An architectural rendering of a large indoor skate park. The space is characterized by a complex, white, geometric steel truss roof structure that allows natural light to filter through. The floor is made of light-colored wooden planks. Several wooden ramps and obstacles of varying heights and shapes are scattered throughout the space. Three people are shown interacting with the environment: one person is jumping over a ramp in the background, another is performing a trick on a ramp in the center, and a third person is standing on the left side. In the background, there are large windows and some furniture, suggesting a multi-functional urban space.

The line between existing and new

The adoption of material reuse as a design strategy for the transformation of a rear side of the urban block to a new pedestrian front

MSc4 | P5 Presentation
Martina Marone | 4924614

Graduation studio
Urban Architecture *Spolia*

Contents

Research and thematic	01
Urban position	02
Architecture proposal	03

01.

Research and thematic

In archeology, spolia are the left-overs or 'spoils' of a building, which find themselves back in a new structure

In architecture, reuse of building components and materials that accentuate experiential values, such as historicity and authenticity

Memoria Loci

Connection between their origin and their present location

Restage the past

Invoke the "spirit," image, or significance of their place of origin on a new site

Testify to a local continuity

Hans-Rudolf Meier, Spolia in Contemporary Architecture: Searching for Ornament and Place

The act of collecting and gathering the resources at hand, and then making do by applying combinations of them, in unconventional ways.

Collage, assemblage, montage

The Bricoleur has a love for everything that is available. He pieces together a varied repertoire, re-imagining what's already there

Spolia versus Bricolage

The "bricoleur" is someone who works with his hands and uses atypical means comparing to the ones used by a craftsman.

The "bricoleur" makes use of signs, already in existence, for purposes that they were originally not meant for

To consider and reconsider its content so as to index possible answers

Claude Lévi-Strauss, The Savage Mind

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Nous fûmes naufragés le 30 septembre 1659. Tous mes compagnons périrent; moi, je fus assez heureux pour prendre pied sur une île déserte où je remerciai Dieu de ma délivrance.



Le lendemain je fus vers le vaisseau échoué sur des rochers. J'y trouvai des verres et quantité d'objets qui me furent dans la suite très-utiles.



Je formai le projet de me construire une cabane. J'y parvins, grâce à quelques instruments que j'avais réussi à retirer du navire échoué, mais cela au prix d'un long et pénible travail.



Avec une peau de chèvre je m'étais fait un étendoir et un hamac. Pour armer, j'avais un fusil, un sabre et un pistolet. Un jour je réussis à capturer vivant un chevreau que j'apprêtai sous mon bras.



J'avais trouvé dans les débris du vaisseau un peu de blé. Je le semai et j'eus, l'année suivante, une petite récolte. Comme je n'avais pas de faucille, je me servis de mon sabre pour le couper.



Avec mon blé je réussis de faire du pain; j'y parvins, non sans beaucoup de peine, mais je les récompensai de mon labeur, car cet aliment précieux était celui qui me manquait le plus.



Mon intérieur ne manquait pas d'agrément, grâce à mes fidèles compagnons: un chien, des chats, et un perroquet qui, grâce à mes leçons, parlait sans cesse: Robinson!



Encouragé par la réussite de mes travaux, je parvins à construire, avec un tronç d'arbre, un canot capable de me porter en mer: cela me permit de faire le tour de mon île.



Un jour dans une de mes excursions, j'aperçus sur le sable des traces de pas humains. Cette découverte me plongea dans une vive inquiétude.



Quelques jours après, j'aperçus sur la plage une troupe de sauvages en train de manger leurs prisonniers: je les dispersai à coups de fusil et en tuai plusieurs: les autres regagnèrent leurs barques.



Pendant le combat, un jeune sauvage était venu se jeter à mes pieds: après l'avoir rassuré, je lui donnai des armes et le nommai Vendredi en mémoire du jour de sa délivrance.



Moi et mon fidèle compagnon nous nous mîmes en quête de nos ennemis: mais nous ne trouvâmes qu'un Européen blessé et garrotté, et donnant à peine signe de vie.



C'était un malheureux Espagnol dont les sauvages allaient faire un repas. Après l'avoir mis en lieu sûr, nous revînmes à la plage où nous trouvâmes un sauvage que Vendredi reconnut pour son père.



Un jour, Vendredi et moi, nous trouvâmes, mourant de faim sur le rivage, trois Européens. C'était un capitaine de vaisseau avec ses deux lieutenants, que leur équipage révolté avait délaissés.



Cher moi, le capitaine, qui était anglais, me raconta la révolte de son équipage dans tous ses détails. Nous résolûmes alors d'attaquer les mutins et de reprendre le navire.



Nous y parvîmes et punîmes les coupables. Je quittai alors mon île le 19 décembre 1686, emmenant avec moi mon fidèle Vendredi. Comme souvenir, j'emportai mon perroquet, mon parasol, et mon grand bonnet.

"In our own time, buoyed by the rise of ecology, the architect is more Robinson Crusoe than scholar, salvaging what he can from the shipwreck of culture and making the most of nature. He works as if for himself and with the means that are at hand.

[...]

He shall be [...] **making the best of both new and old techniques and embracing circumstance and accident in his craft.**"

Irénée Scalbert

The Architect as Bricoleur

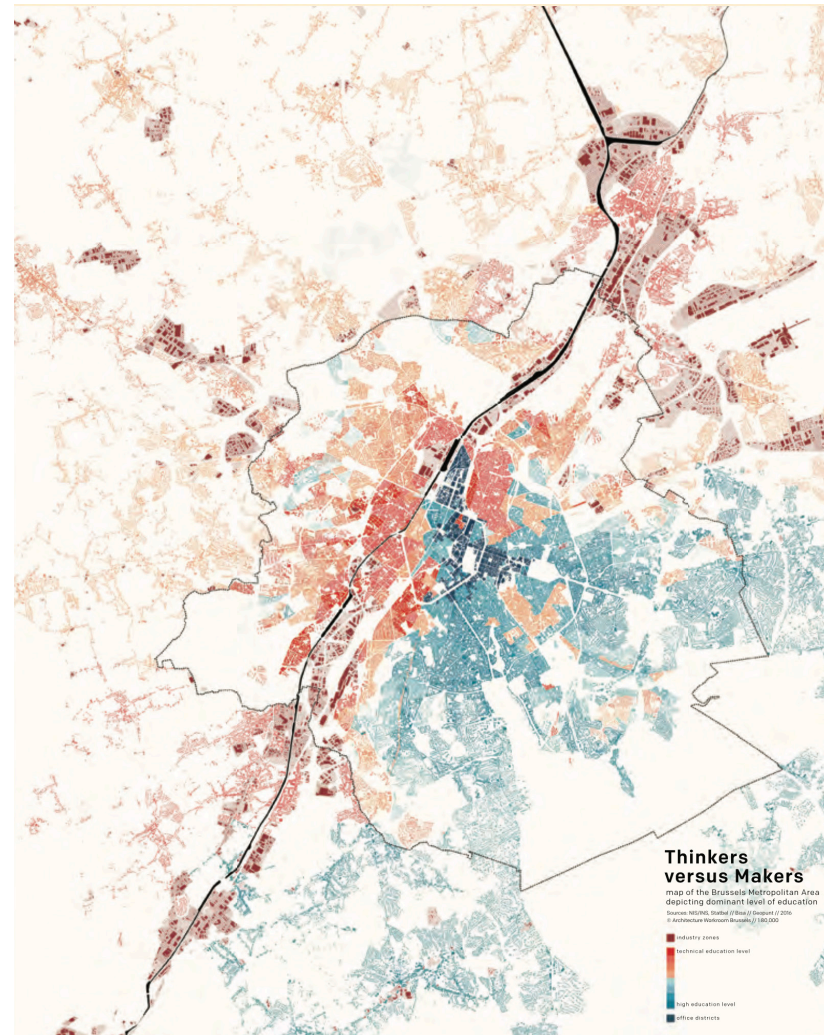
Bricolage in architecture: Material Reuse

