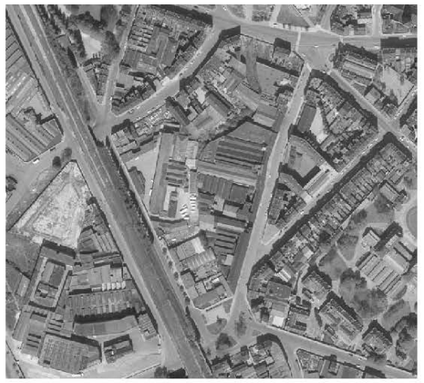
1961



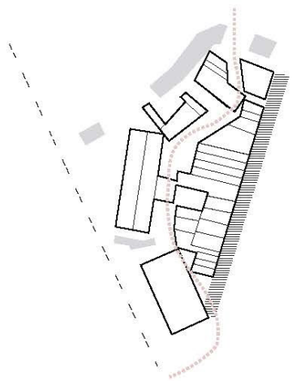


1990



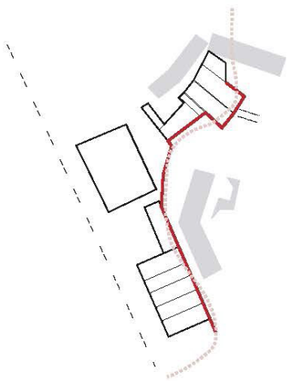


1971





2010



Naturally divided by the Senne

Gradually divided by the wall

History of the site

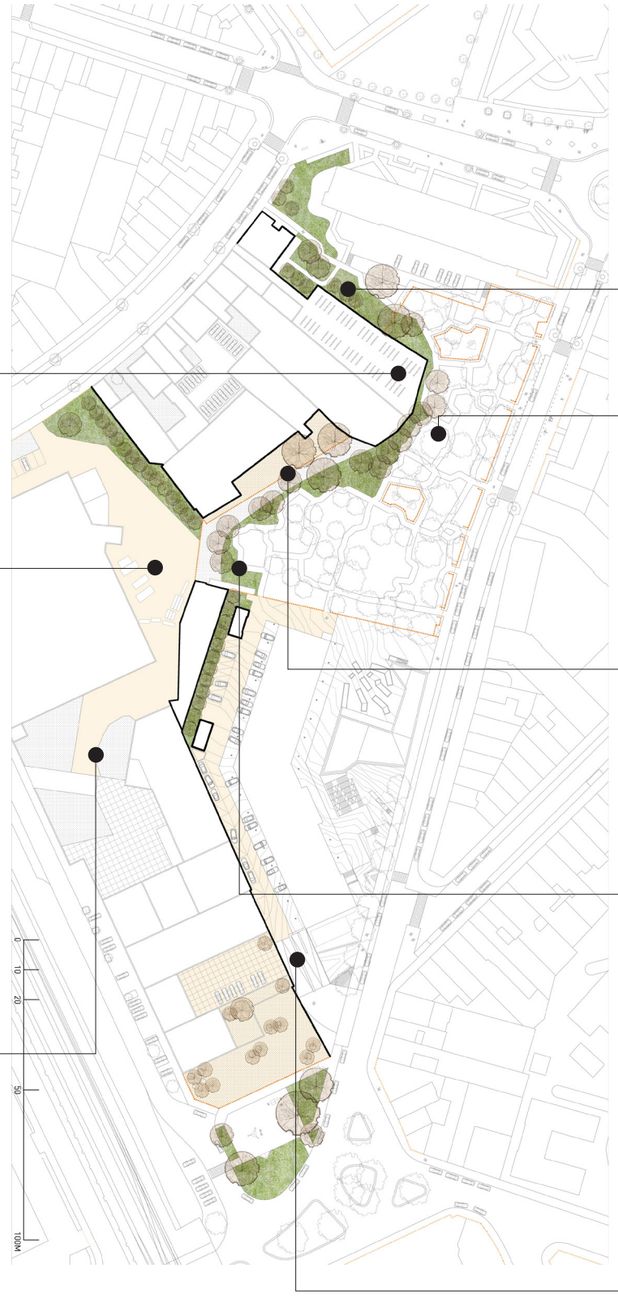


An interior wall from a demounted industrial building

The current state of the wall



A clothes store behind the wall







The park







Back yard behind the wall



An previous interior wall



Playground along the wall

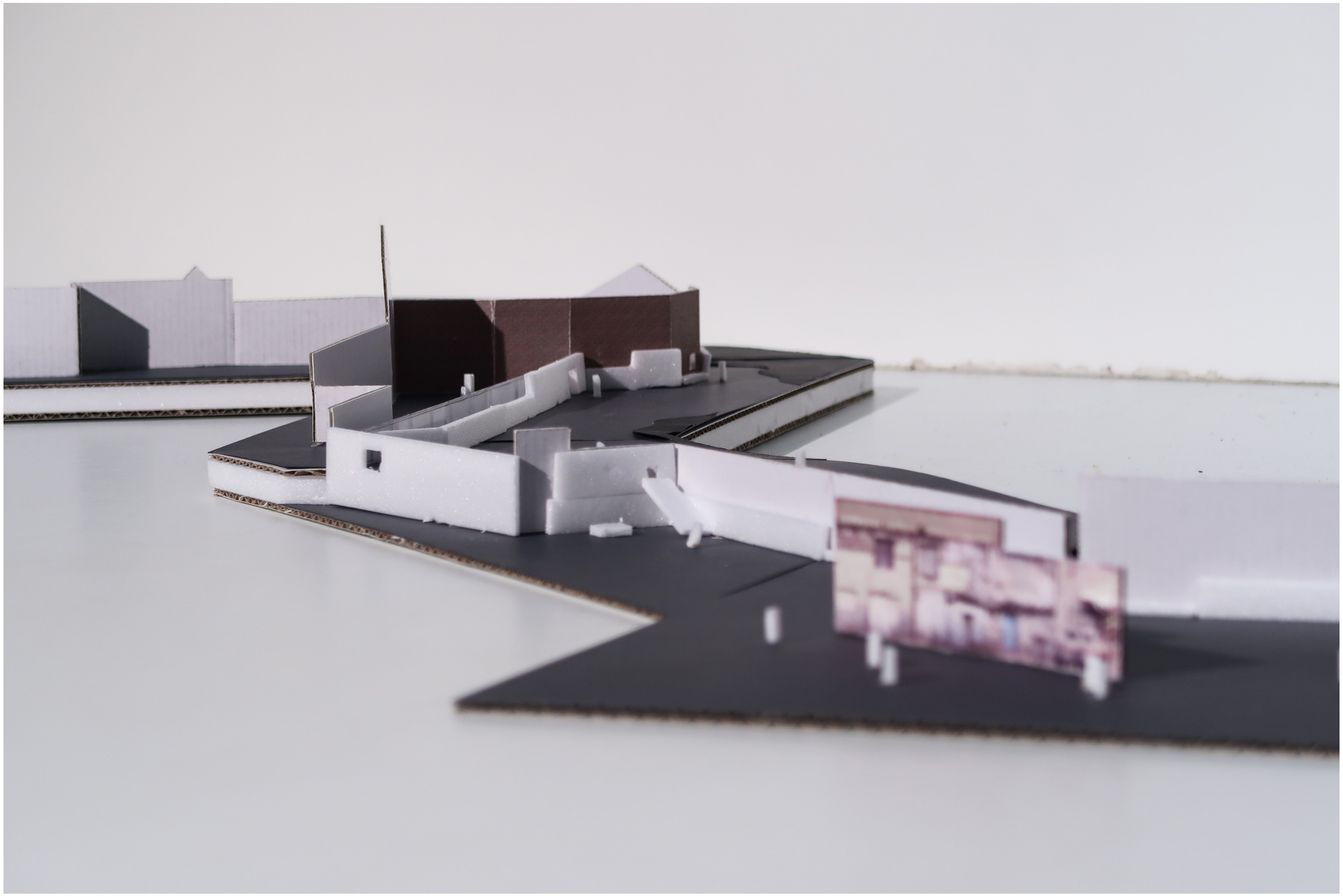


Back yard of Les goujons



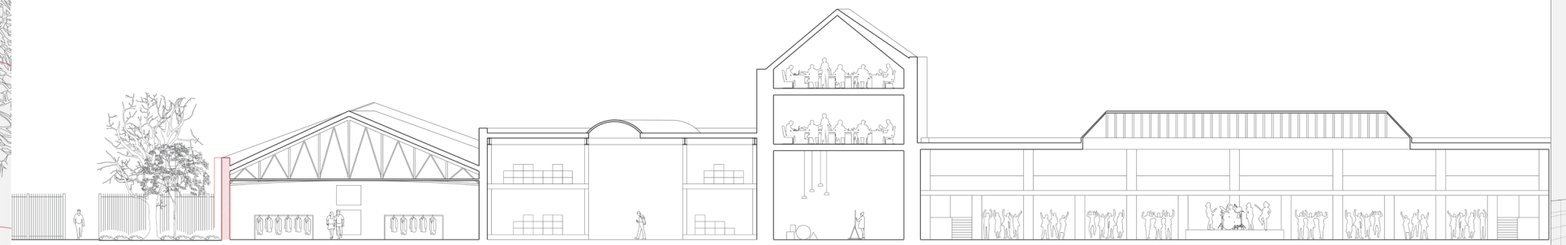
Collage of the wall from south to north

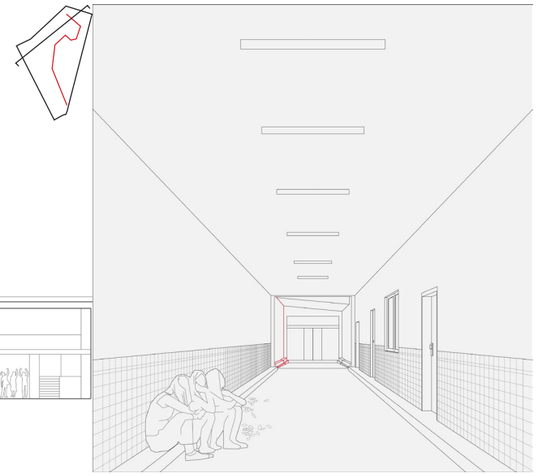
The current state of the wall

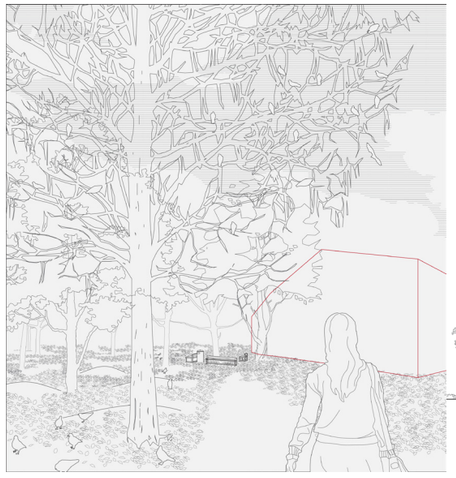


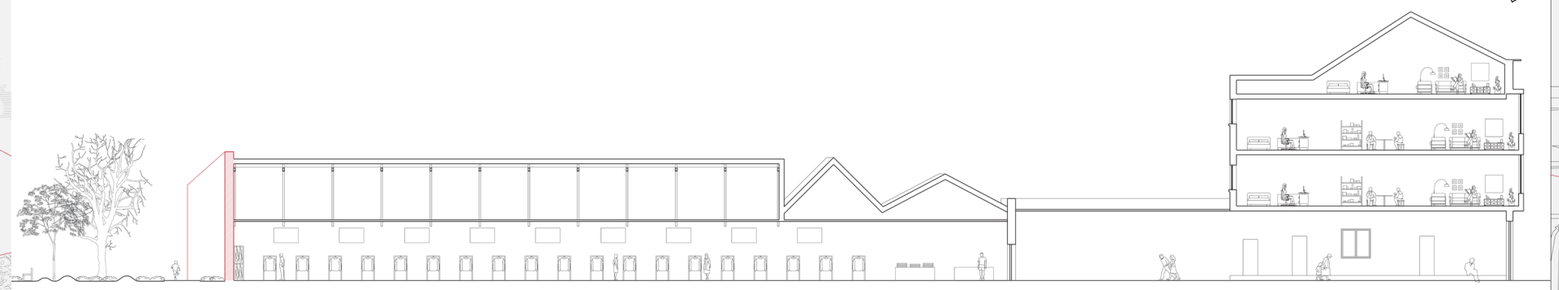
A hidden world behind the wall





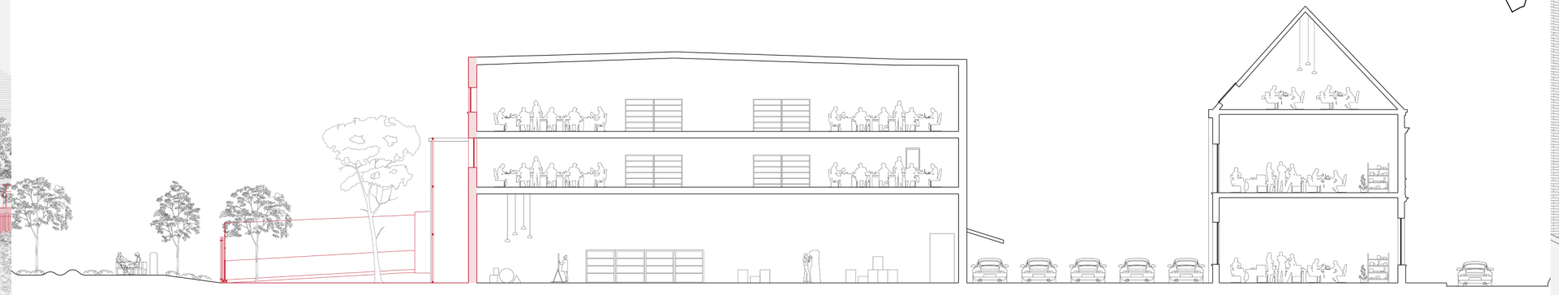


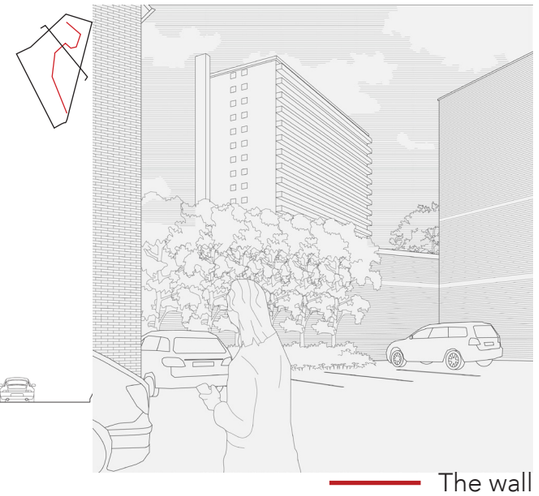












The wall

Part Context
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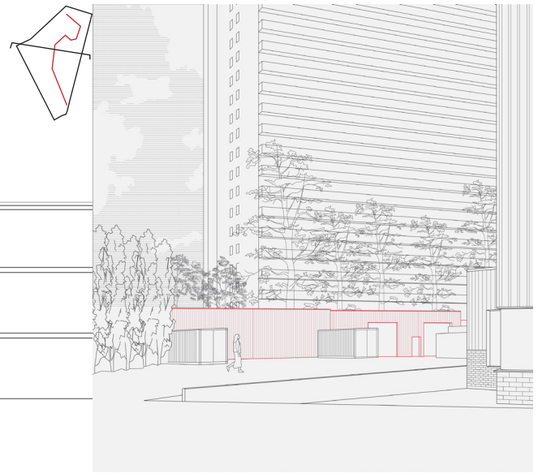
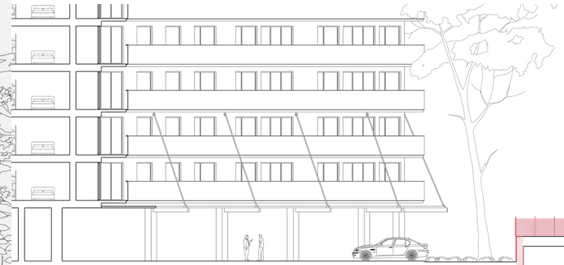
A hidden world behind the wall







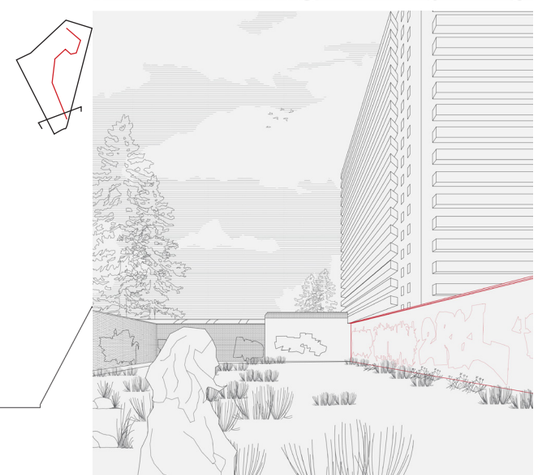












The wall

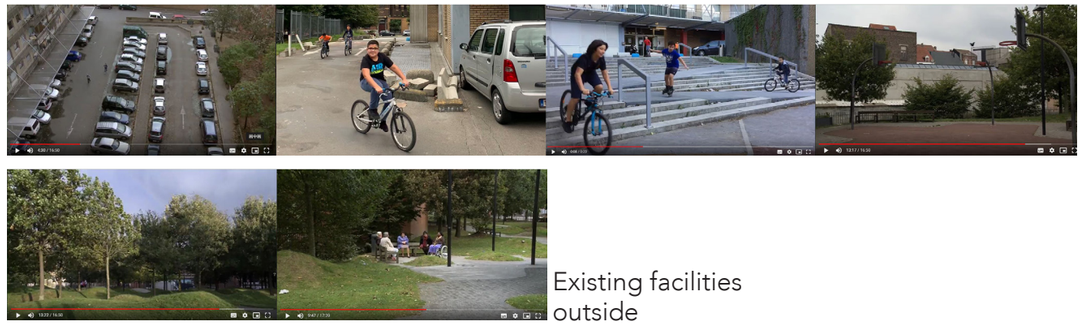
Part Context
Urban Architecture 2019-2020