The goal

Understanding and simulating in the most realistic way possible what would mean to adopt second-hand construction in an architectural design

Material Reuse

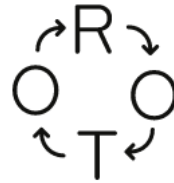
Understanding the context



Understanding the flows



Rotor as a model on material reuse



Rotor is a cooperative design practice that investigates material flows in the construction industry. It develops critical positions on design, material resources and waste through research, exhibitions, publications and consultancy.

On a practical level Rotor handles the design and realization of architectural projects and acts as a supplier of reclaimed materials.

More specifically, they're active in the dismantling, the conditioning and the sale of reclaimed construction elements.

Material reuse:
understanding the process and the logistics

Most of the space is occupied by Rotor DC's activities.

1. Yard
2. Showroom
3. Workshops
4. Warehouse
5. Offices (Rotor asbl-vzw)



Material Reuse: identify the main issues

Availability of materials, reuse possibilities, limits

*"A building component that has just been dismantled is rarely ready for reuse.
Most of the time, it requires a few additional operations such as cleaning, sorting,
classifying, documenting..."*

Material reuse:
understanding the deconstruction process



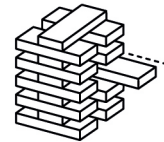
Request permission
to owner/demolishing
contractor to go on site



Going on site in the
pre-demolishing
phase



Inventory of what is
available and what can
be salvaged



Tests of extraction



Deconstruction



Sorting

Material reuse:
understanding the deconstruction process



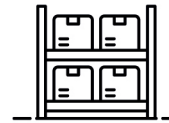
Organization of
transportation logistics
and transportation to
the warehouse



Research on the
materials



Material conditioning
and treating



Stock ready to
deliver



Transportation to site

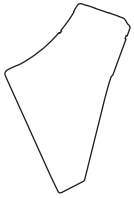


Installation

RECLAIMED MATERIALS

Creating my own strategy: sources of reuse

1. Site demolitions



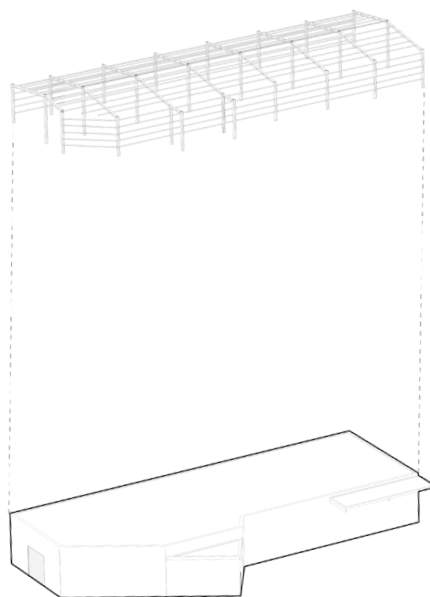
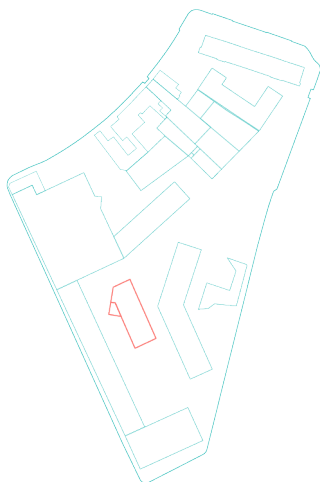
2. Contemporary demolitions in the city of Brussels



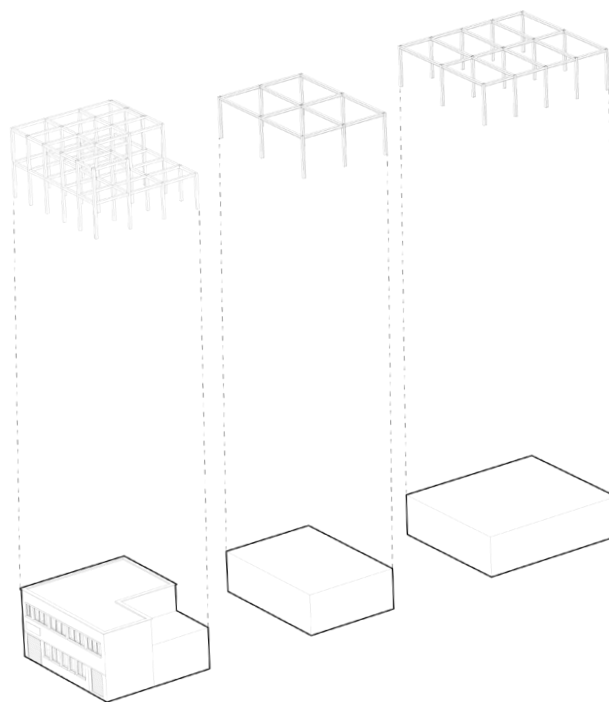
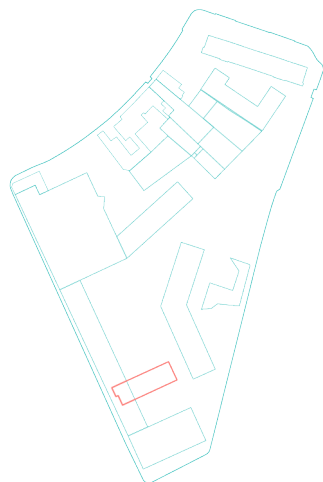
3. Harvest map