The public life of Anderlecht

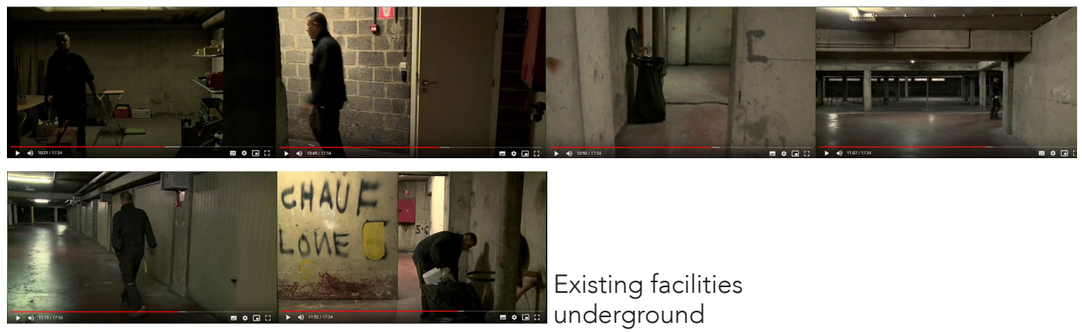




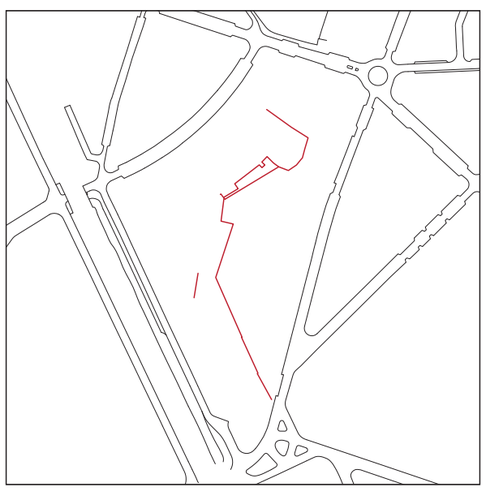
Existing facilities inside



Existing facilities outside



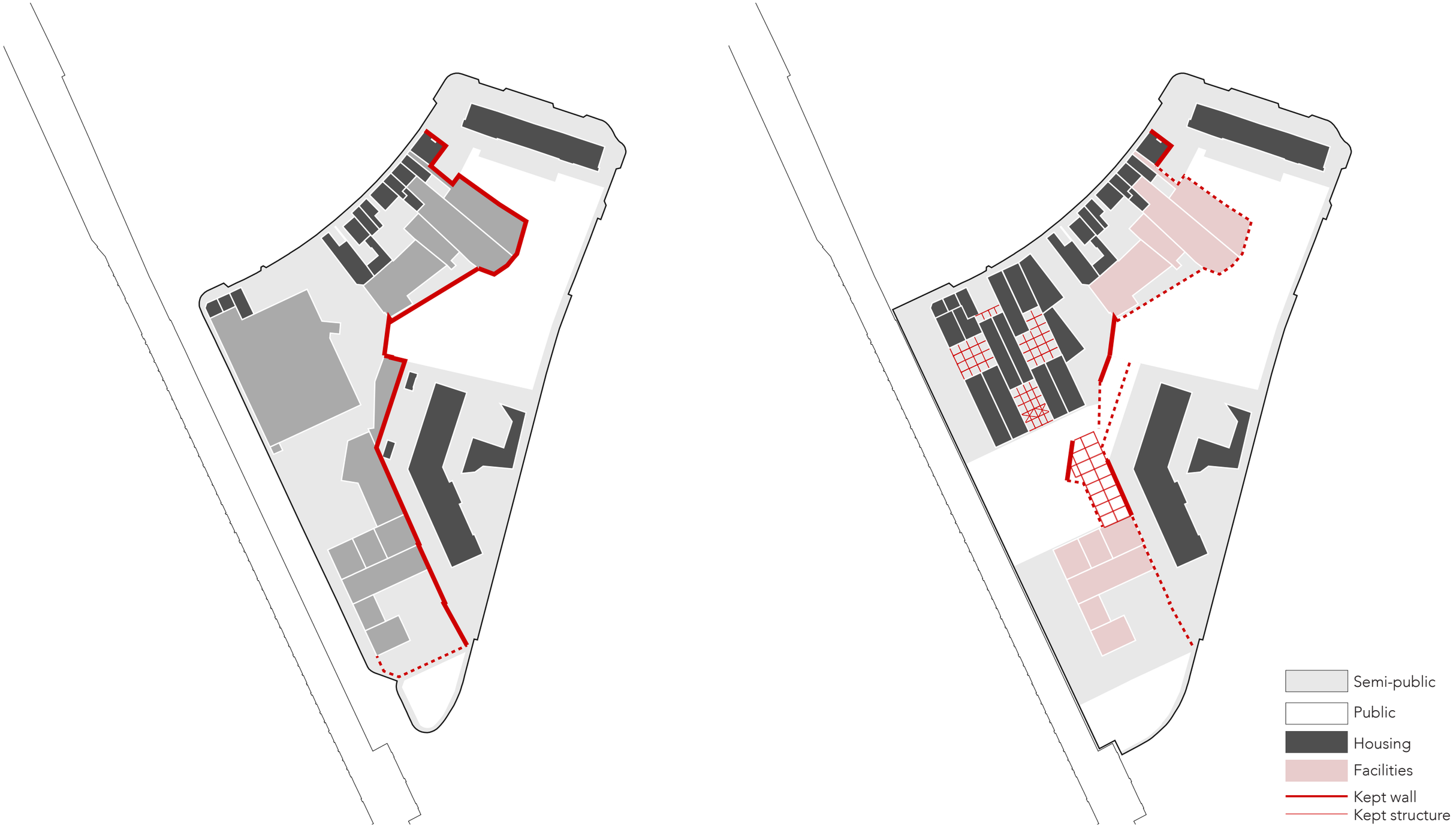
Existing facilities underground



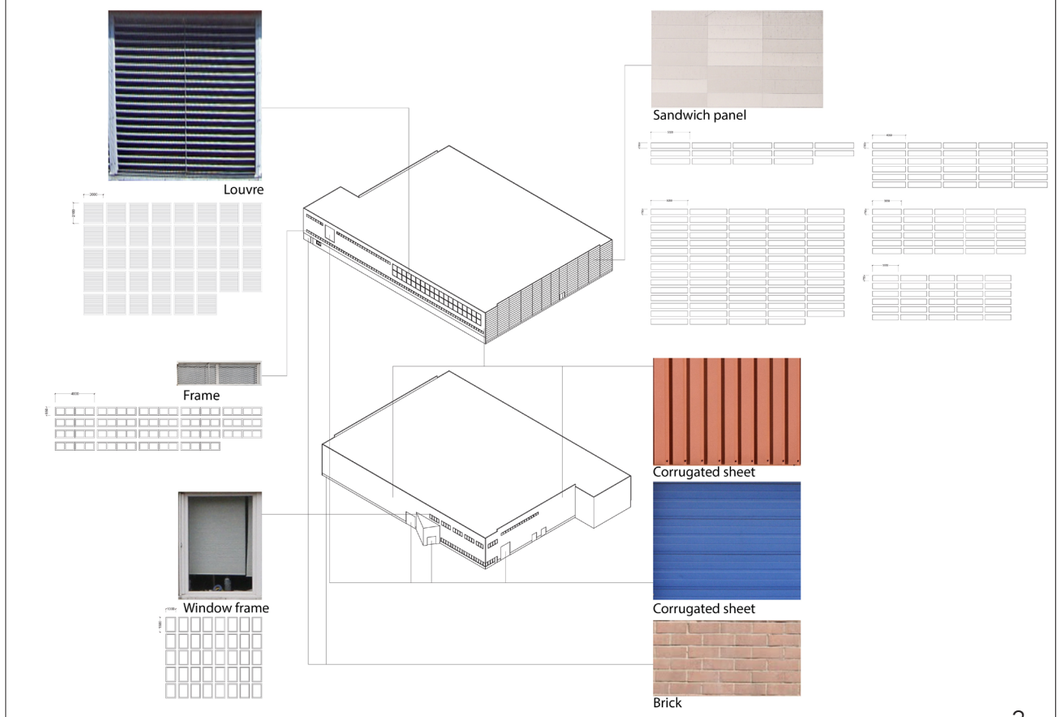
Urban proposal

Part Urban Proposal
Urban Architecture 2019-2020

Urban concept:
Wall as Spolia to revoke memory and activate the neighborhood



Circular economy: reuse the demolished



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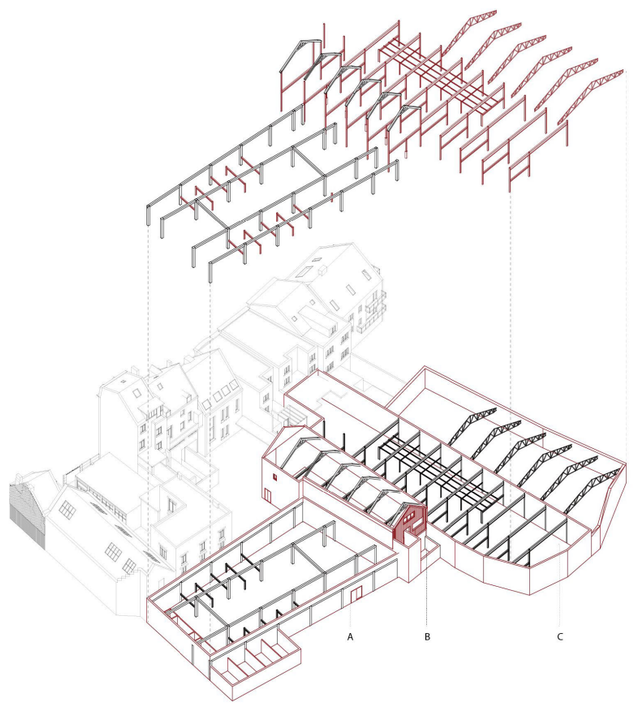

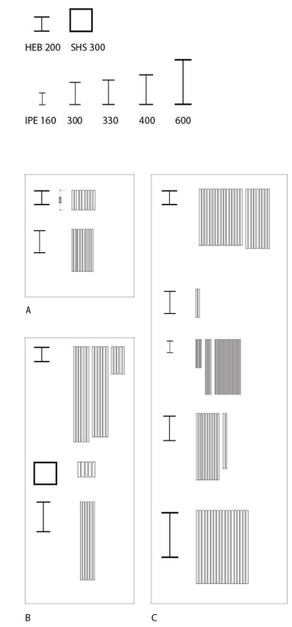

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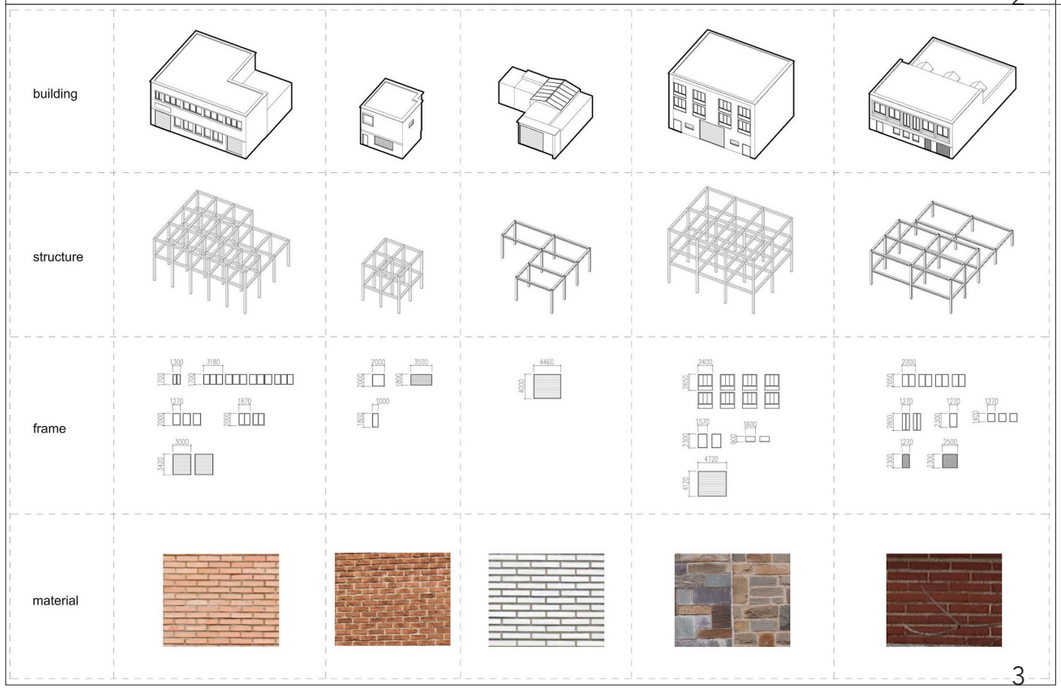

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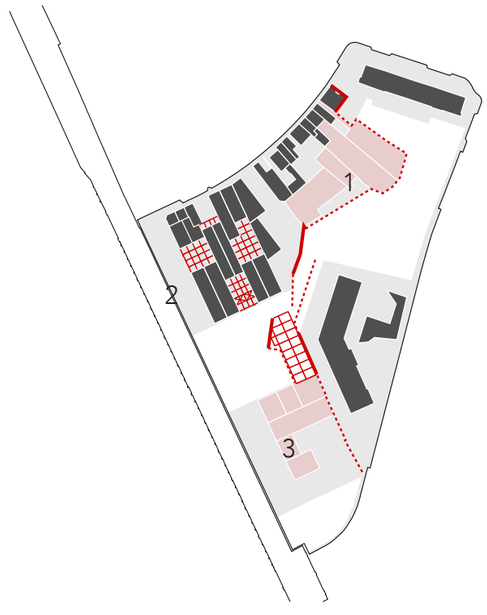
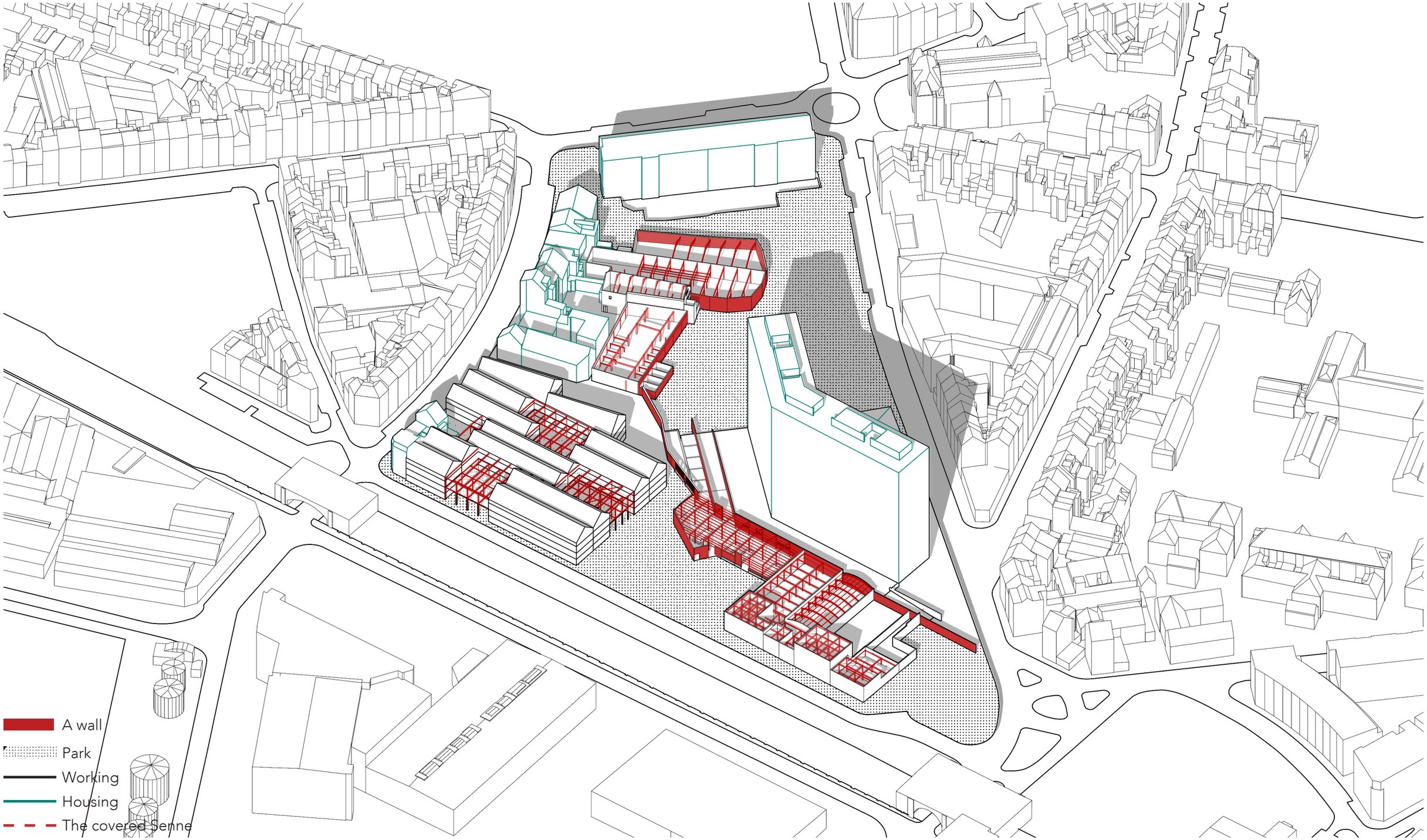


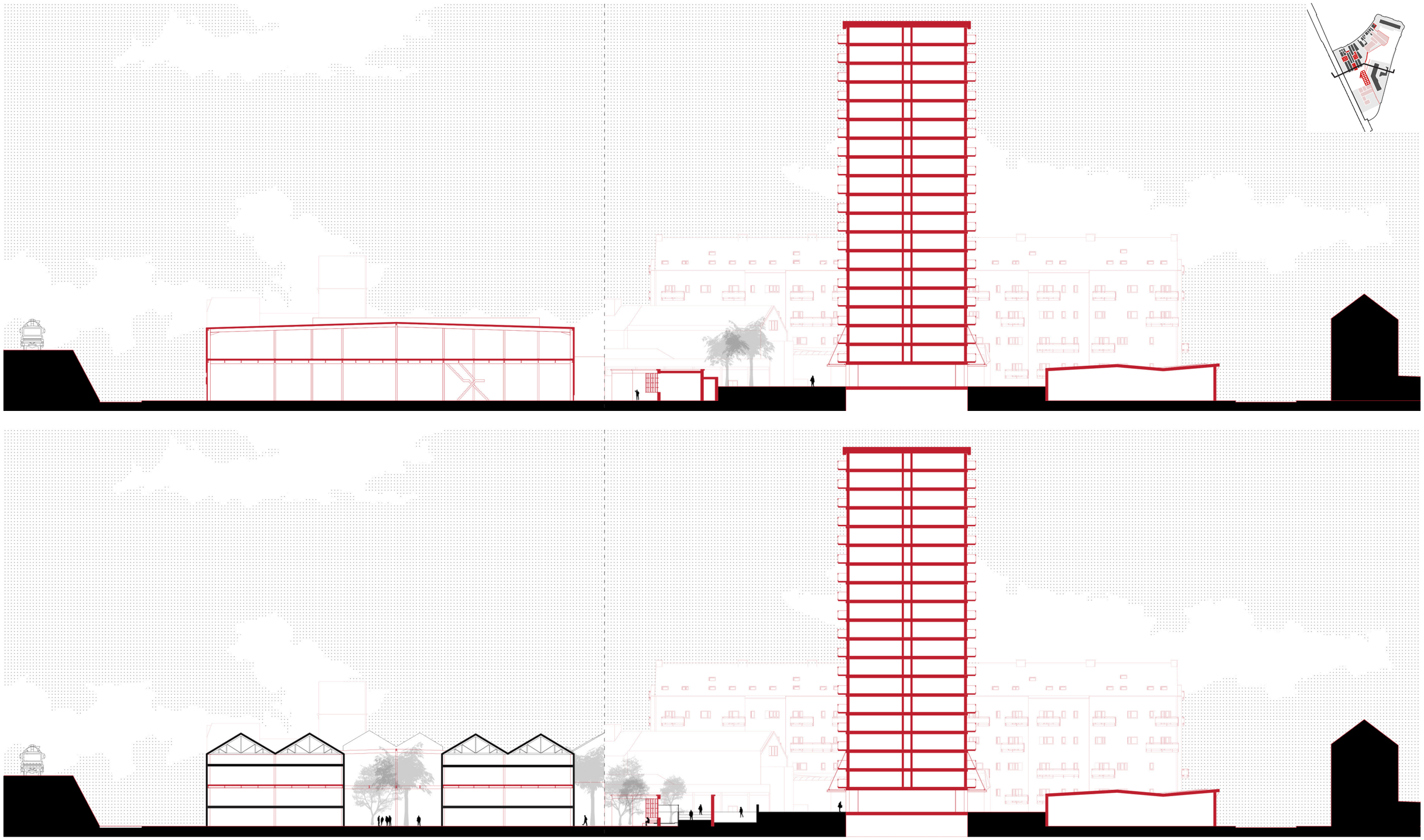
Master plan


Kept social housing
Kept traditional housing
Kept traditional housing
Kept park
Kept social housing
Kept restaurant
Public facilities
New housing
New park
Public facilities
0
20m

Overview



Open up the wall



Part Urban Proposal
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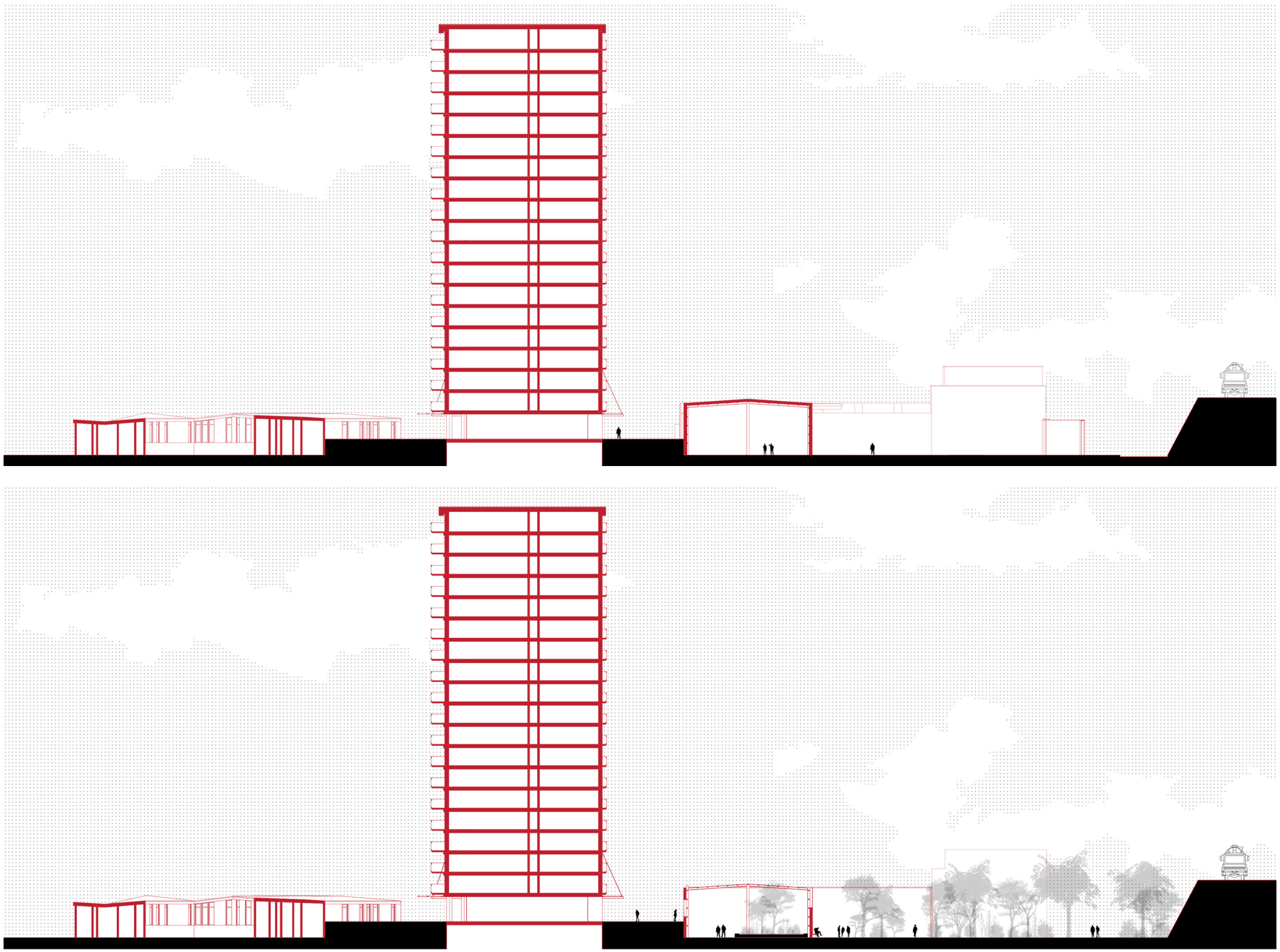
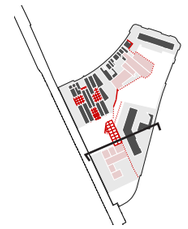
Open up the wall