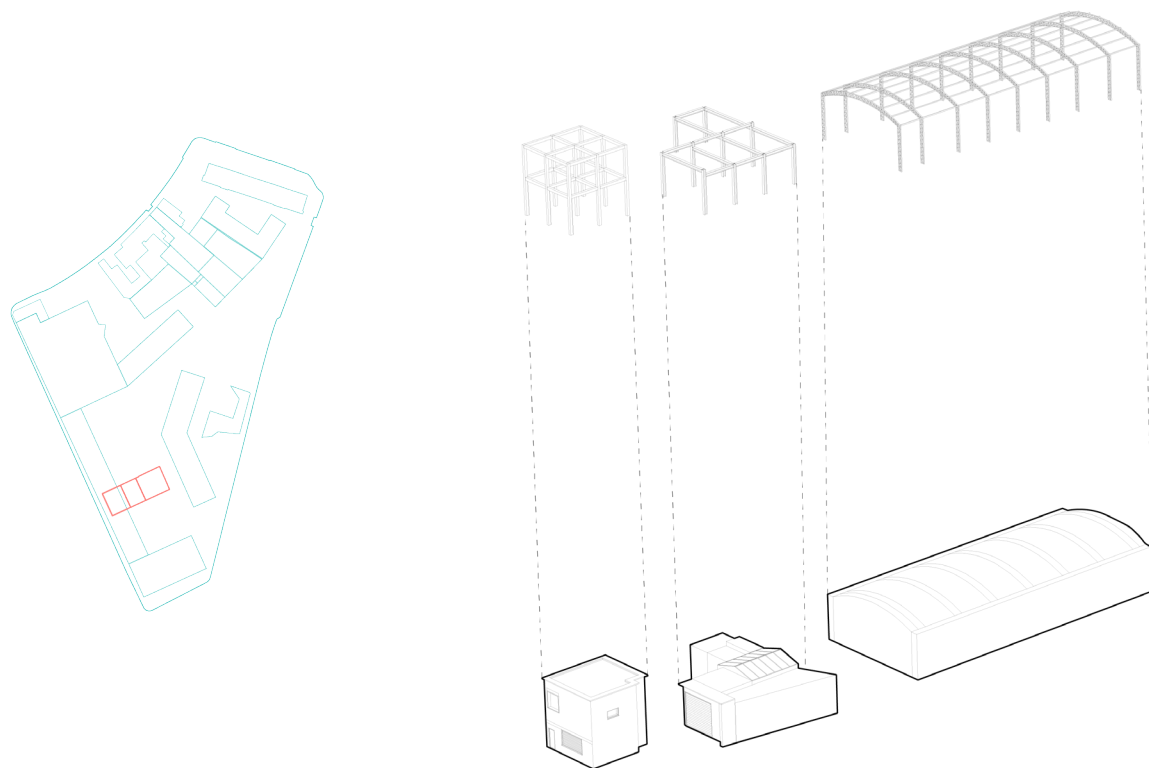
1. Site demolitions



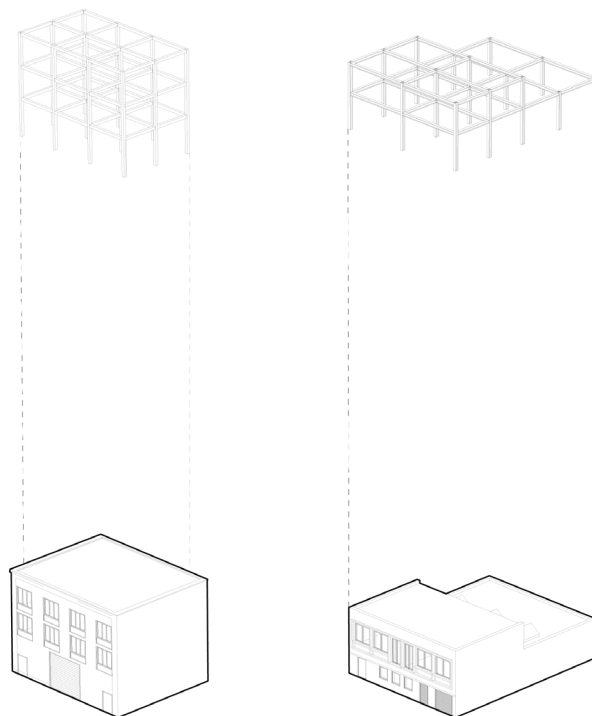
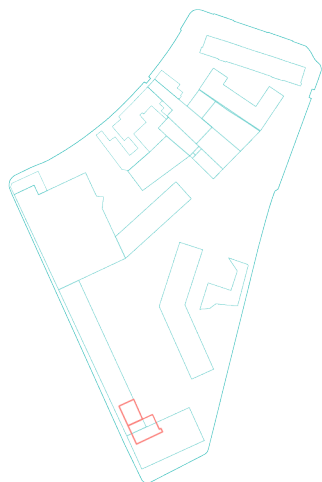
1. Site demolitions



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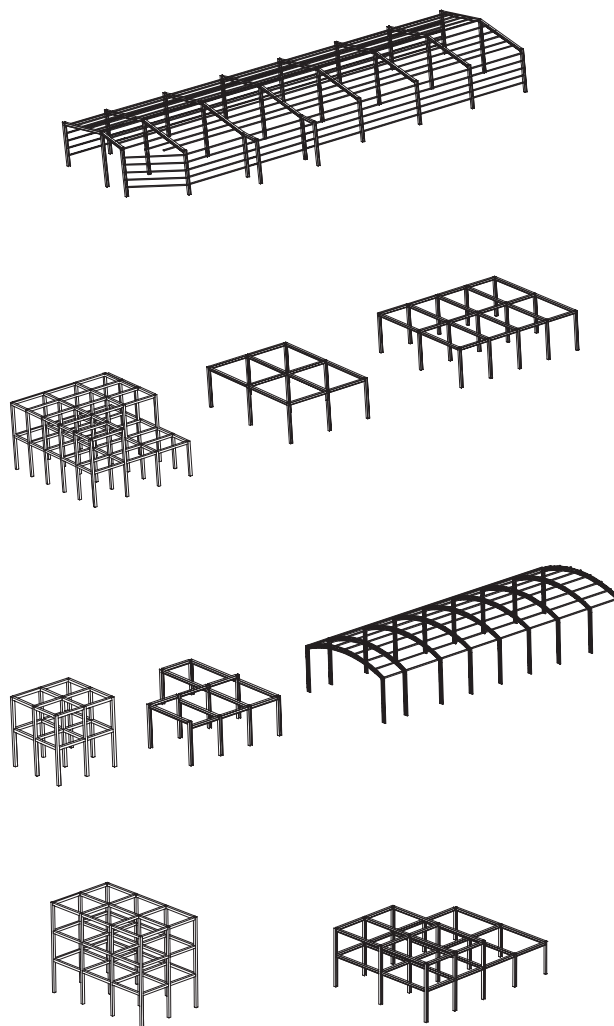