New wall park







Architectural proposal

Target group

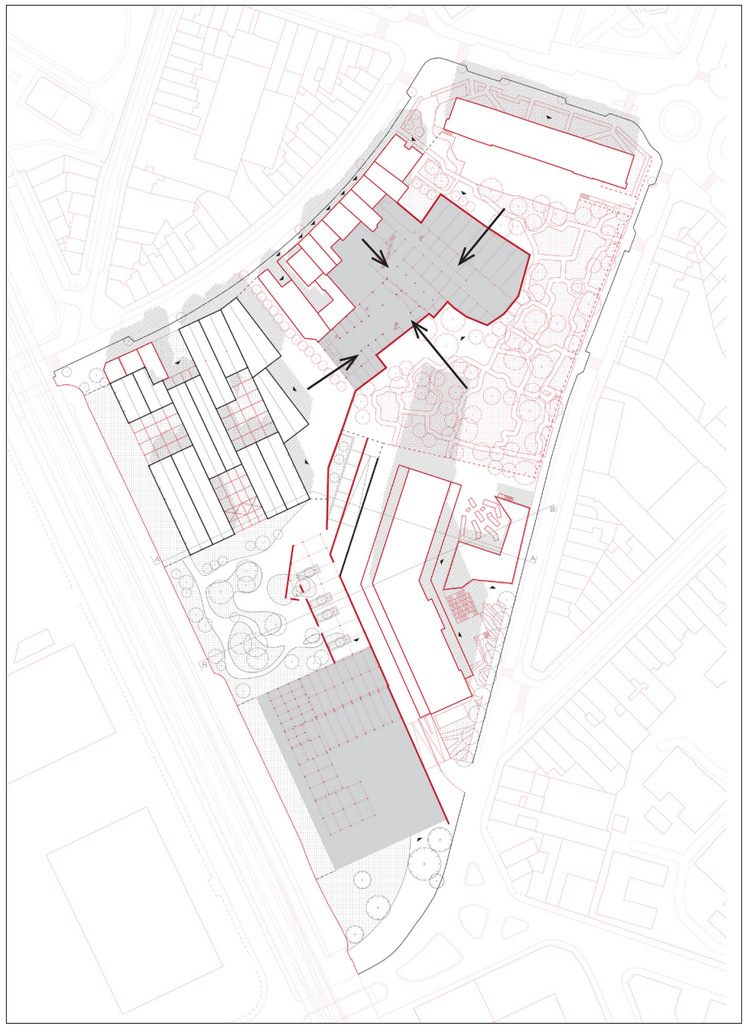


Toddlers
Growth of population



Elderly
Lack of health care

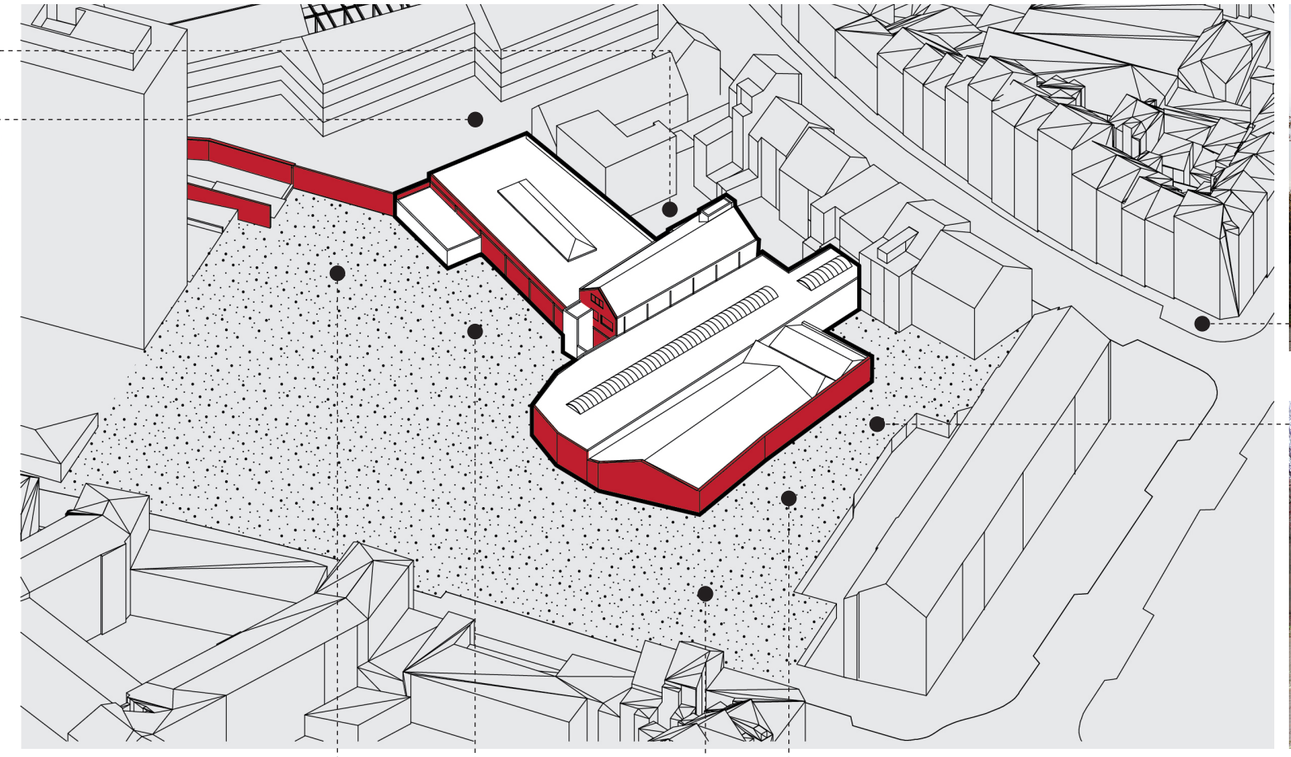
The site



The site



The private courtyard





Street view



The open courtyard



The path of the park



The playground



The fences



The park

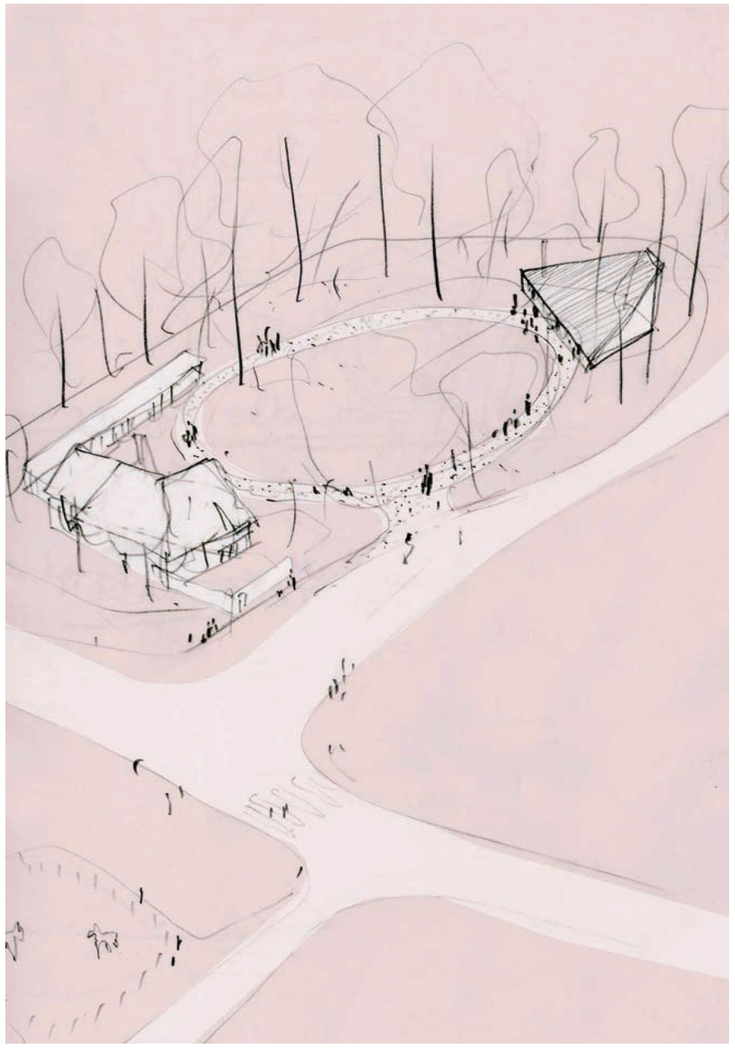


The gate of the park



Collage of the wall of the site from south to north

Program: elderly residential care & child daycare



Case: Huis perrekes/ nu architect

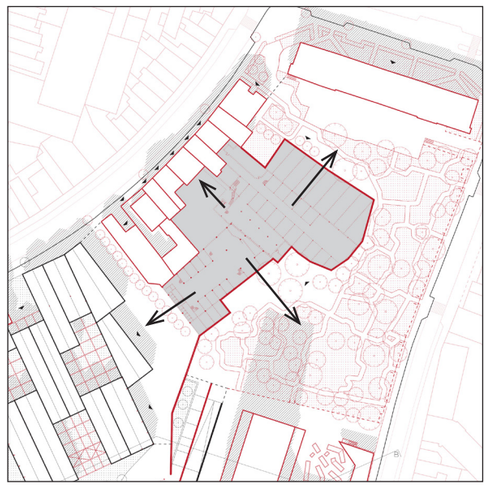


Juul and Jules

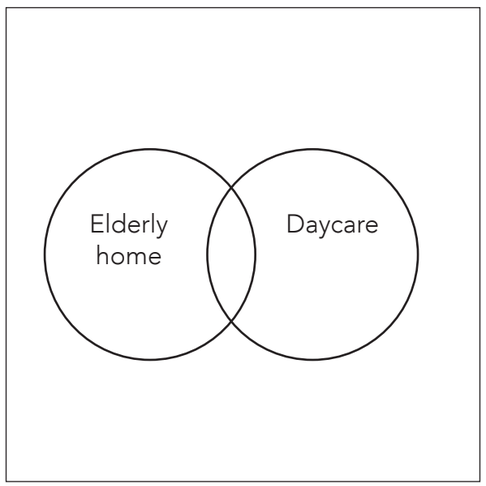


Music and The Betties

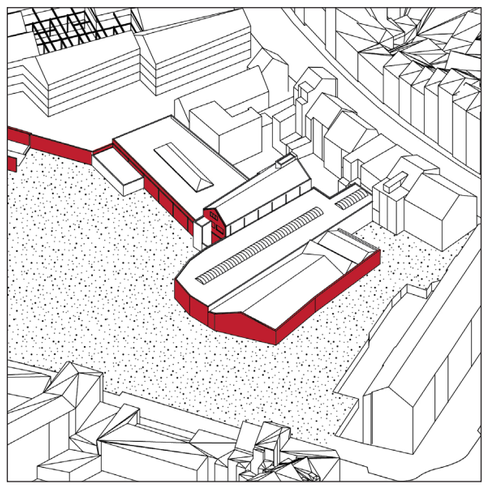
Challenges



Four ‘faces’
Urban gestures



Combination of program



Reuse of the existing wall

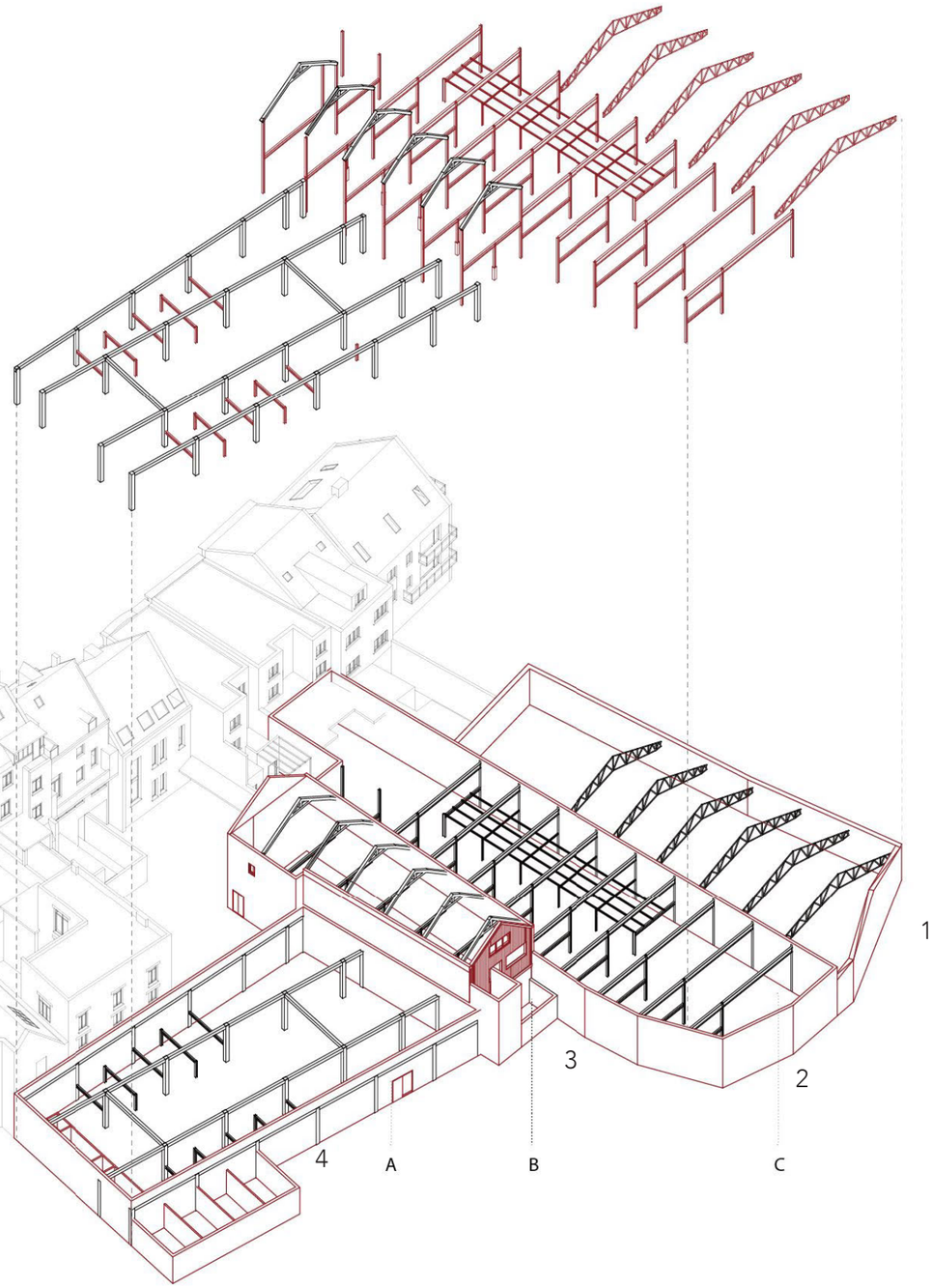
The spolia in architectural scale



1 Clothing store

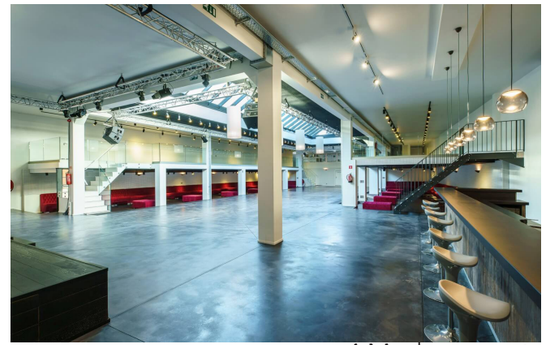


2 Warehouse for Belgian Sanitary Company





3 Atelier

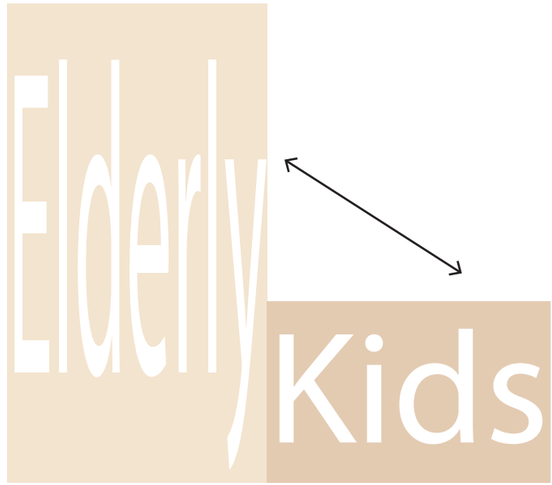


4 Modern events

Program: case studies