1. Site demolitions



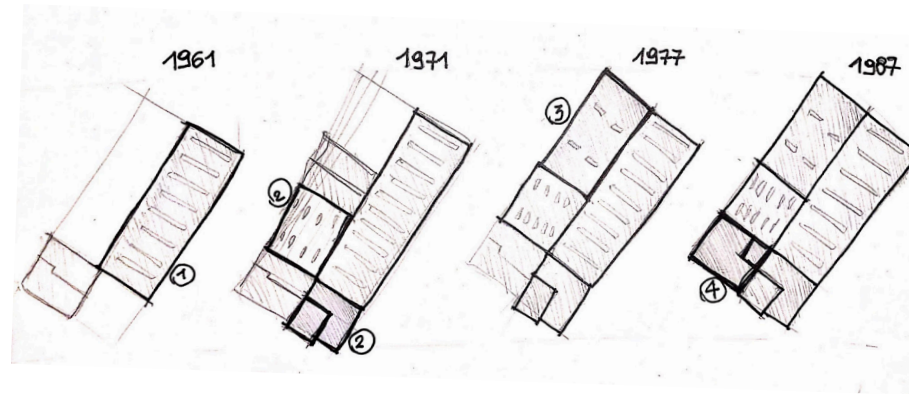
1. Site demolitions

What can be reused

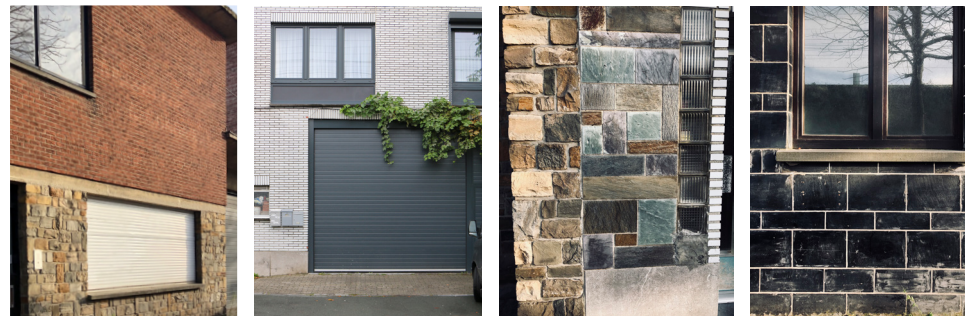


1. Site demolitions

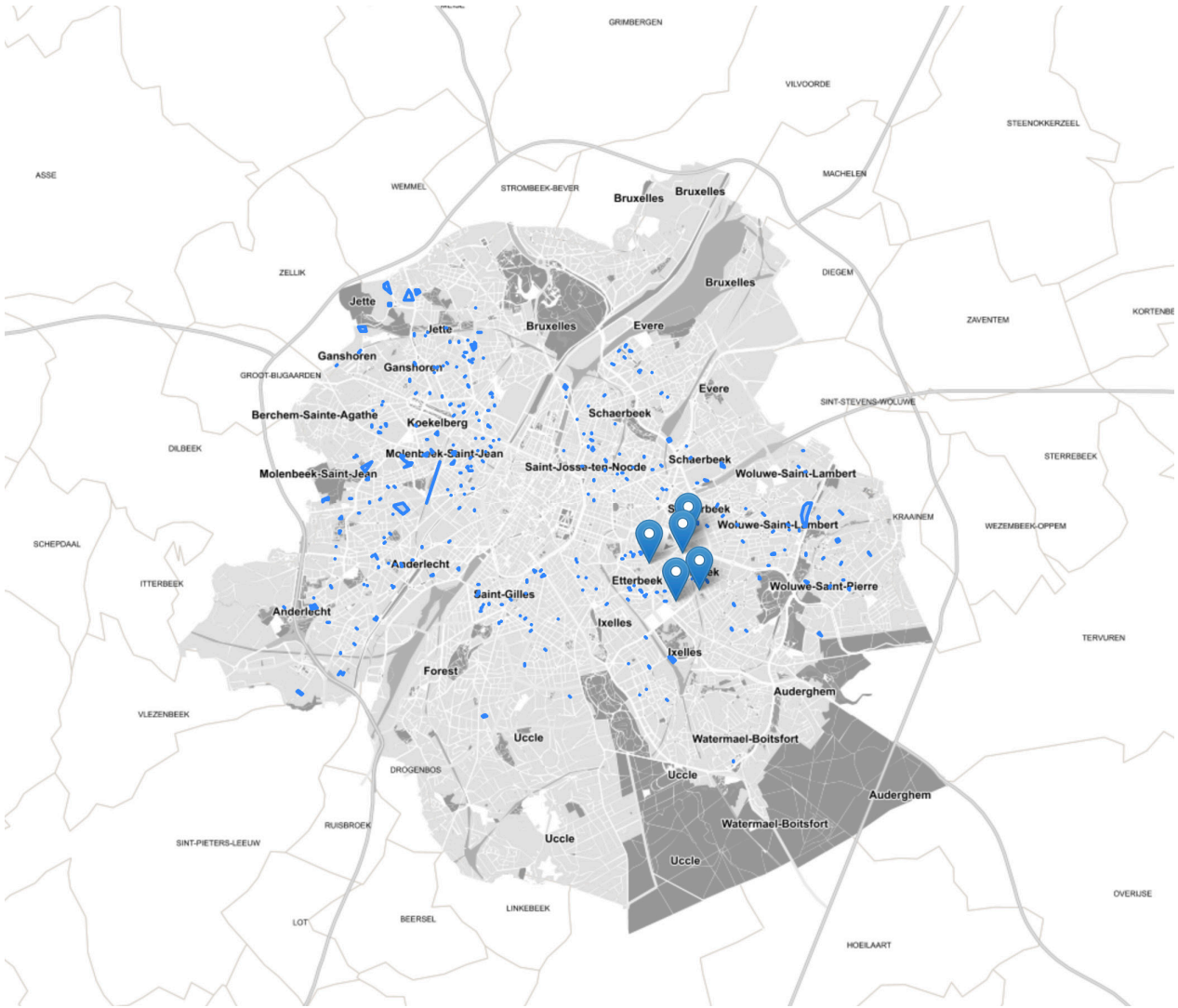
What can be reused



Built after the 50s, can't be dismantled properly because of cement based mortar, can only be removed as a whole facade and reused as spolia