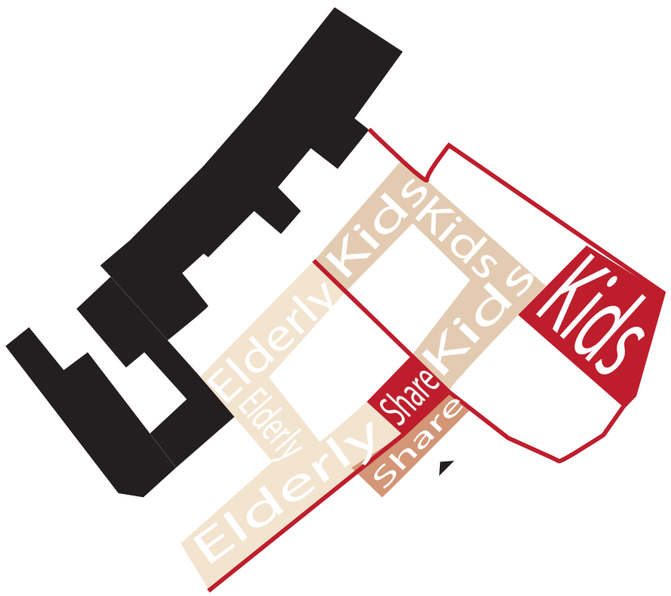


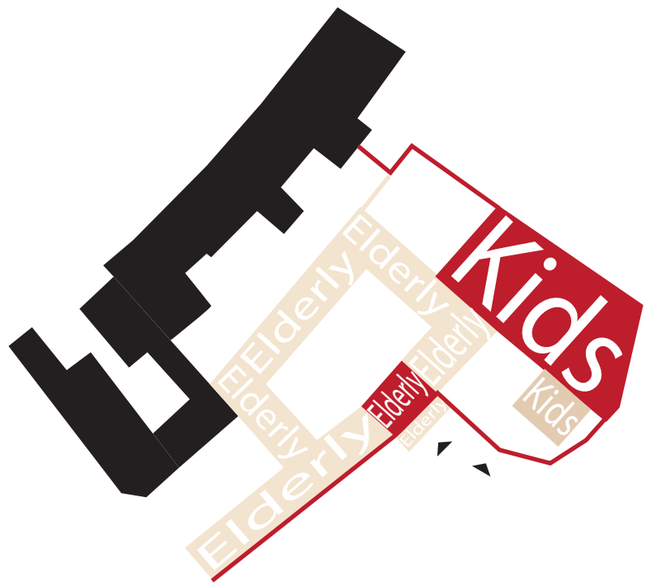
Plan
Different entrances

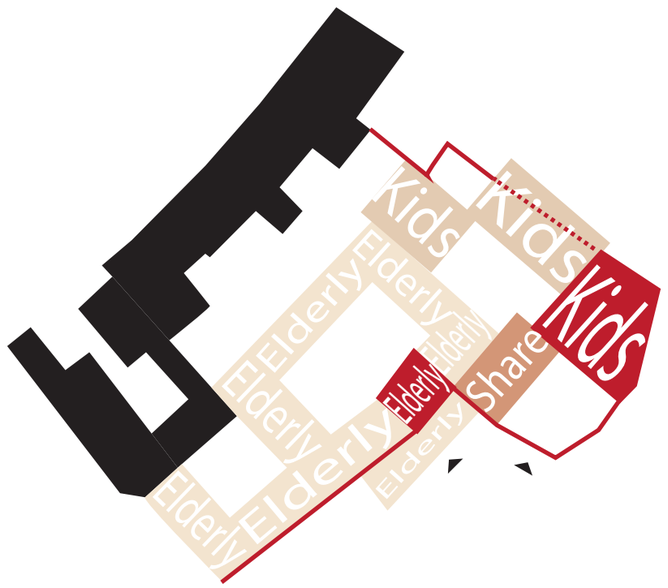


Section
Visual connection

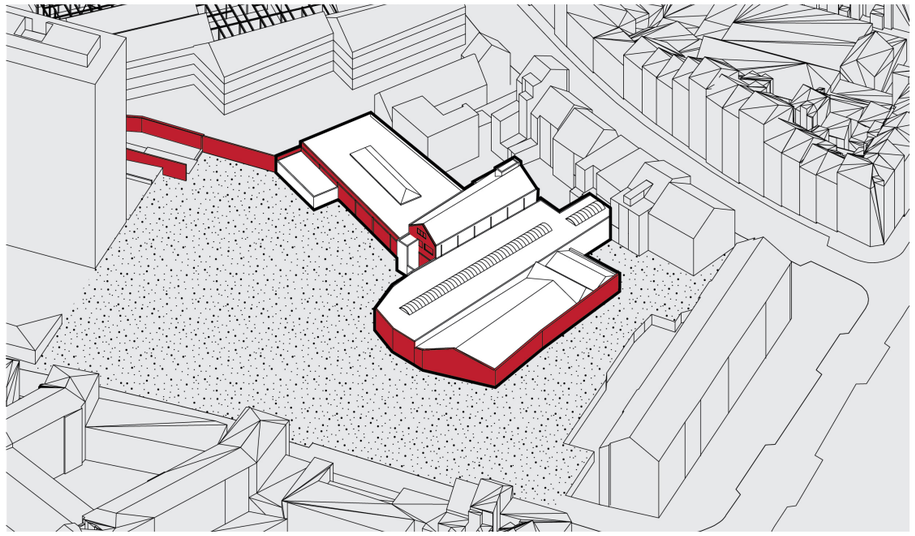
Evolution: Wall as perimeter

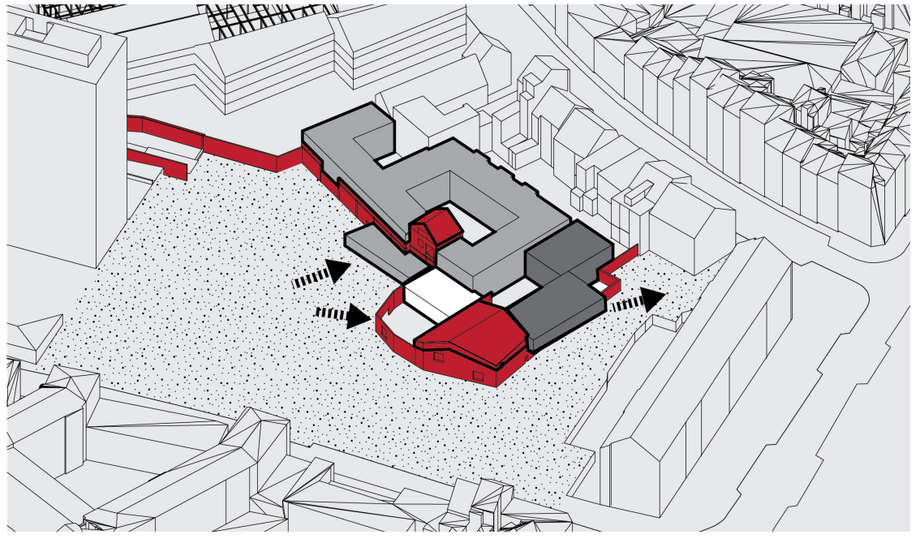






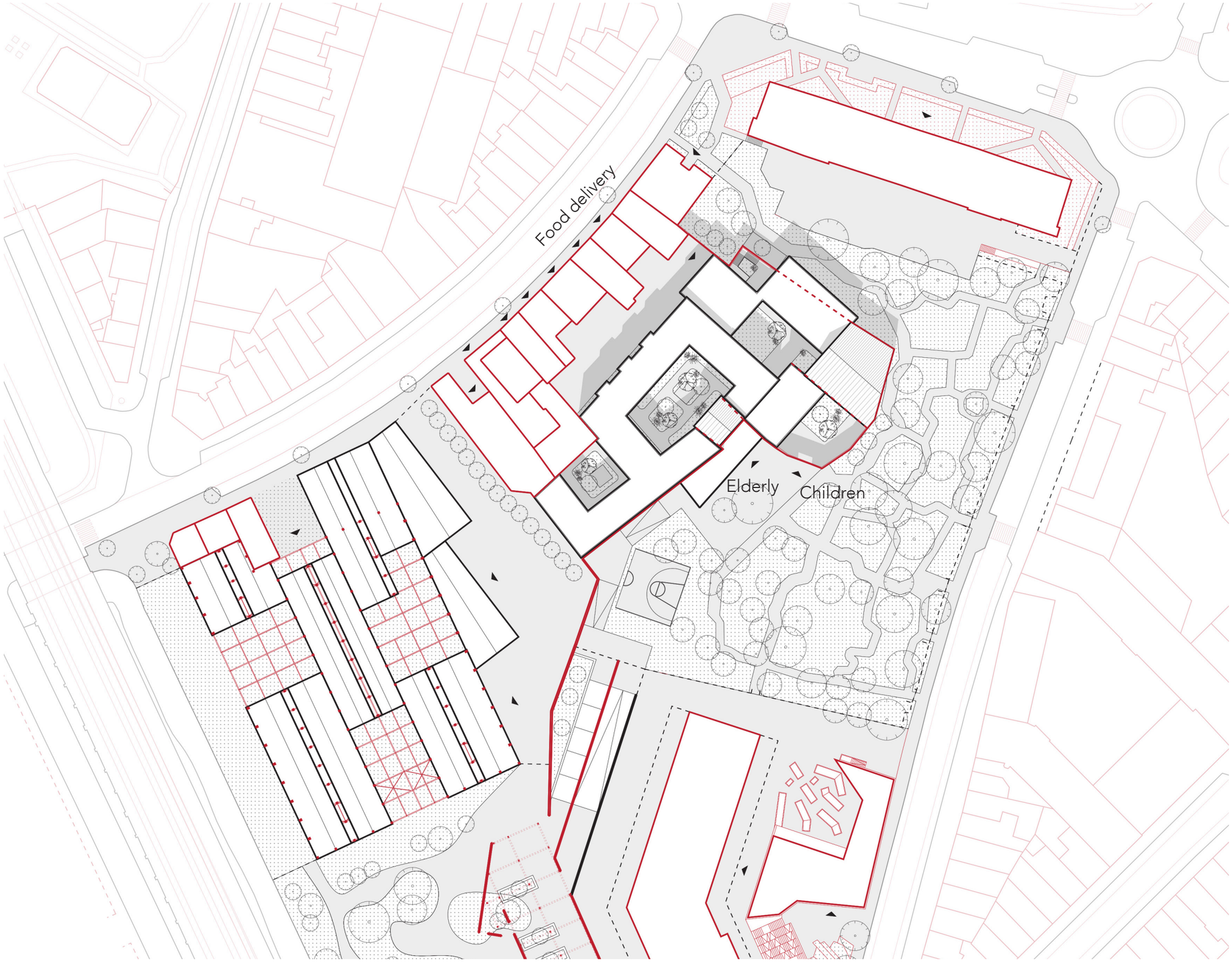
Urban gestures





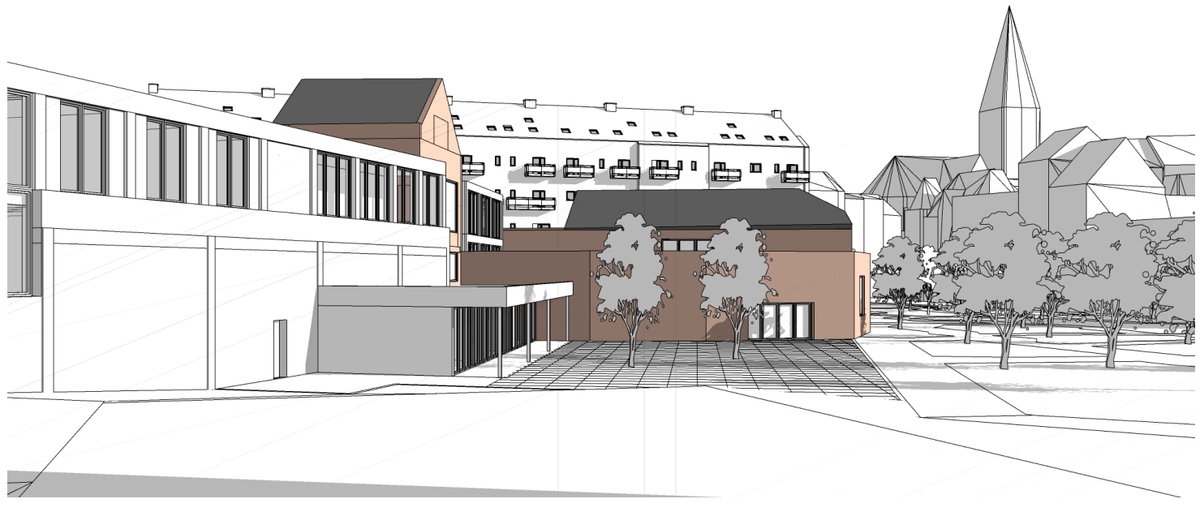
Shared
Elderly
Children

Master plan



Entrance



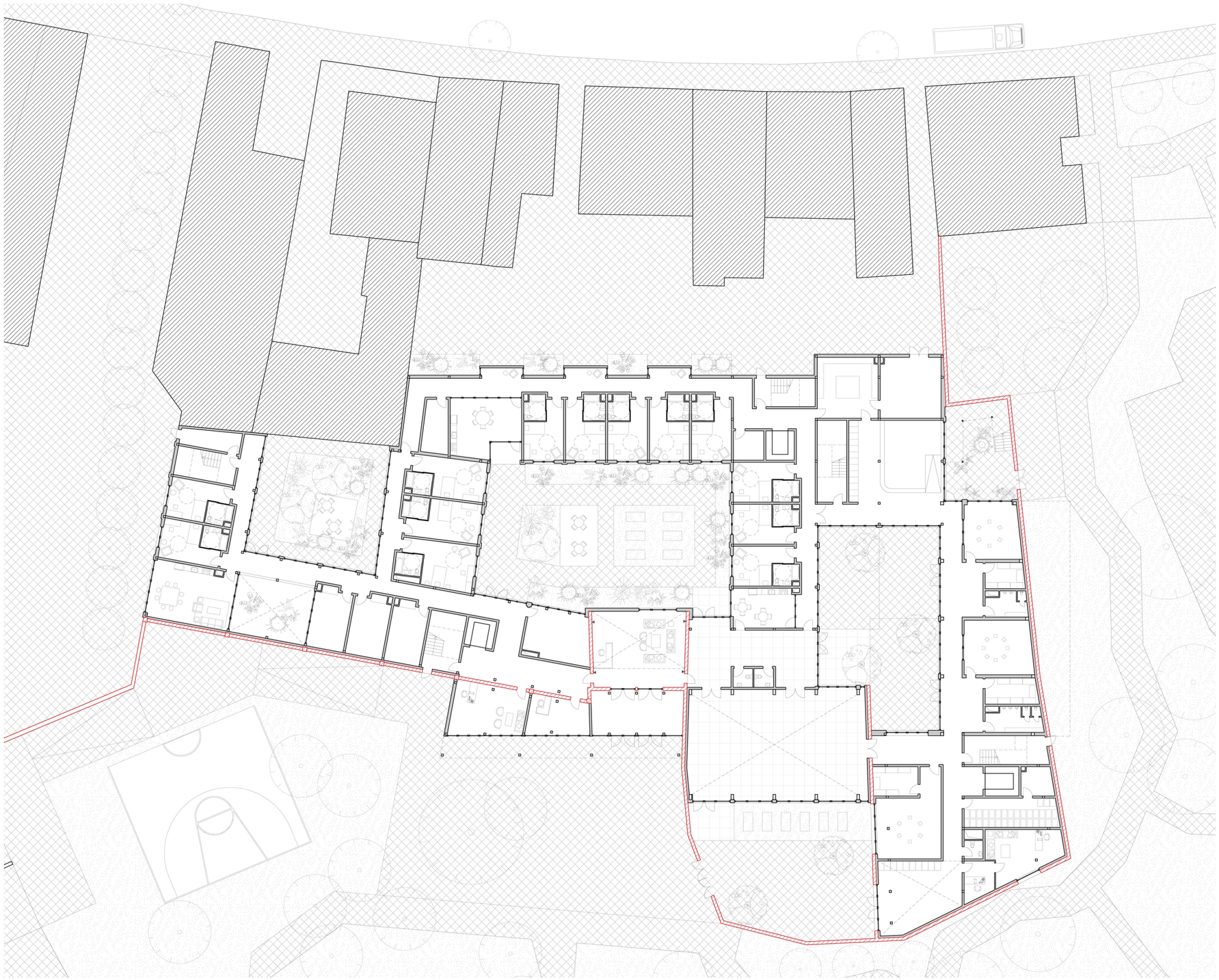


Street view





Ground floor



Ground floor



Elderly

Kids

Share

First floor



Elderly

Kids

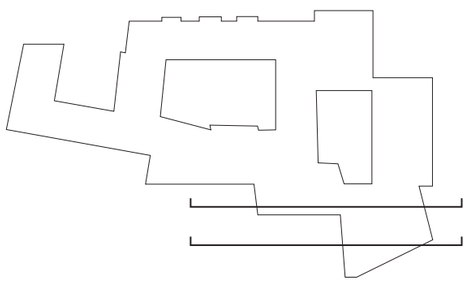
Share

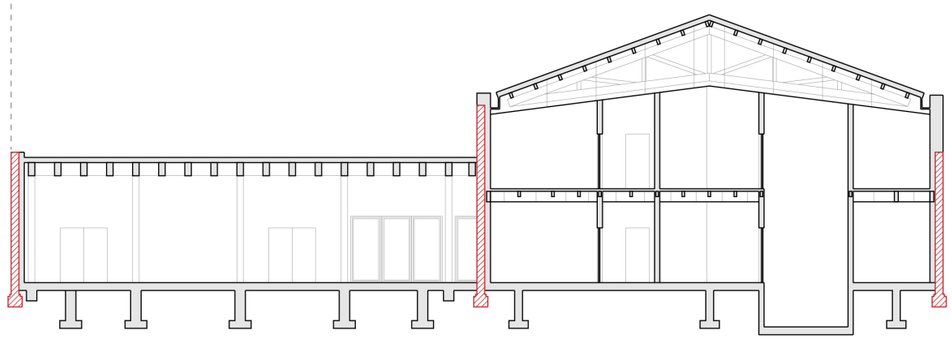
Second floor



The wall and the new building



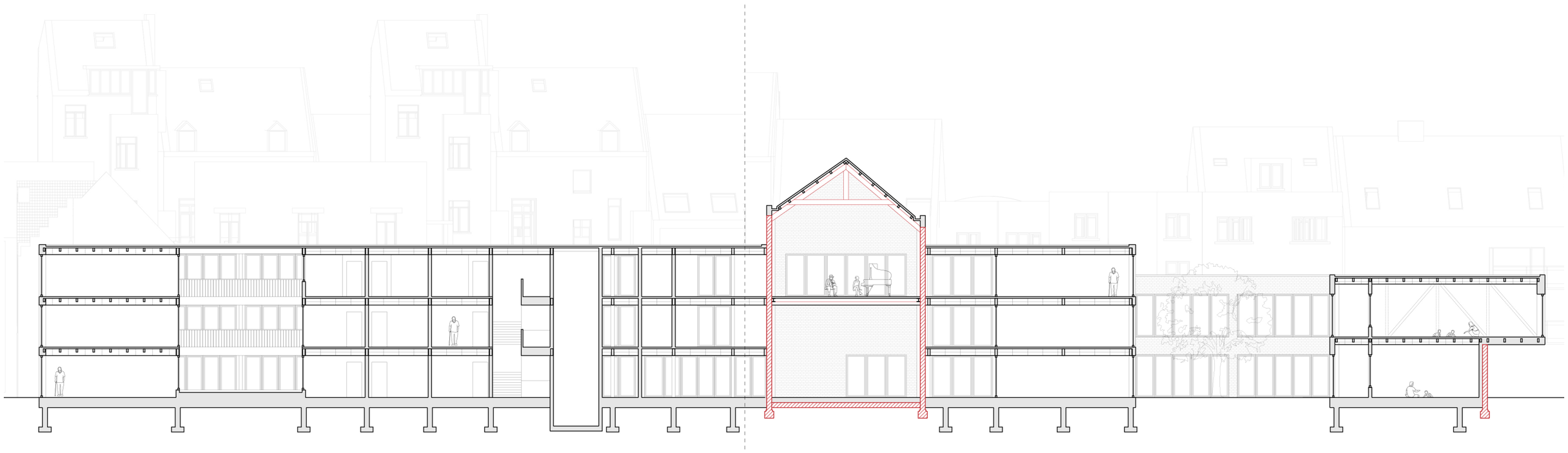


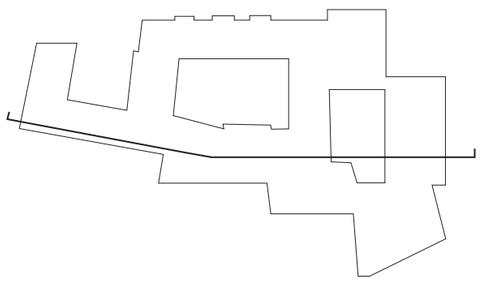


0 5m

Existing

The wall and the new building

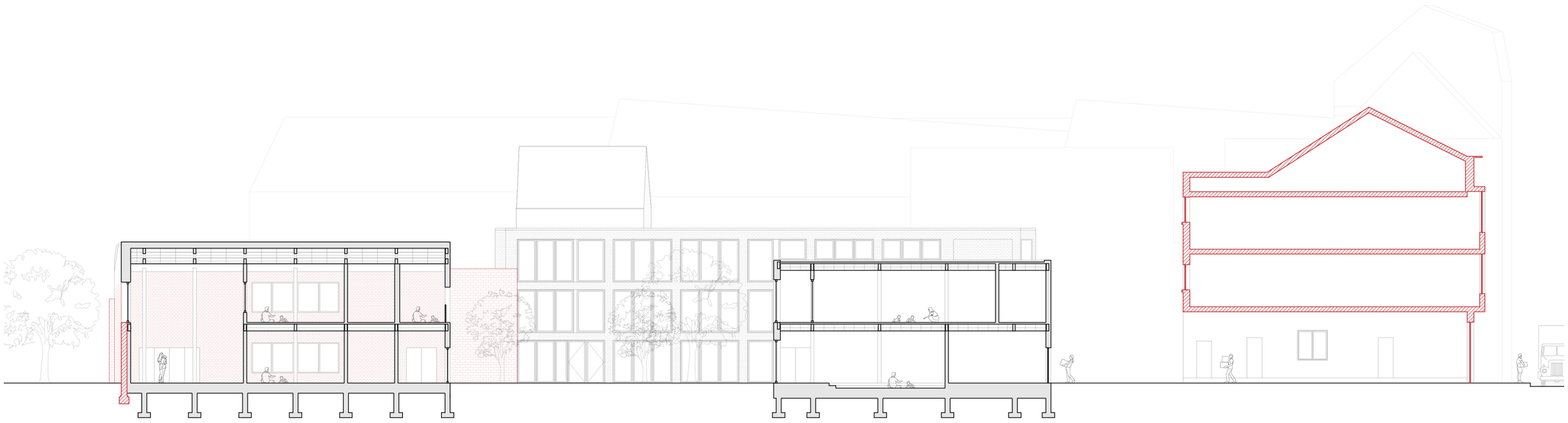


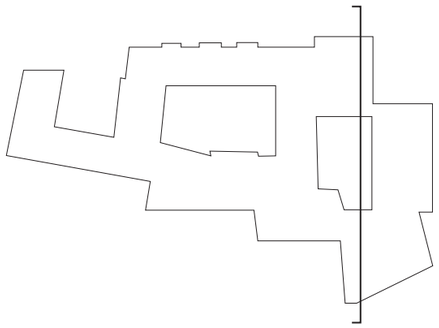


0 5m

Existing

The wall and the new building





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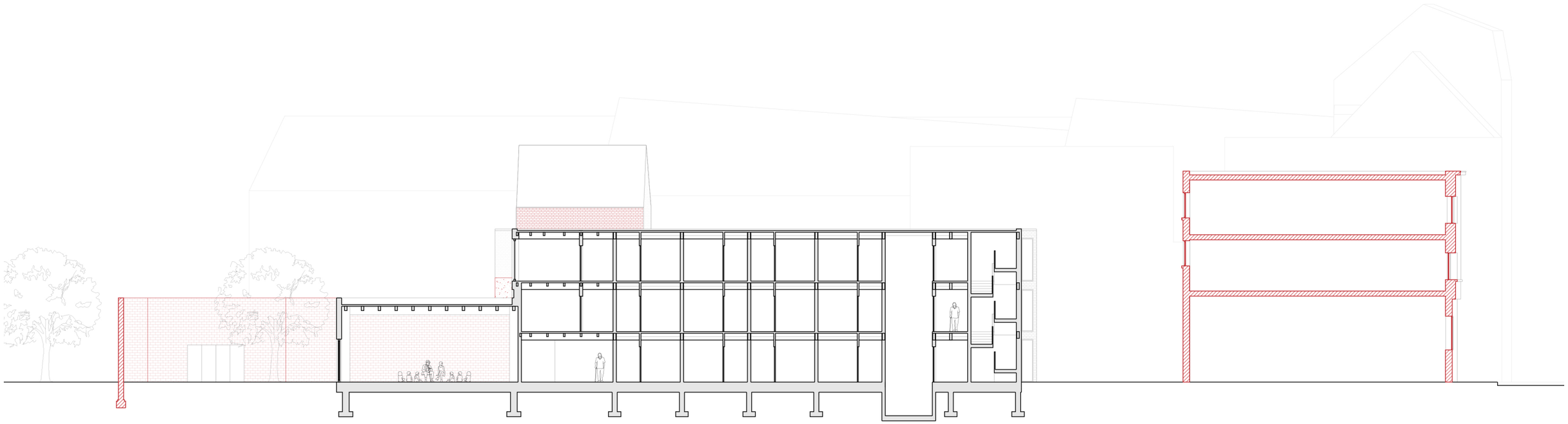
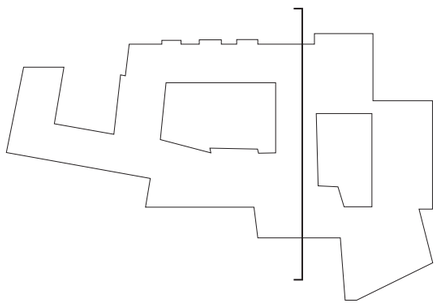
Existing

The wall and the new building





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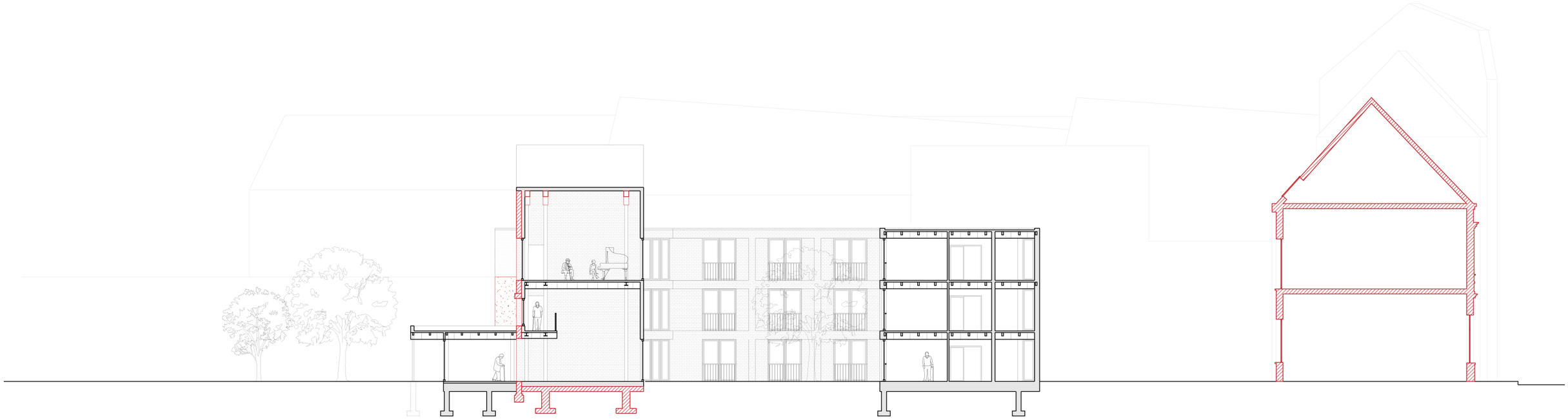
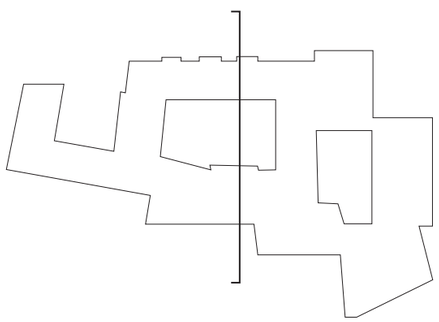
Existing

Part Architectural proposal
Urban Architecture 2019-2020

The wall and the new building





0 5m

Existing

Cases of residential facade



Small windows. no divisions

Nova Atmosfera Apartments



Horizontal division

Housing in nacka by jagnefalt milton



Frame

Tredje Natur, AART Architects and Arup Team Up for Copenhagen Island Competition Proposal

Facade composition



Existing



East facade

Existingy

Facade composition



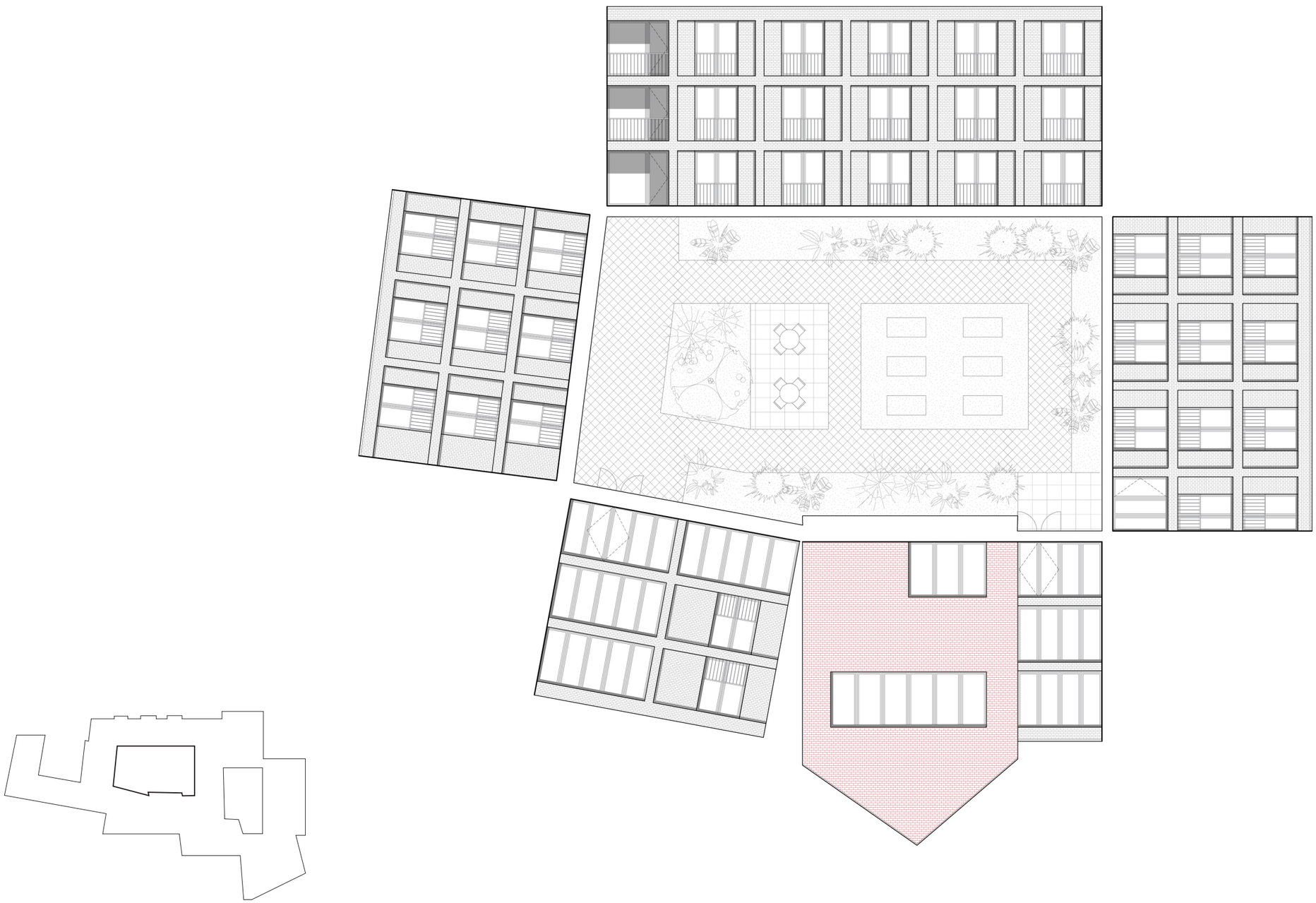
Existing



East facade

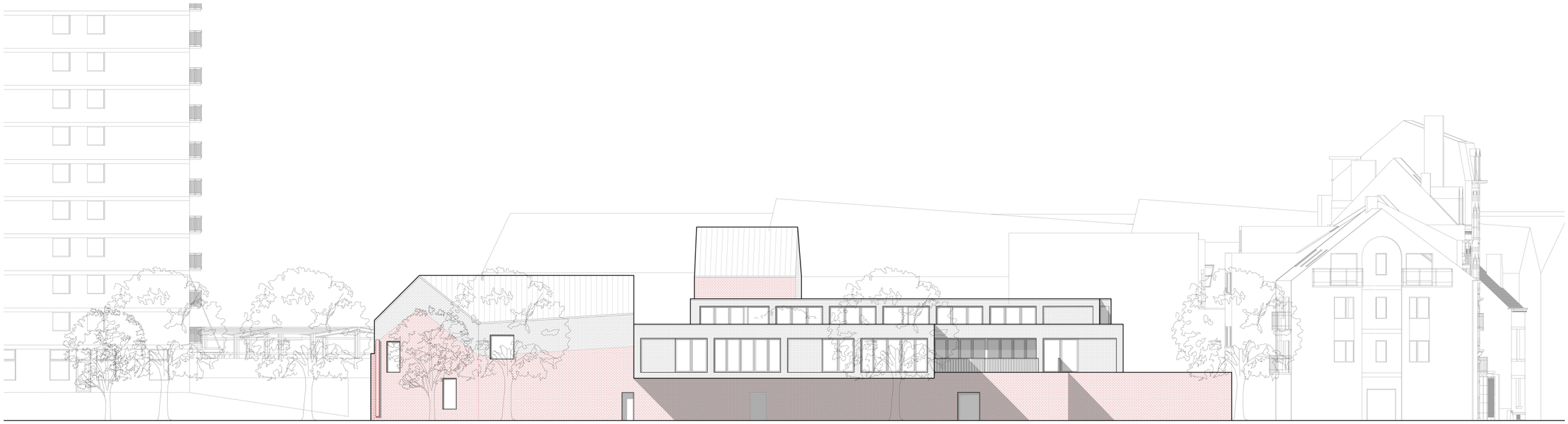
Existing

Facade composition



Existing

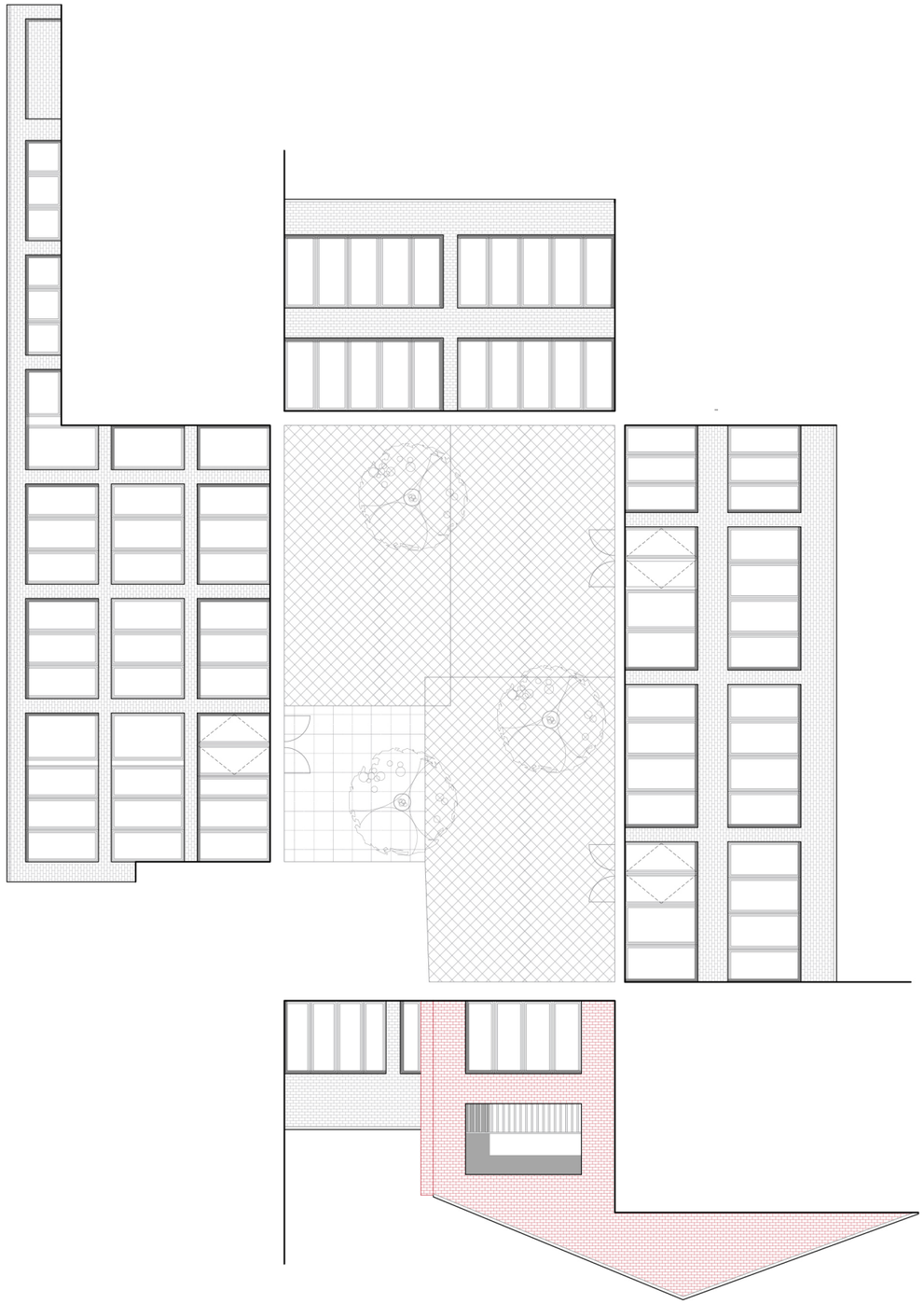
Facade composition

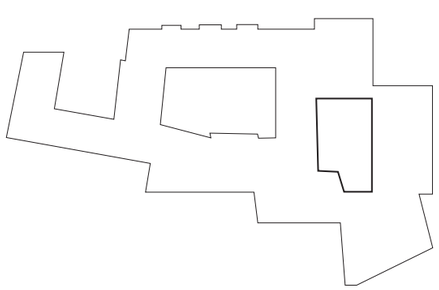


North facade

Existing

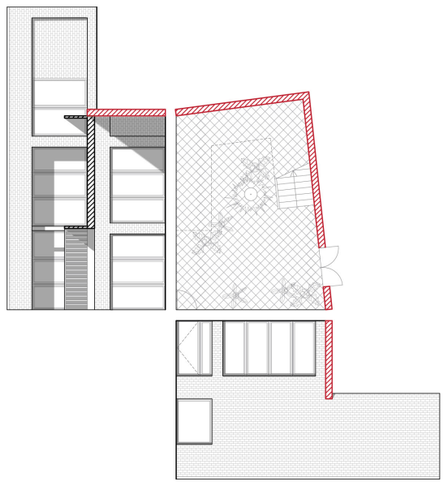
Facade composition

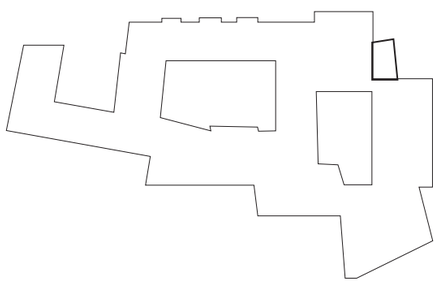




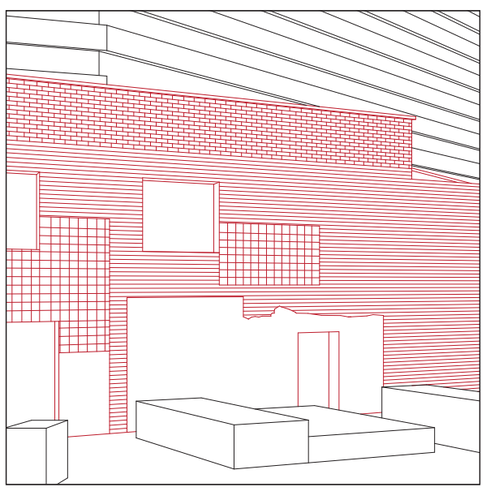
Existing

Facade composition





Existing



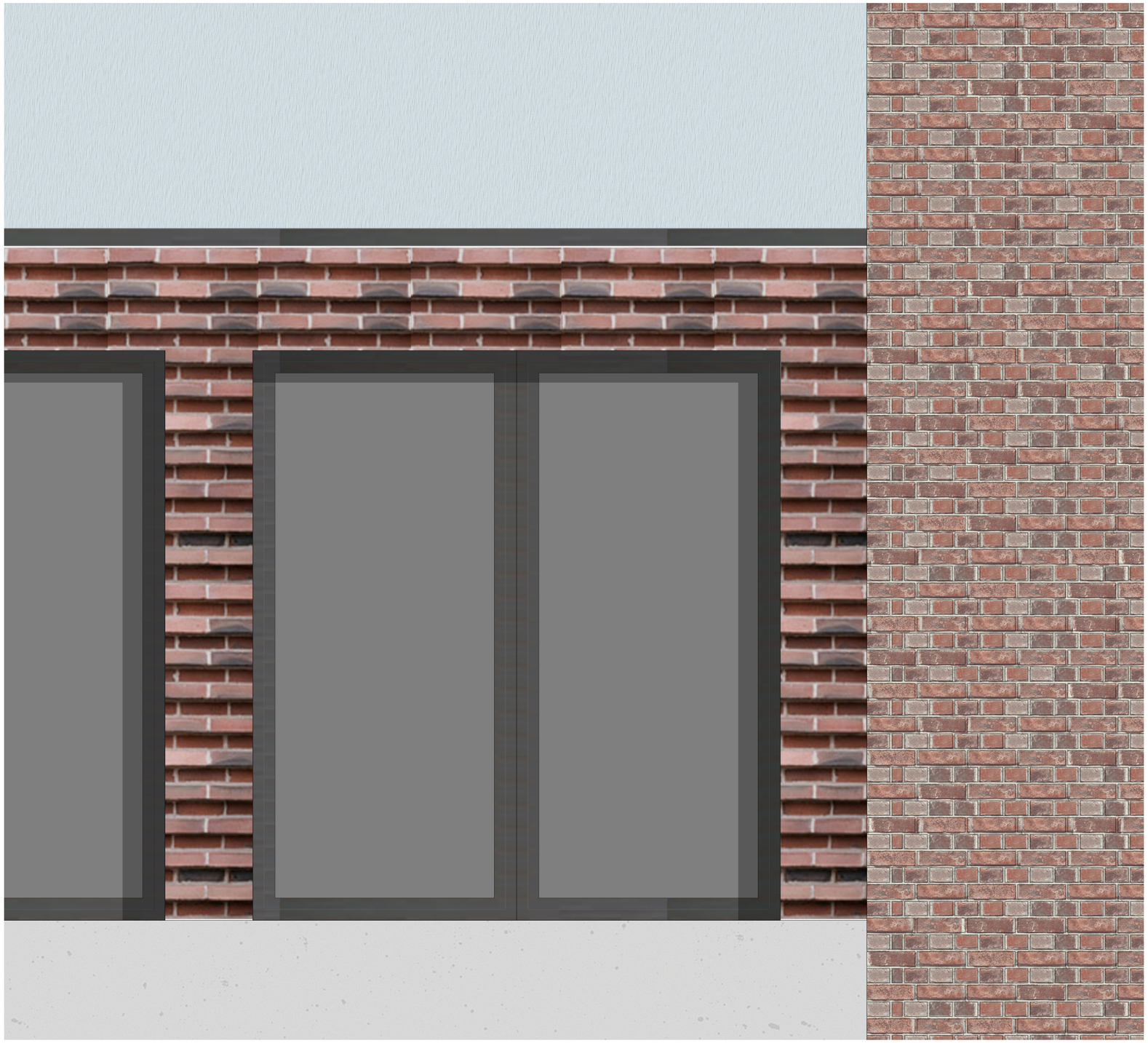
Material proposal and Building technology