2. Contemporary demolitions in the city of Brussels



2. Contemporary demolitions in the city of Brussels

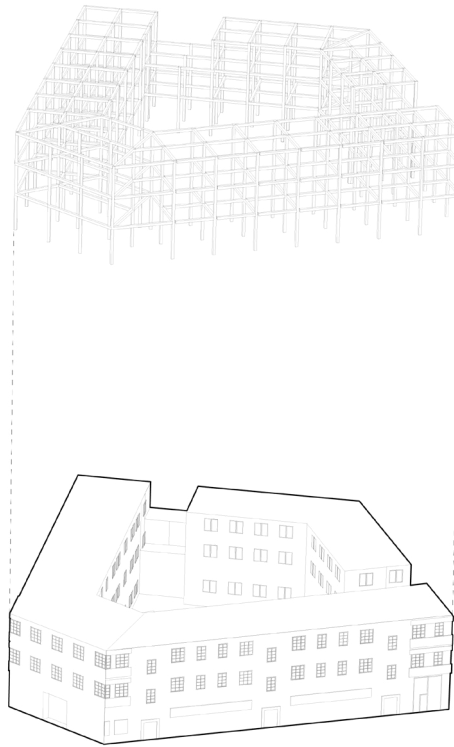


2. Contemporary demolitions in the city of Brussels



2. Contemporary demolitions in the city of Brussels

Urbanities



2. Contemporary demolition *Urbanities*

What can be reused



Structure: precast concrete, can be reclaimed with additional measures (fiber exoskin, reducing the weight)

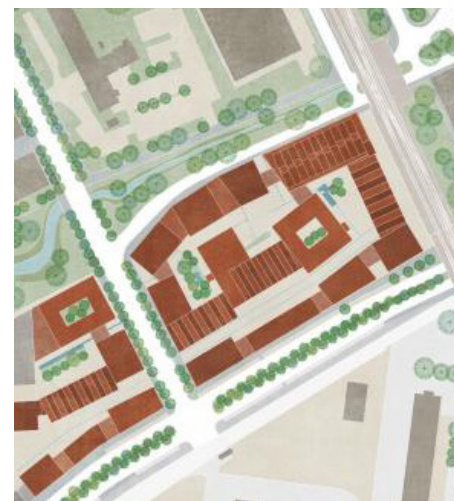
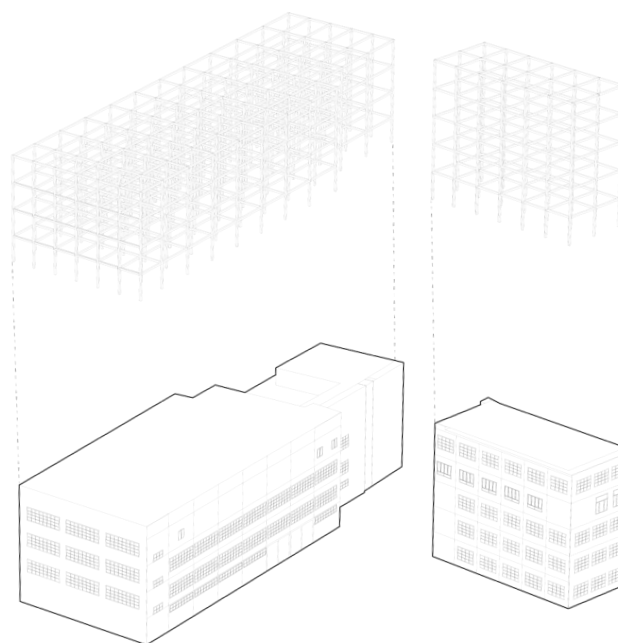
Bricks: could be adopted but could be too much of a risk

Windows: can't be reused, don't fulfill insulation factor



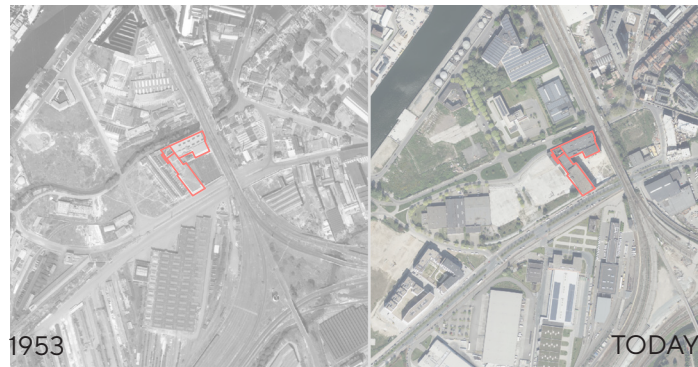
2. Contemporary demolitions in the city of Brussels

CityGate Studios



2. Contemporary demolition *CityGate Studios*

What can be reused

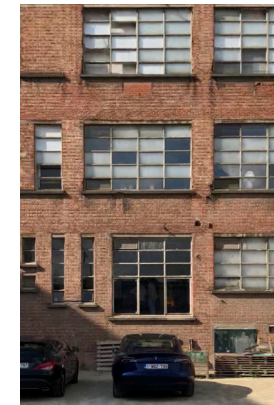


Structure: concrete poured in situ, can't be reused

Bricks: could be adopted but could be too much of a risk

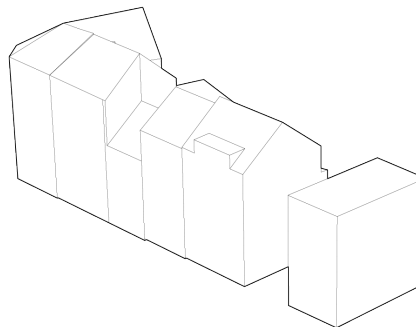
Windows: can't be reused

Program: climbing gym and skate park can be dismantled and rebuilt



2. Contemporary demolitions in the city of Brussels

Rue du Printemps 45, Ixelles



2. Contemporary demolition *Rue du Printemps 45, Ixelles*

What can be reused



Bricks: can be dismantled and reused

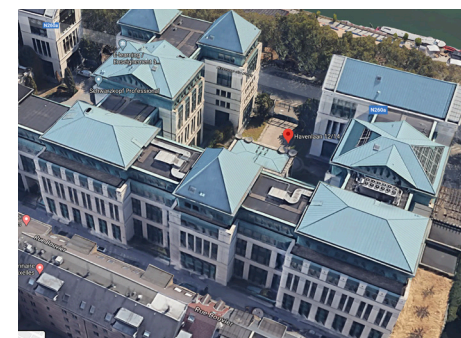
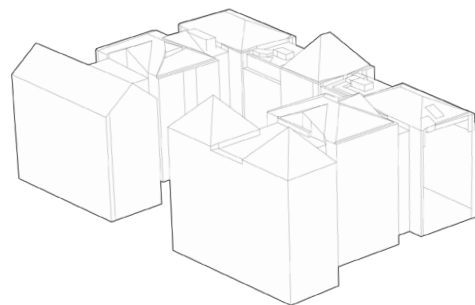
Windows: can be reused, changed around 10/15 years ago

Other materials in the interiors can be reused, like wooden floors



2. Contemporary demolitions in the city of Brussels

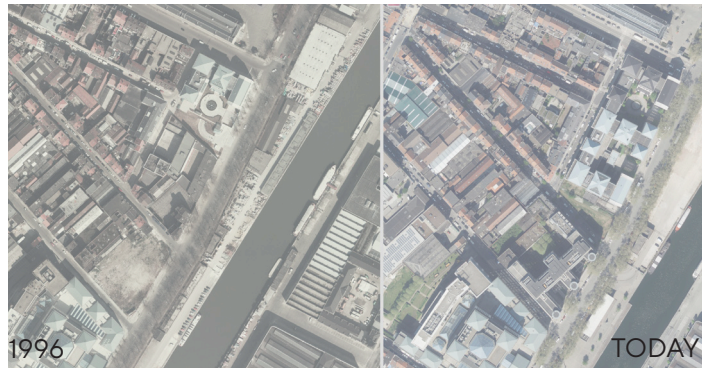
Former KBC site, Avenue du Port, Molenbeek



2. Contemporary demolition

Former KBC site, Avenue du Port, Molenbeek

What can be reused



Around 20 year old building

Facade: stone cladding and finishing claps can be easily removed

Windows: can be reused



3. OPALIS

An online database with all the major resellers of second hand construction in Belgium



Dealers

Materials

Examples

More information

Structure and shell



Wooden beams and posts



Stone stills and steps



Steel Structure



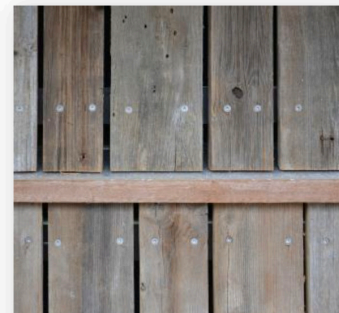
Bricks



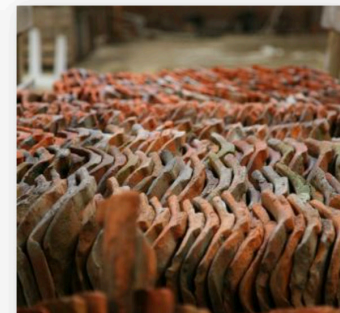
Insulation



Hangars, greenhouses and barns



Timber cladding and panelling



Slates, roof tiles and wall covers

02. Urban position

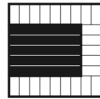
The Industrial Imprint

Coexistence between living and working

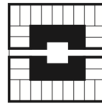


Relationship between living and working

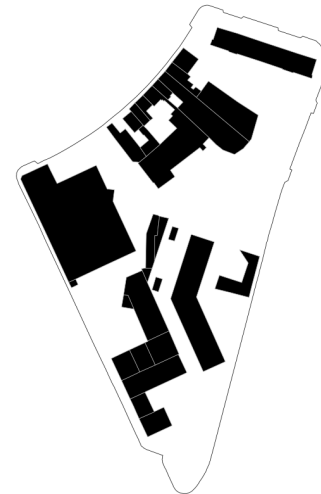
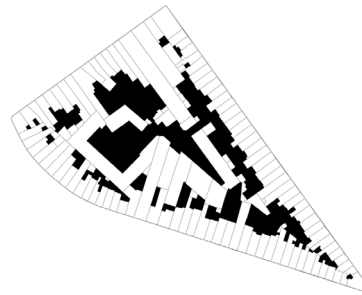
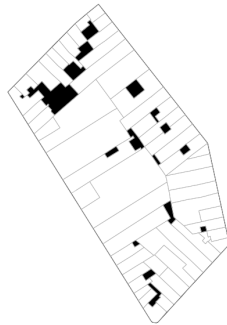
Insert



Contain

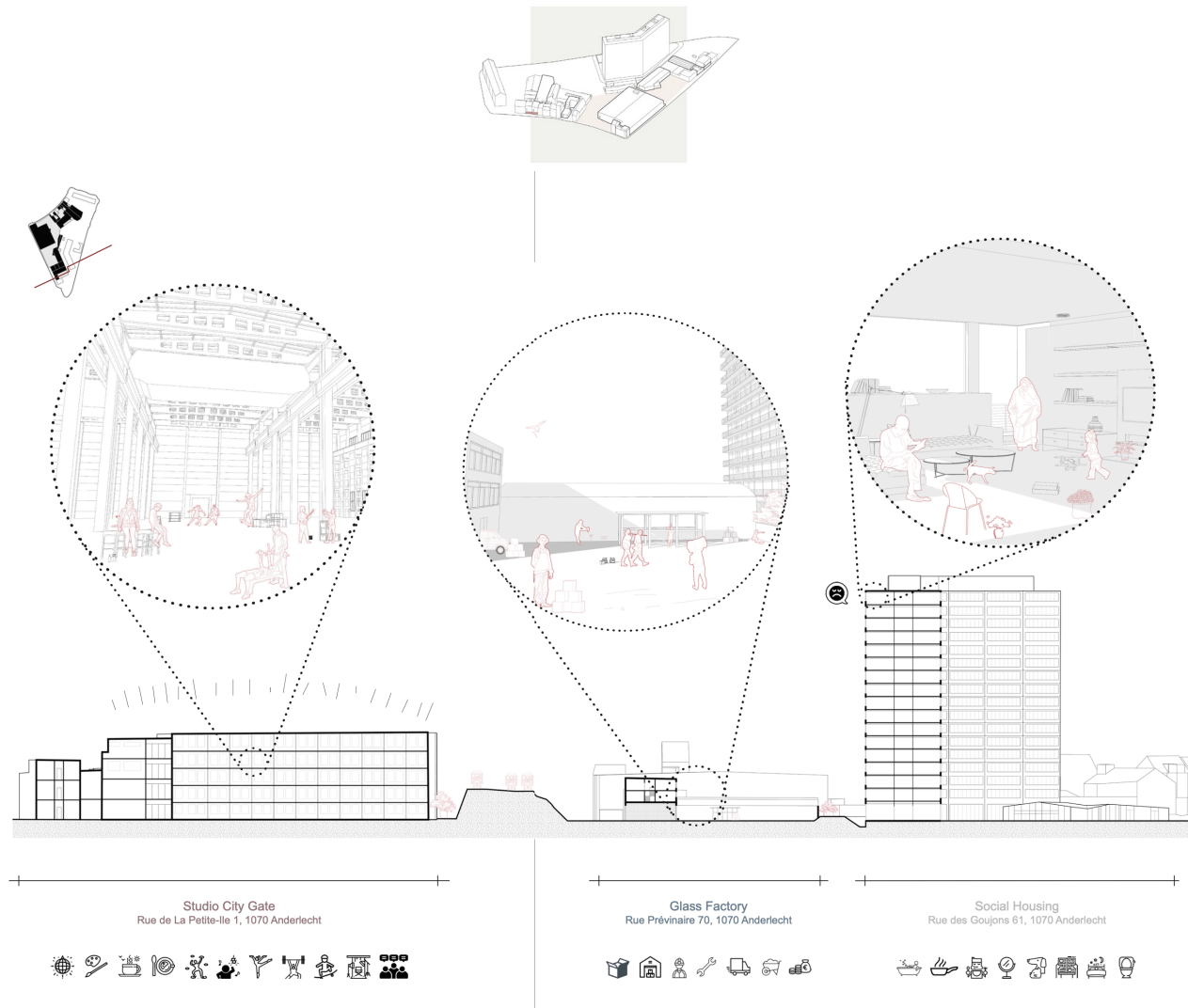


Exclude



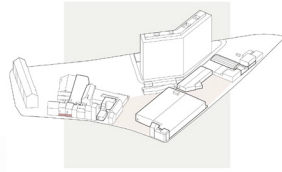
Coexistence between living and working in the site