Case: Old and new



New brick extensions to old industrial buildings
Gottlieb Paludan Architect

Choice of material



Choice of material



Choice of material



Old



Old brick / reclaimed brick to fill the old openings

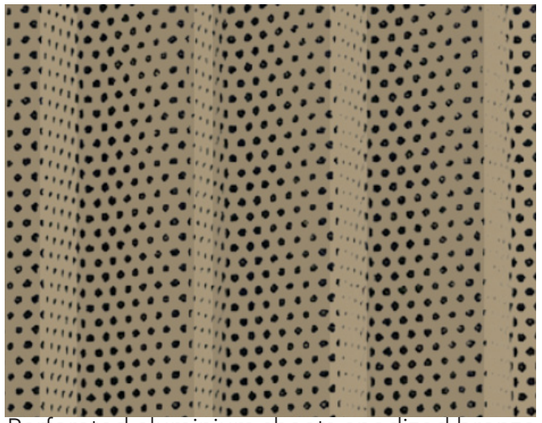


Old brick

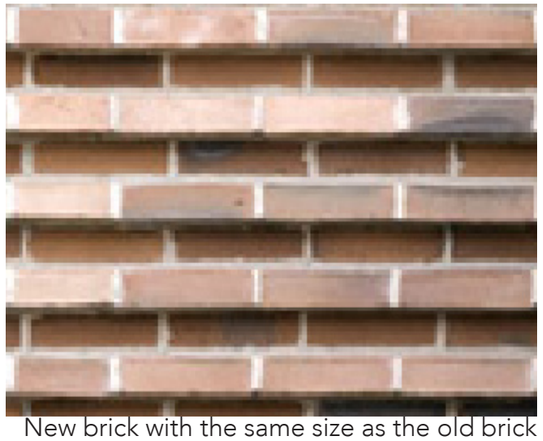


Concrete

New



Perforated aluminium sheets anodized bronze



New brick with the same size as the old brick



Aluminium window frame painted matte black

Overview



Elderly garden



Kid courtyard



Wall courtyard



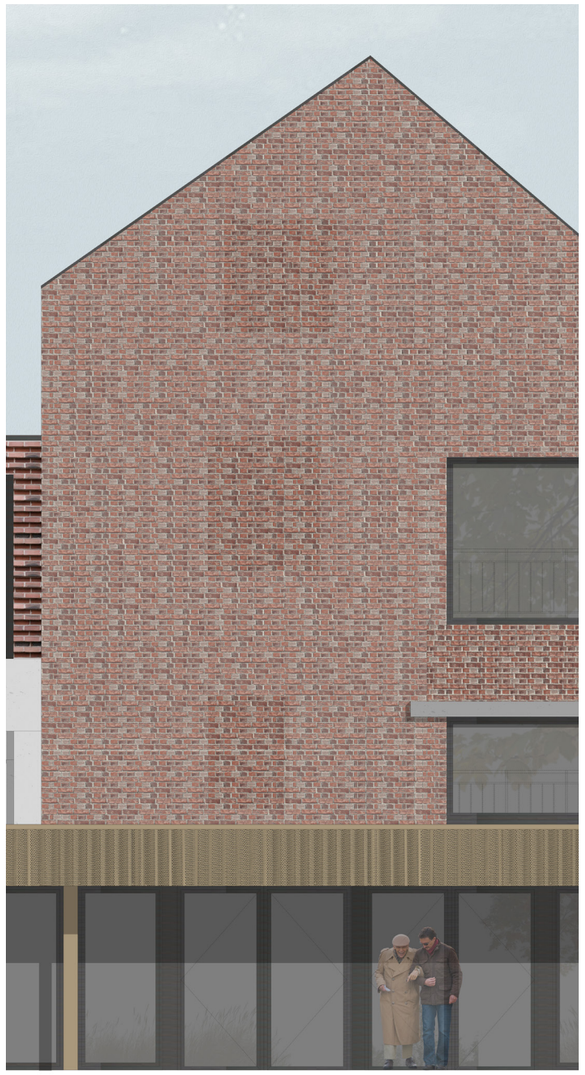
Event hall



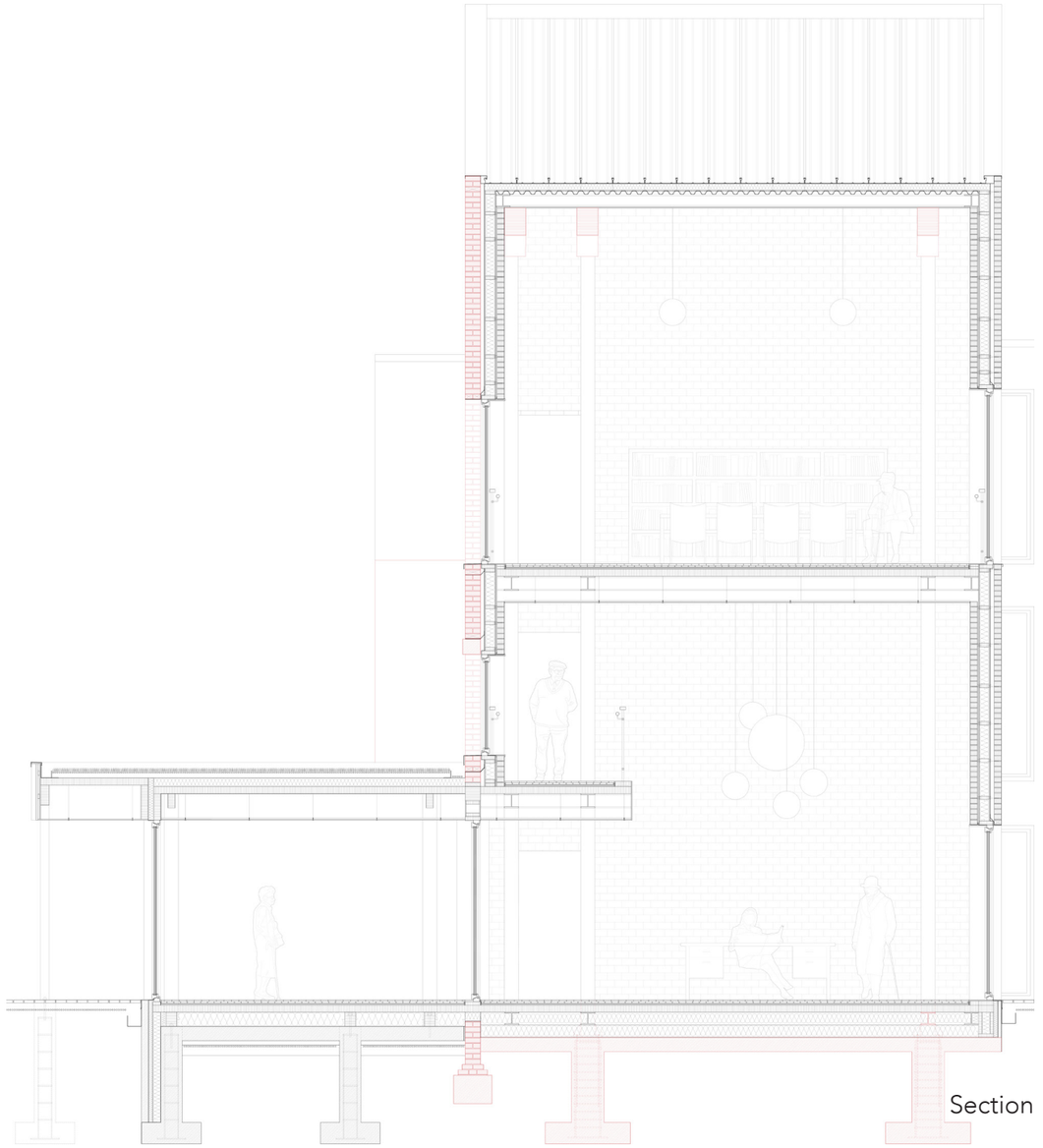
Meeting room



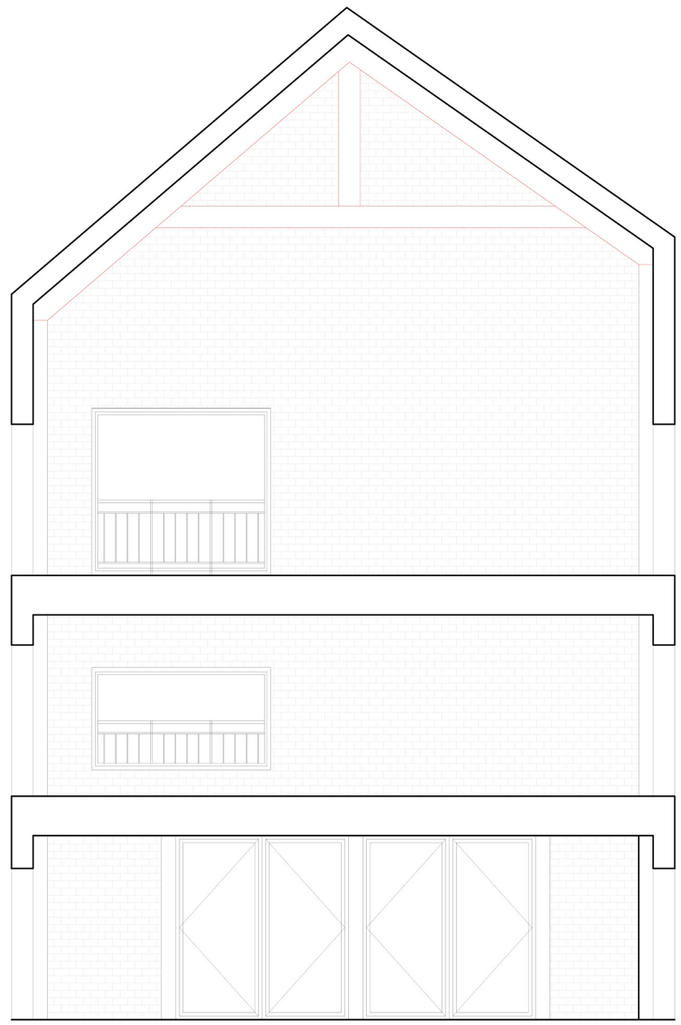
1:20 Fragment



Facade



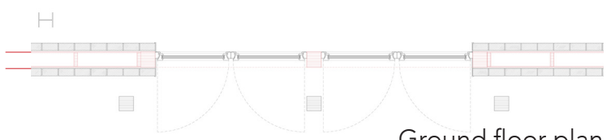
Section



Interior



Second floor plan

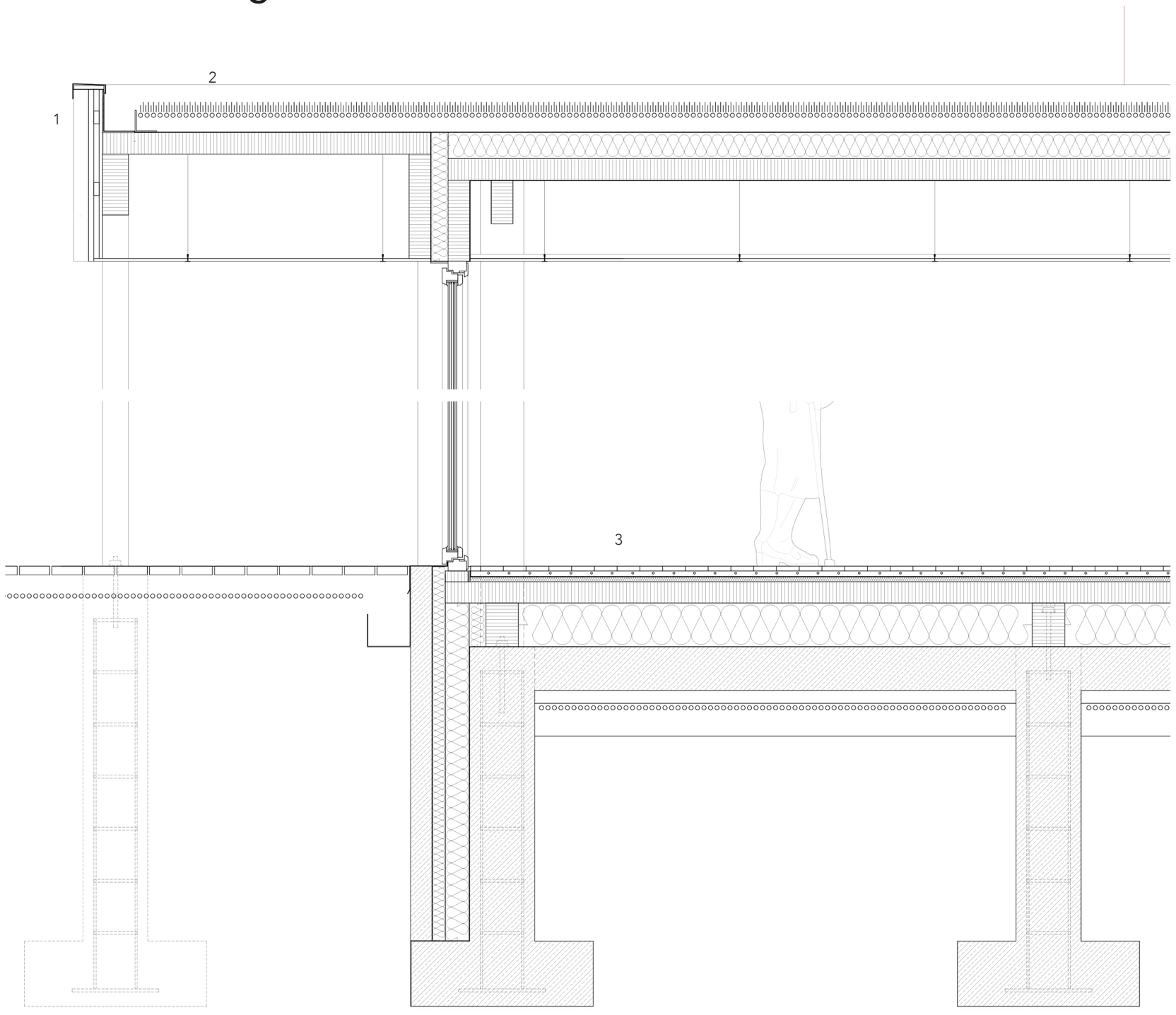


Ground floor plan

Existing

1:20 Fragment: The new





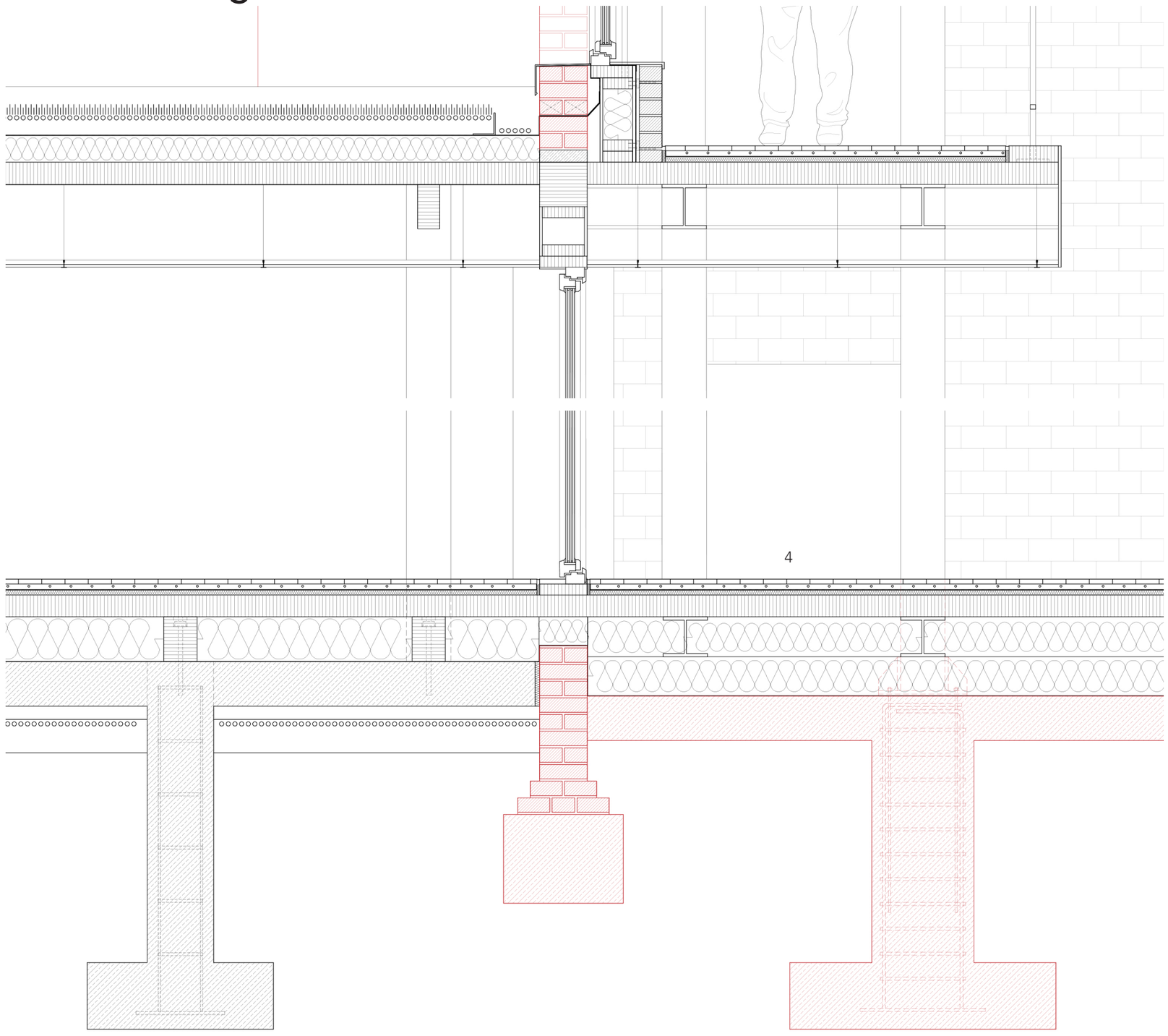
1 New wall construction
- 92mm perforated aluminum sheet
- 25mm batten
- 15mm plywood
- 280*120 laminated timber beams

2 Roof construction
- Sedum planting in 80mm substrate layer
- 10mm fibre mat
- Two-layer bituminous seal
- 120mm insulation layer
- 100mm laminated timber sheeting
- Vapour barrier
- 200mm laminated timber beam
- 350mm services cavity
- 12.5 suspended plaster board

3 New floor construction
- 22mm oak parquet
- 25mm screed with underfloor heating
- Vapour barrier
- 25mm impact sound insulation
- 100mm laminated timber sheeting
- 200mm timber beams with insulation
- 200mm reinforced concrete slab
- 60mm binding layer
- 150mm bed of gravel

Existing

1:20 Fragment: The old



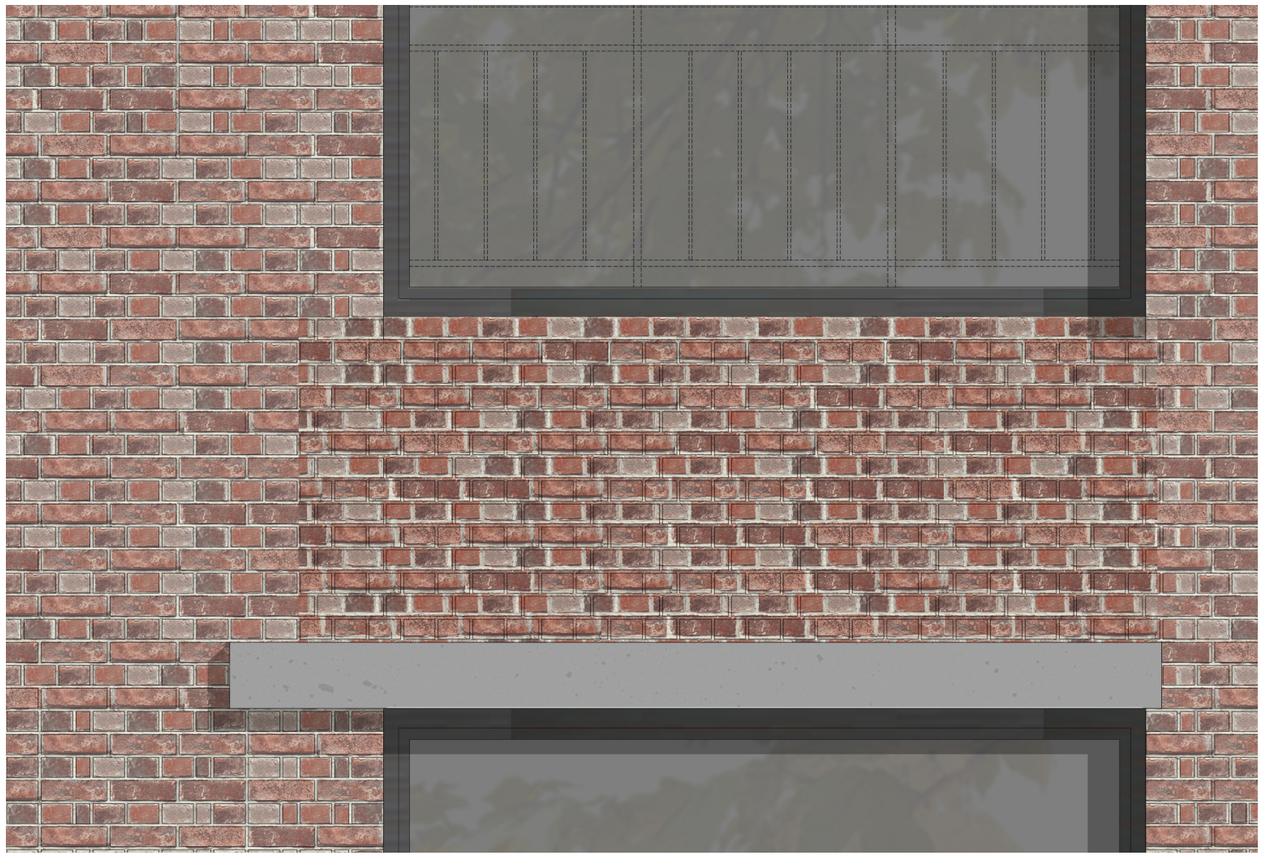
4 Old floor construction
- 22mm oak parquet
- 25mm screed with underfloor heating
- Vapour barrier
- 25mm impact sound insulation
- 100mm laminated timber sheeting
- 200mm existing I beams with insulation
- 175mm insulation layer
- Waterproof layer
- 200mm existing concrete slab

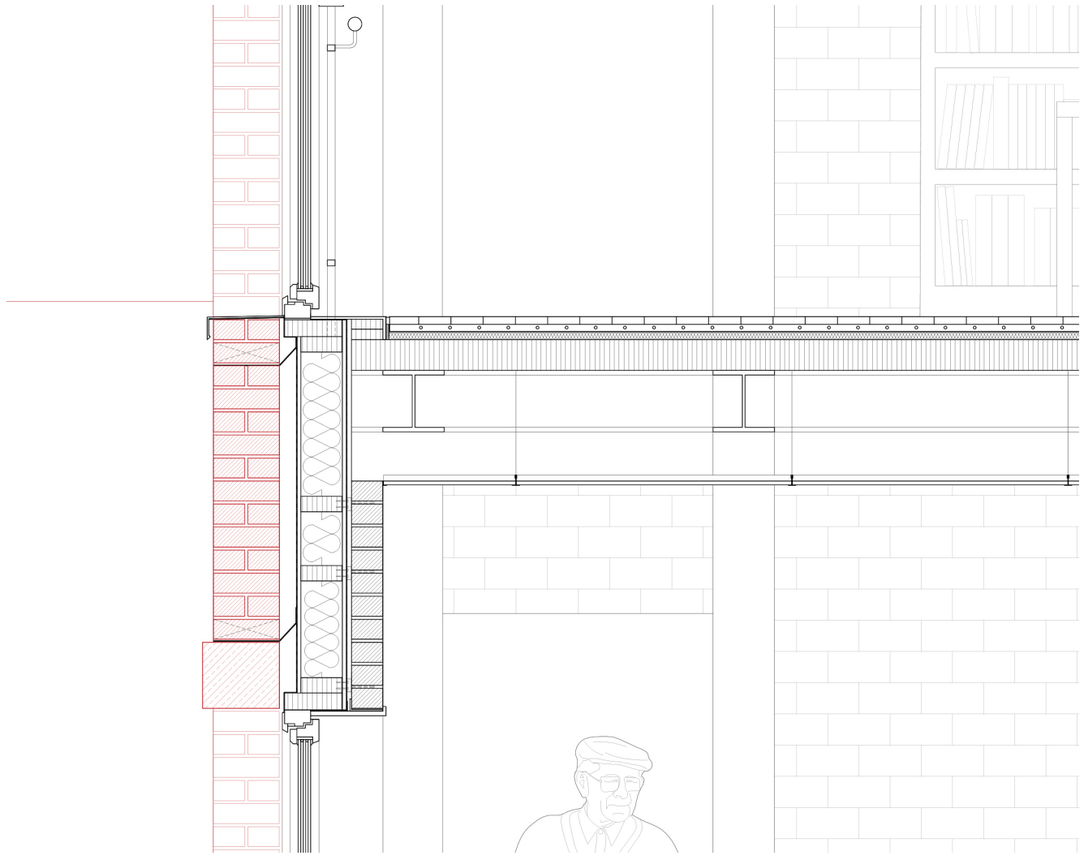
Existing

1:20 Fragment: The old

5 Old wall construction
- Existing brick wall, English bond
- 55 mm cavity
- Flashing
- Housewrap/building paper
- 12.5mm plywood insulated(?) sheathing
- 135mm wood stud with insulation
- 12.5mm plywood sheathing
- Vapour barrier
- 42/14mm brick tie, 75mm long, 450mm vertical spacing
- 102.5/65mm brick, English(?)/stretcher bond, 10mm mortar joints

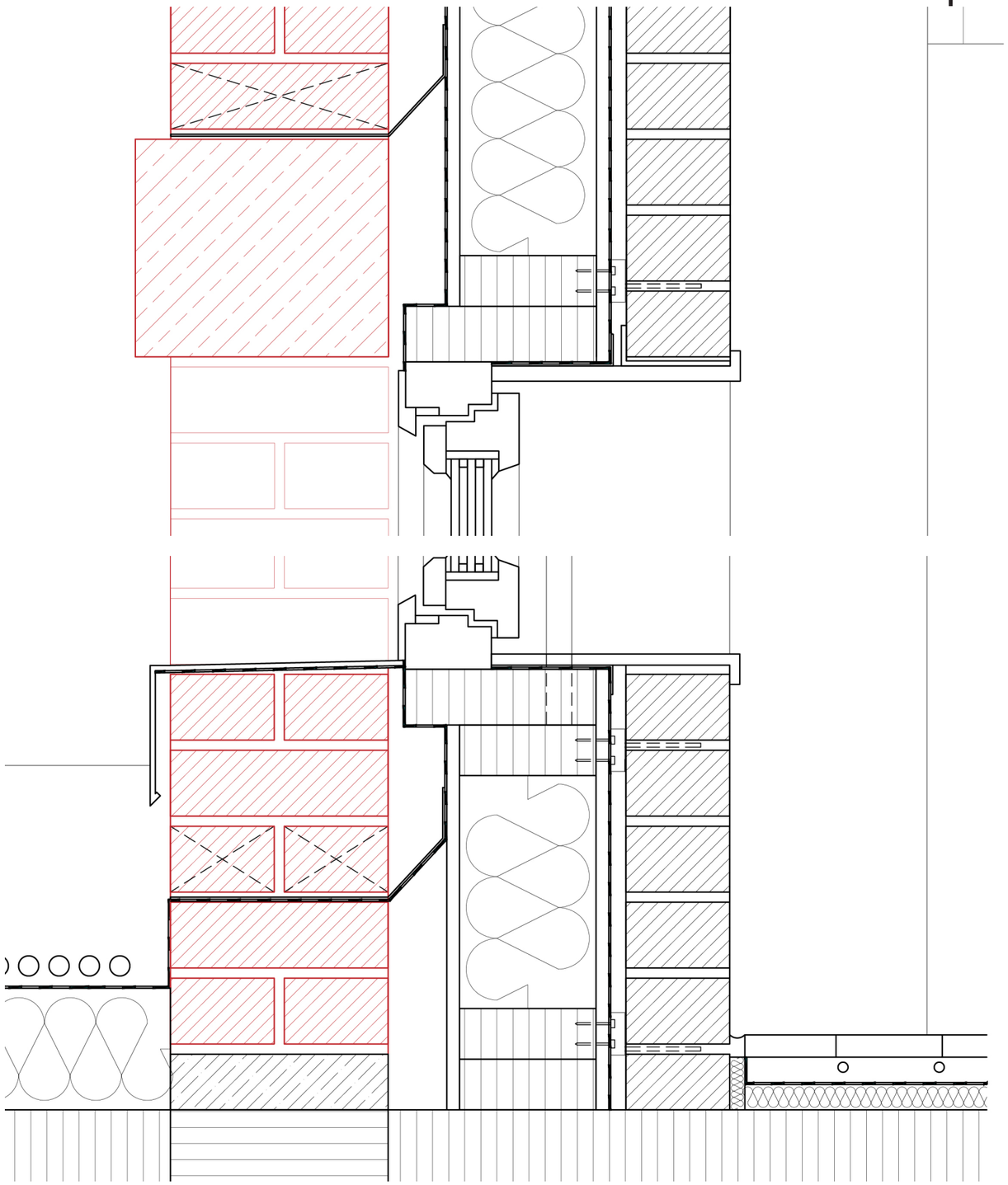
6 Roof construction
- Corrugated aluminium sheet, standing seam roof system, black paint finish
- Waterproof layer
- 100mm insulation layer with aluminium roof clips
- Vapour barrier
- 50mm corrugated aluminium sheet
- 180mm C purlins
- 12.5mm plaster borad
- Existing timber truss





Existing

1:5 detail: Openings of the old

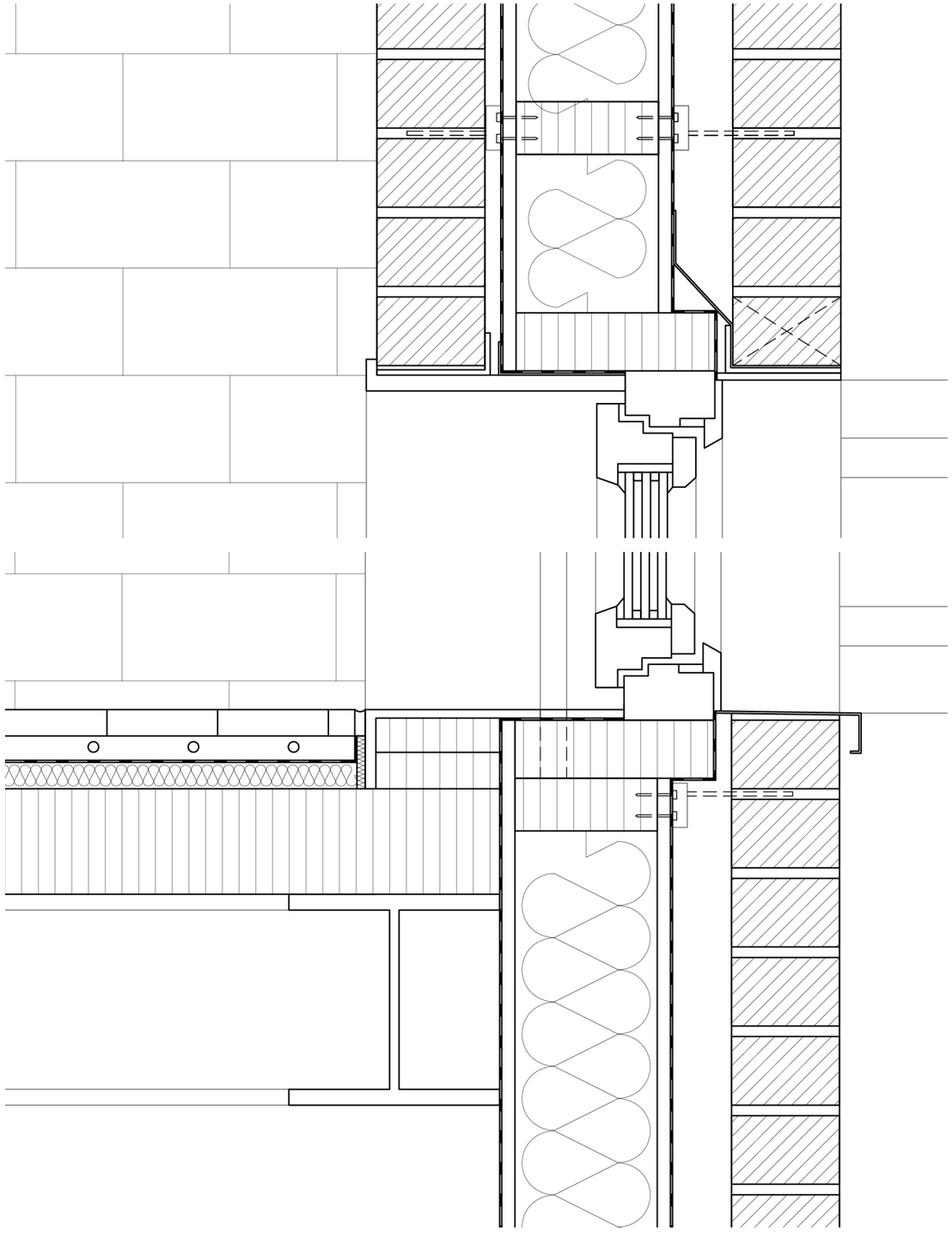




Case: A Country House in Chievo / studio wok

Existing

1:5 detail: Openings of the new

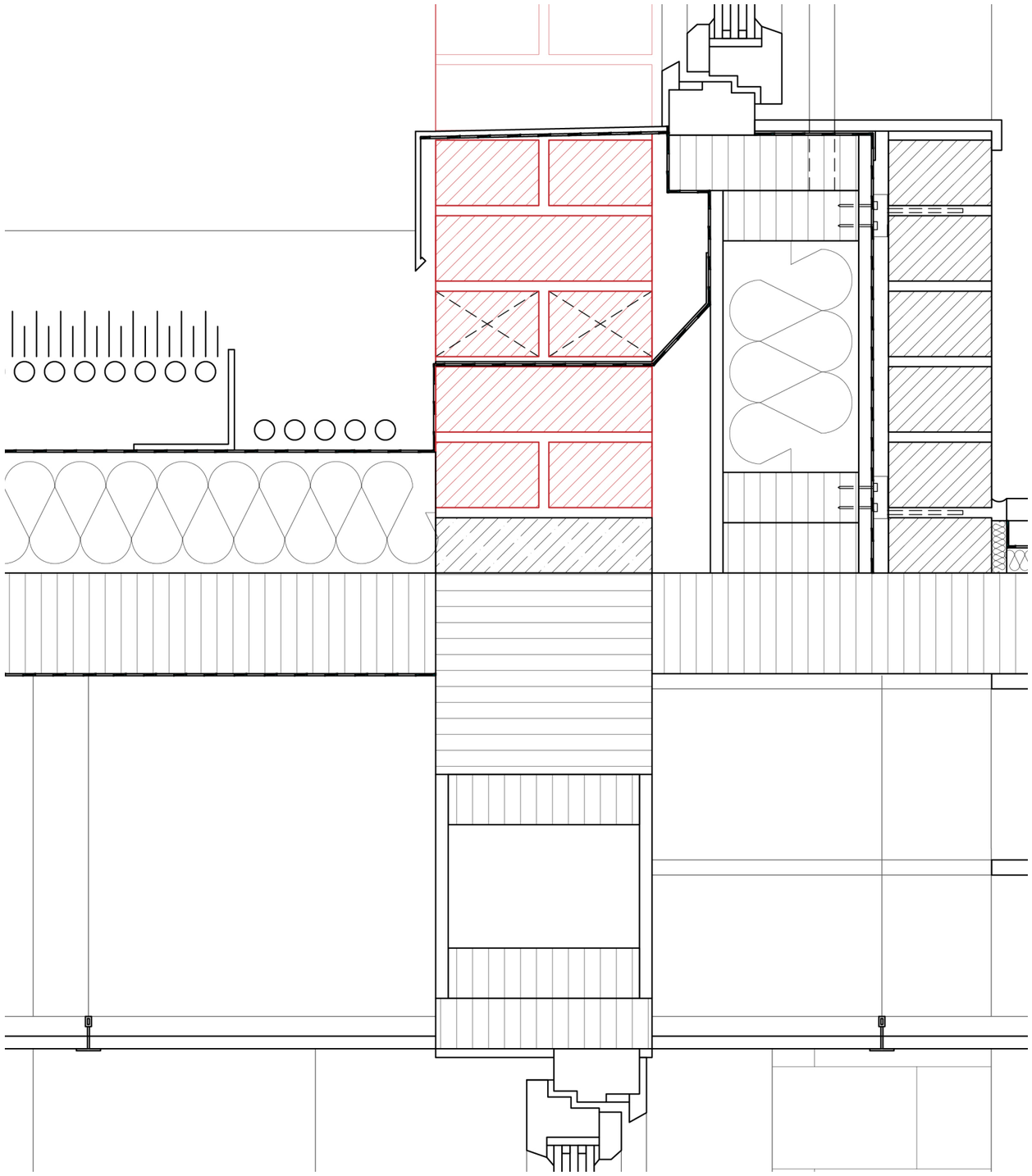


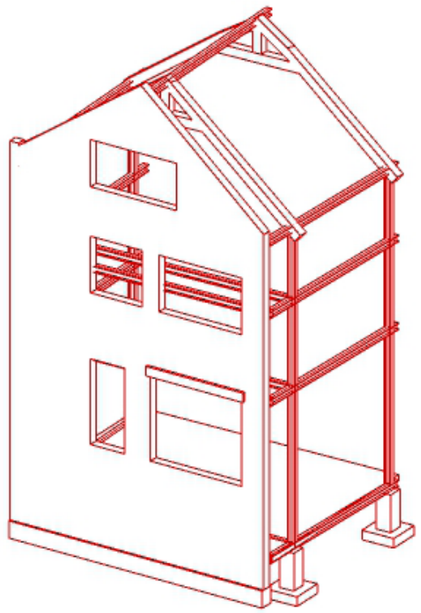


Case Stable in West Flanders/ Studio Farris Architects

Existing

1:5 detail: Between old and new





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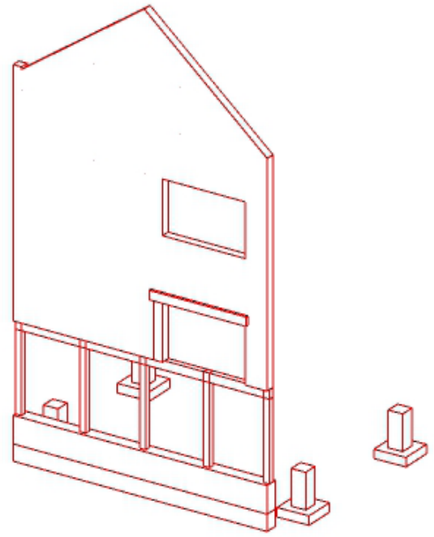
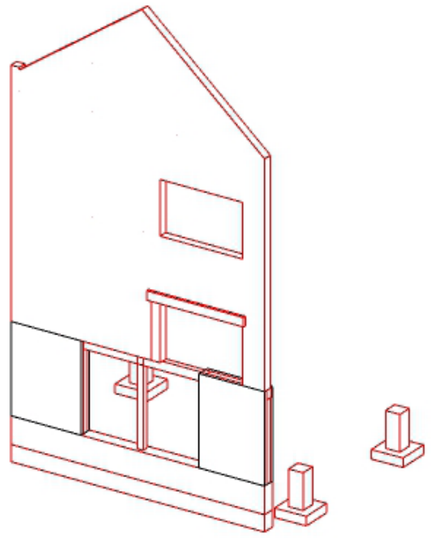
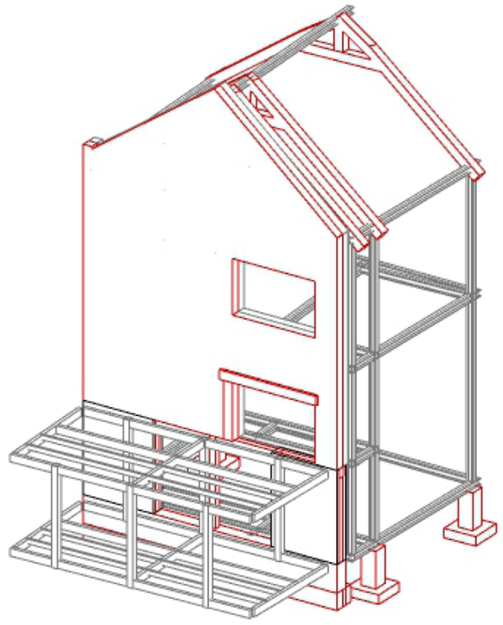