The site

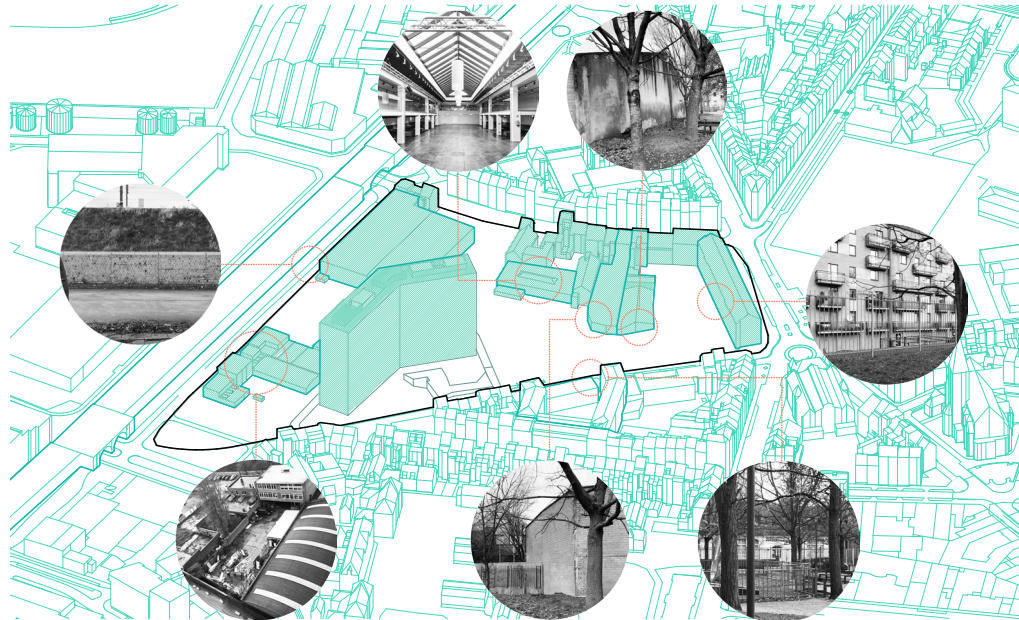


Coexistence between living and working in the site

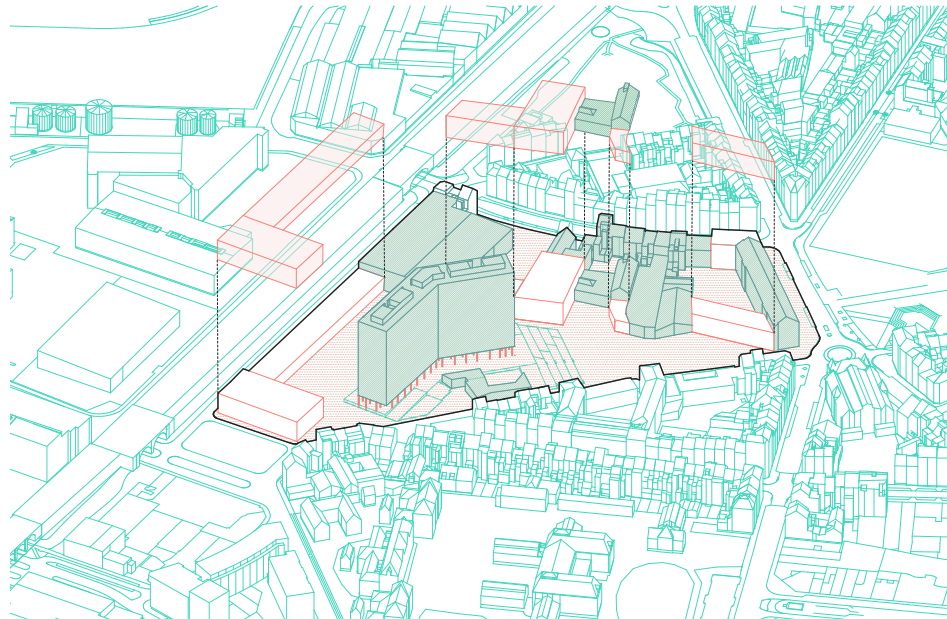
Rue Des Bassins



The site



The strategy
The new volumetry



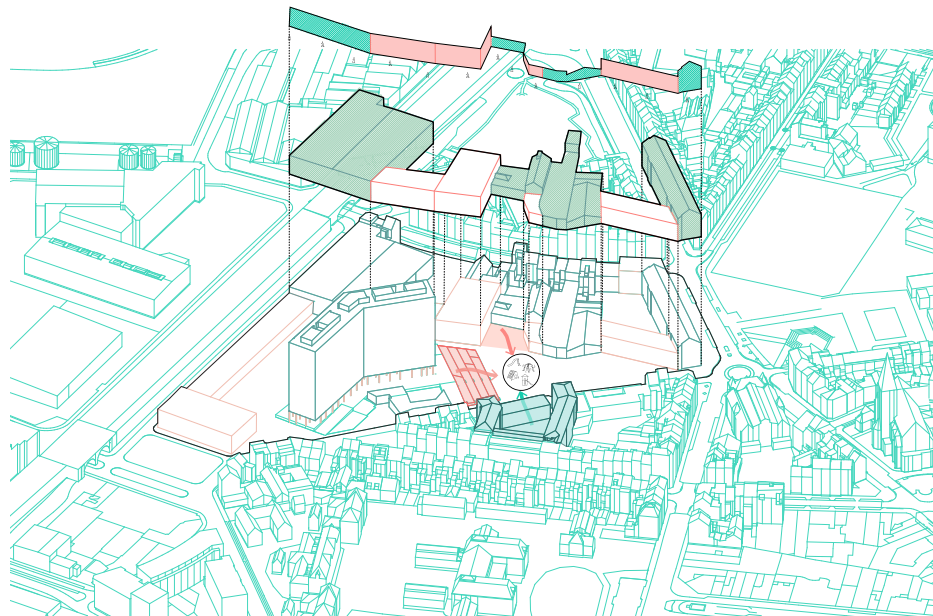
The strategy

The porosity and the flows