Demolish & support



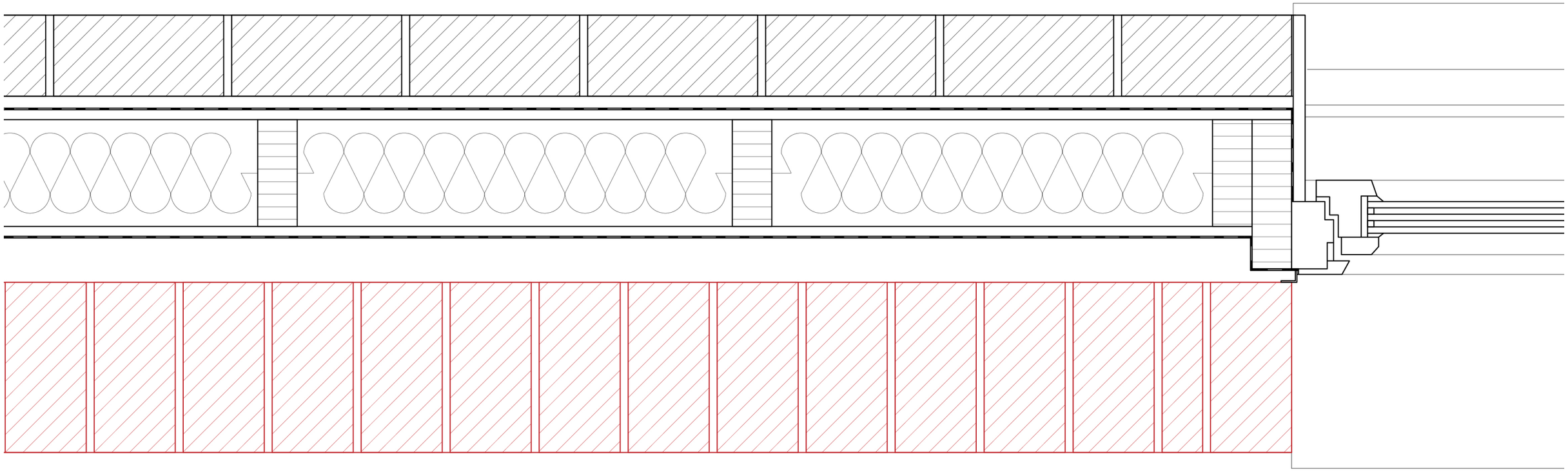
New interior walls



New structure & new facade

Existing

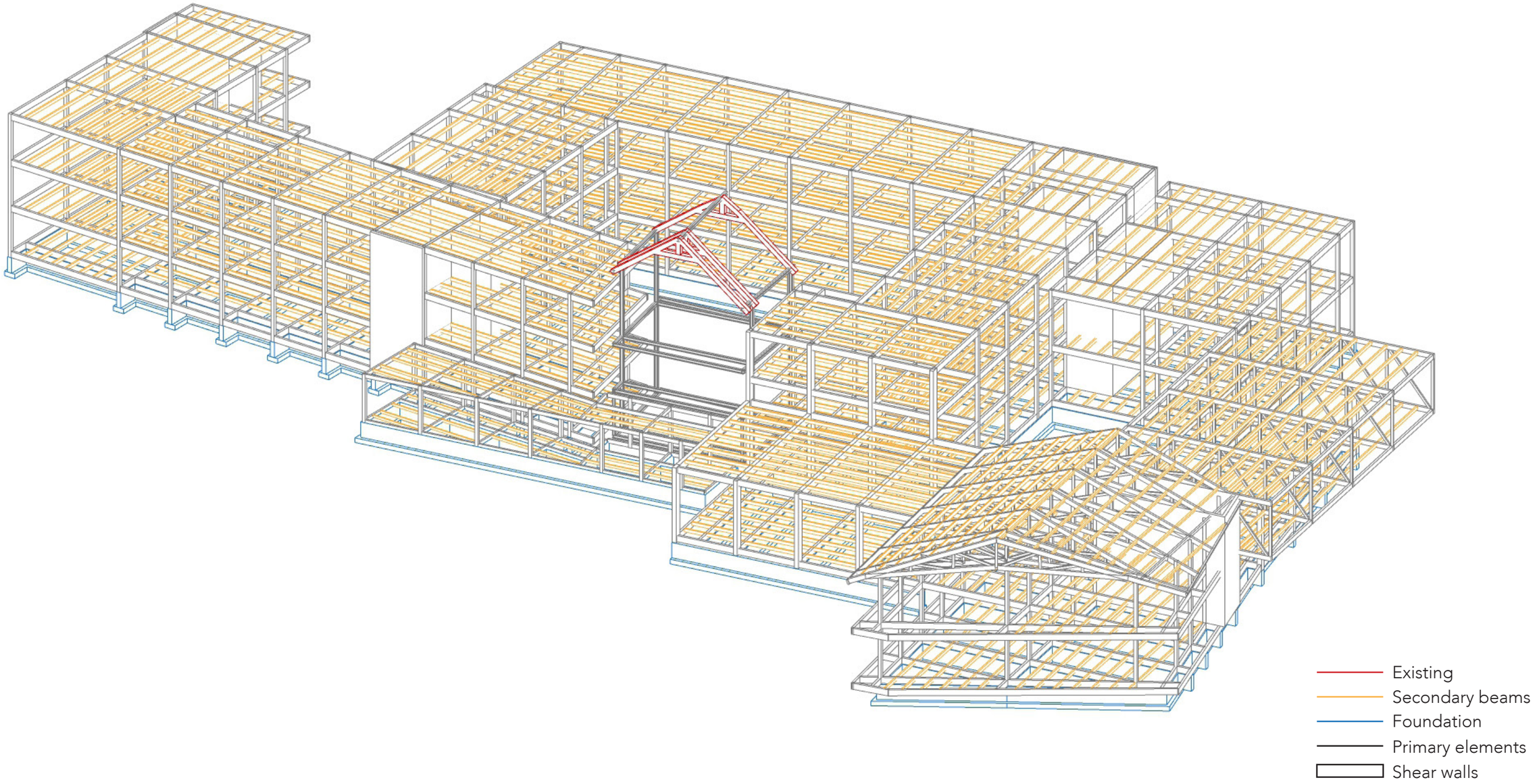
1:5 detail plan: Between old and new



Existingy

Structure: Overview

Main structure: Wood frame
Columns, beams, secondary beams, wood truss: Glued laminated timber
Floor: Cross laminated timber



Structure: Dimension grid & stability

Main span: 6-8m
Height: 3m for elderly, 3.6m for kids
Shear walls for stability

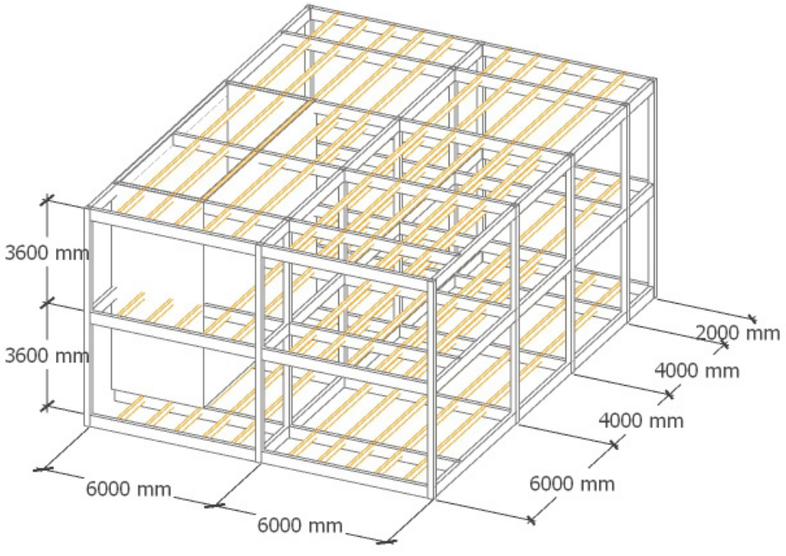


Structure: Foundation

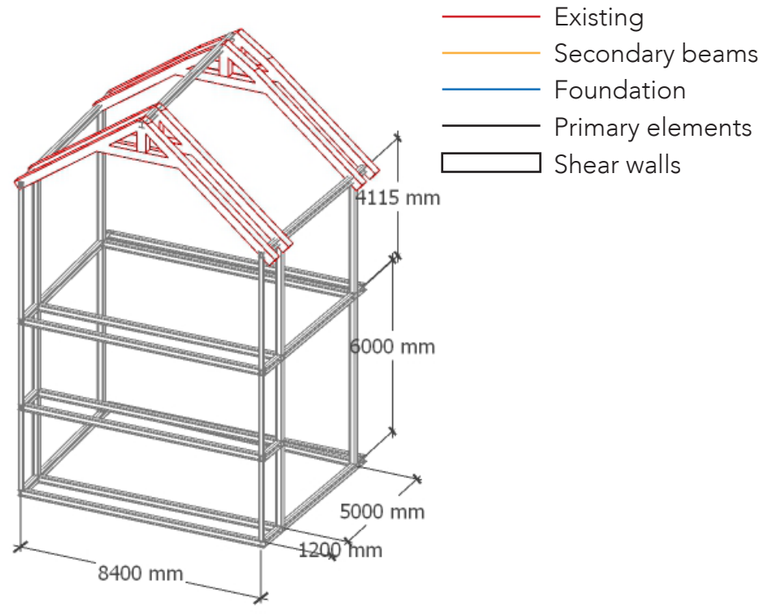
1.5m Away from the existing
Use cantilever beams partly to support columns
Reuse existing foundation



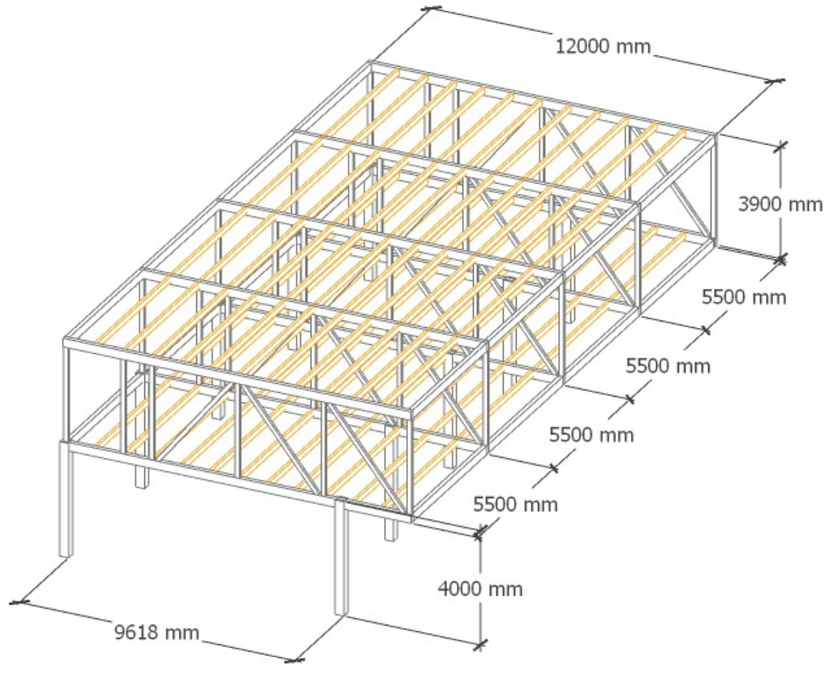
Structure: Types



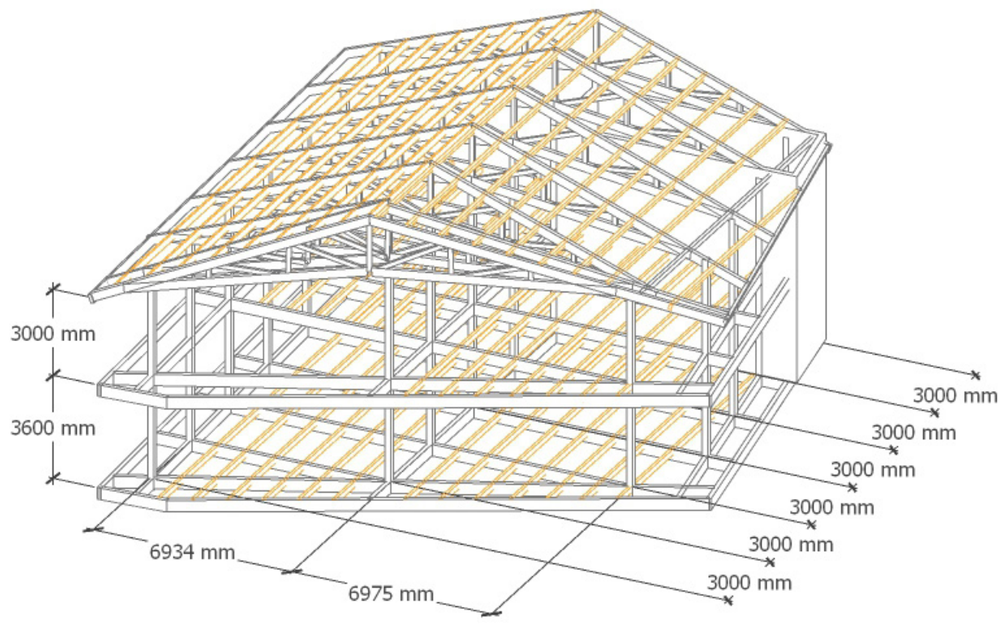
General wood frame



Reuse wood truss



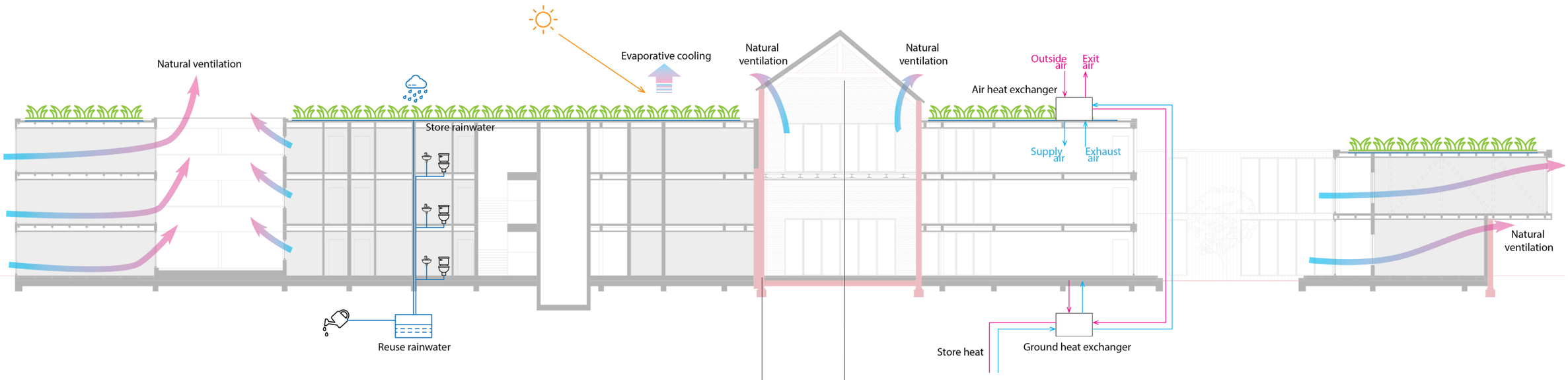
Wood truss



Wood truss

Sustainability

Green roof to store rainwater and cool the roof through evaporation
Rainwater usage for toilets and gardens
Natural ventilation to cool the building
Heat recovery ventilation combined with ground heat exchanger
Usage of reclaimed bricks and steel beams



Franck

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http://www.franck.be

Visit: Mon - Thurs 13h00-17h00 and other times by appointment | Deliveries:
Mon - Thurs 7h30-15h30 and Fri 7h30-12h
VAT: BE 0443 991 269



Beerse/Boomse steen

Dateert van de eerste helft van de 20e eeuw en wordt gerecupereerd uit woningen van die tijd. Deze steen geeft uw gevel een mooi kleurenpalet en ligt qua kleur dicht bij dat van de Paepesteen.

Inspiratie



Klampsteen

Het geheim van de superieure kwaliteit en het authentieke karakter van de Klampsteen? Voordat ze in een klampoven werden gebakken, liet men ze een jaar lang uitdrogen.

Inspiratie



Paepesteen

Deze handvormsteen werd in de middeleeuwen door de monniken gebakken in een *paepe*-oven. Bij Franck kunt u terecht voor de rode en de blauwe variant.

Inspiratie



Veldovensteen

Ook wel Scheldesteen genoemd, is een typisch product van de Schelde- en Dendervallei uit de jaren 20. De steen wordt gebakken in veldovens, die steeds schaarser worden.

Inspiratie

Van Baal Materiaalhandel

CONTACT

Verbindingsweg 10
6674 DL Herveld — Pays-Bas

tel +31 488 452 231, +31 488 452 931
fax +31 488 453 532
info@vanbaal-herveld.nl
http://www.vanbaal-herveld.nl/materiaalhandel/

lun-ven 8h-17h
(mercredi jusqu'à 20h)

Constructiebalken



HEA



HEB



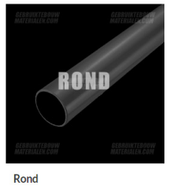
IPE



INP



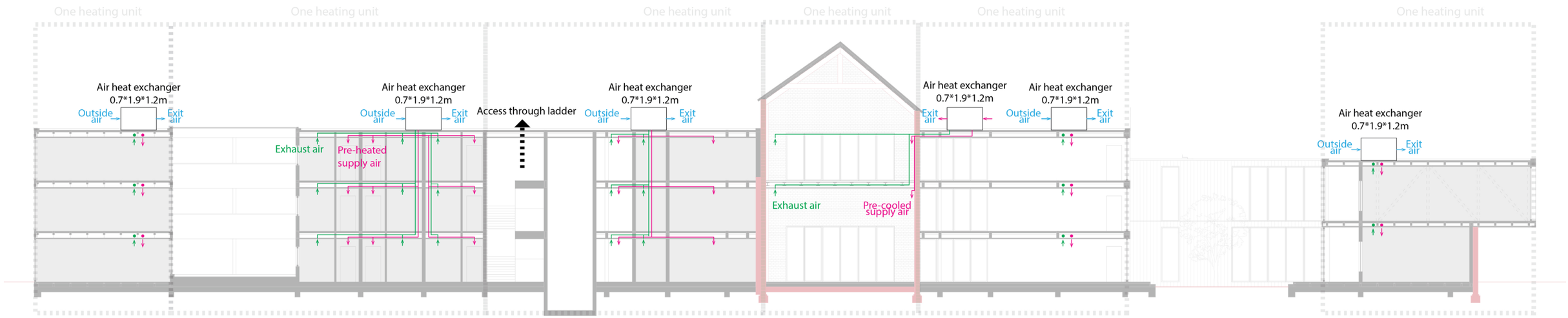
HEM



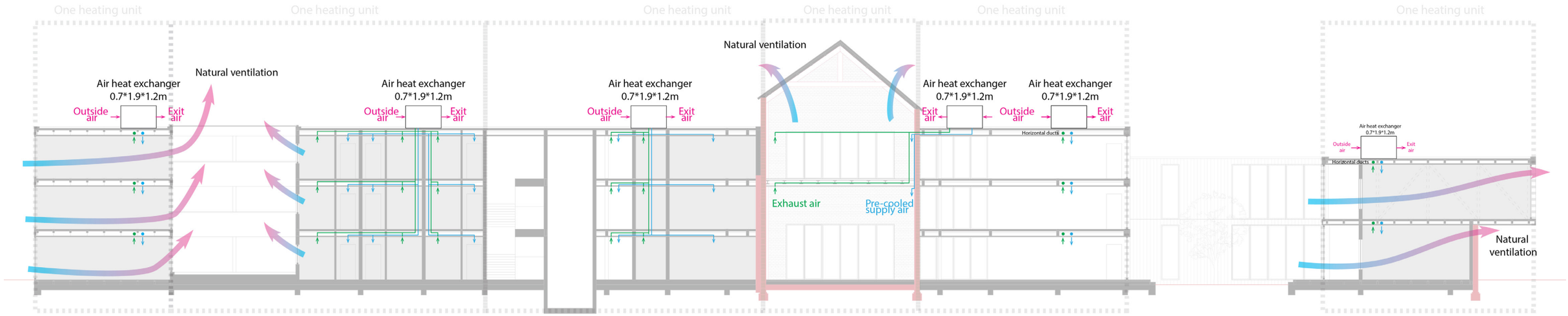
Rond

Climate scheme: Ventilation

Heat recovery ventilation



Winter



Summer

Ventilation zone

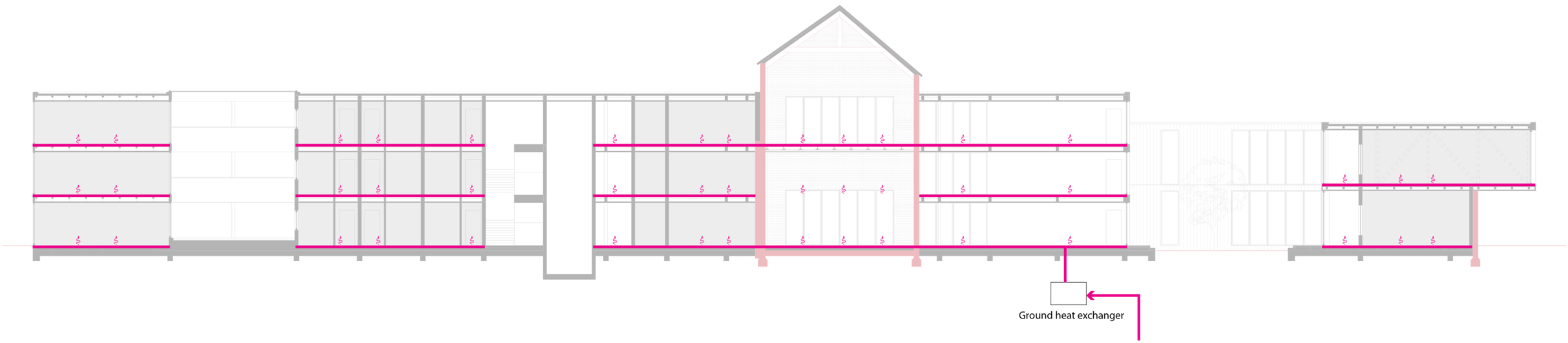


Path of ducts



Climate: heating

Underfloor heating combined with ground heat exchanger



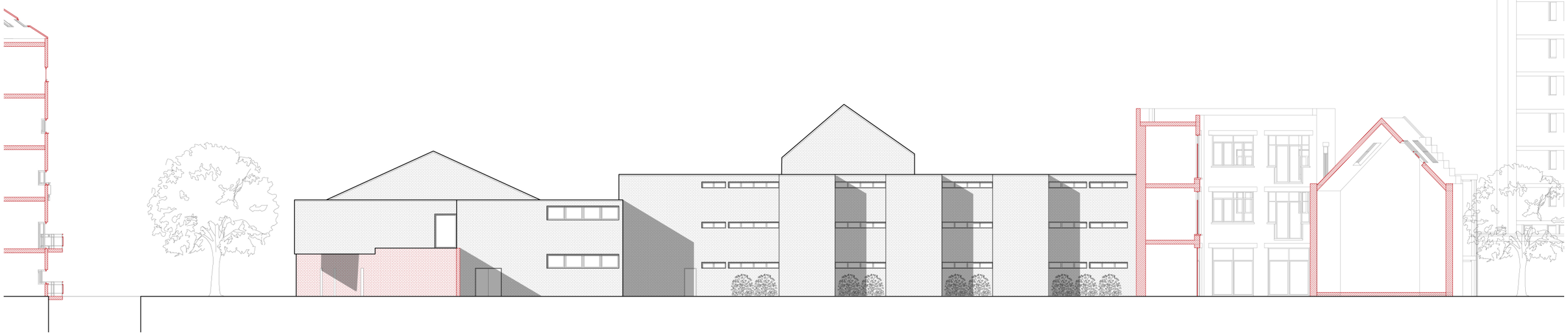
First floor



Second floor



West facade



South facade





Reflection

Part Reflection
Urban Architecture 2019-2020

Spolia



A gift from a friend

Thank you!