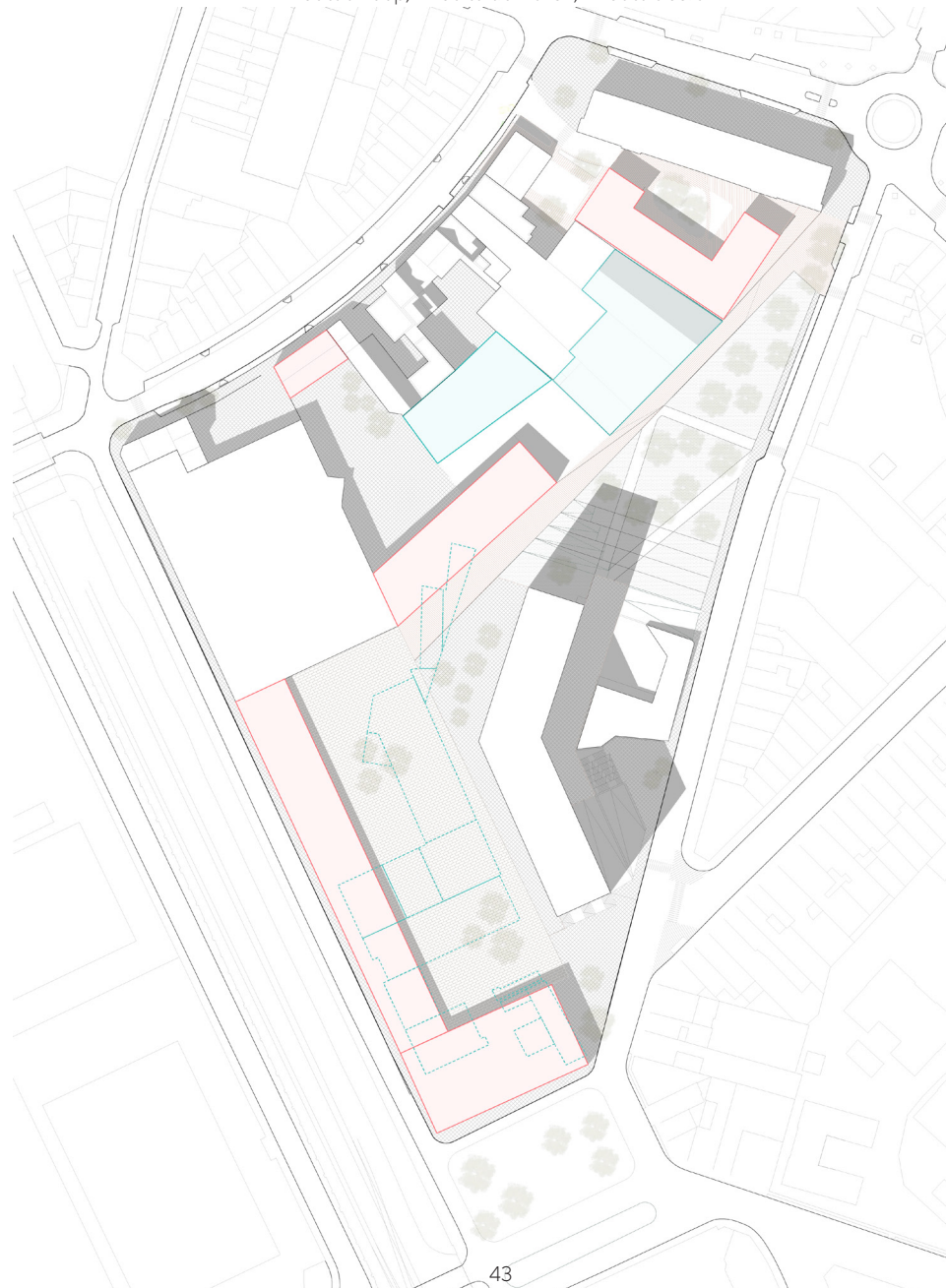


The strategy

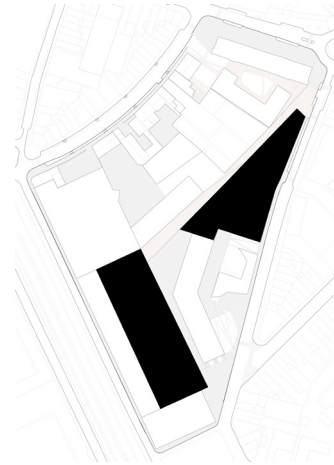
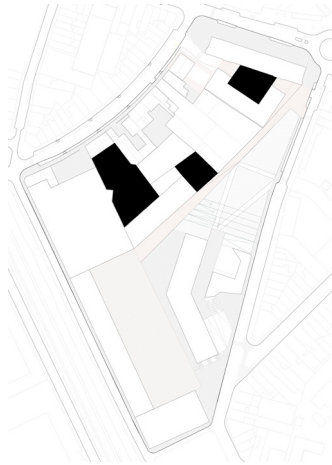
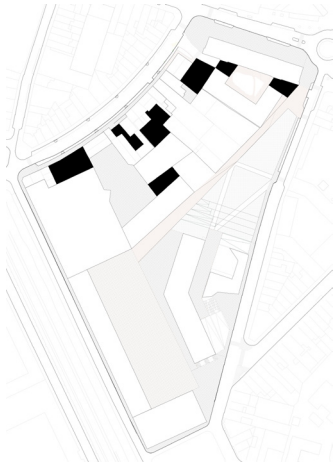
A new pedestrian streetfront



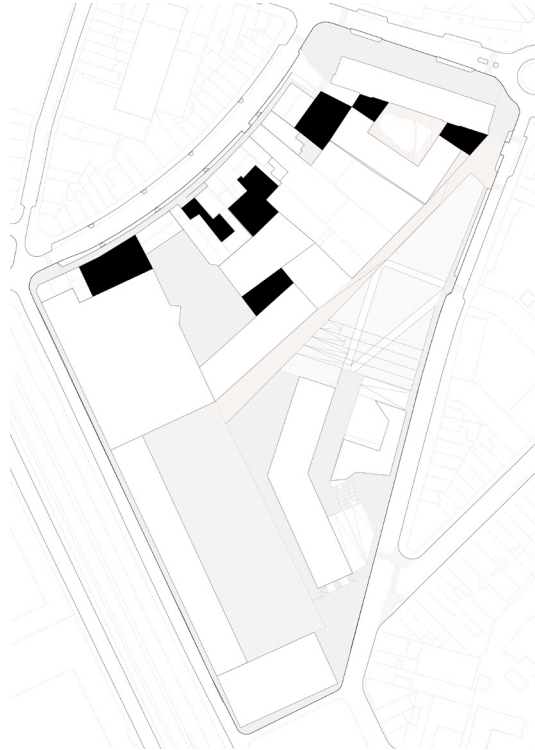
The urban plan
What too keep, what to demolish, what to trasform



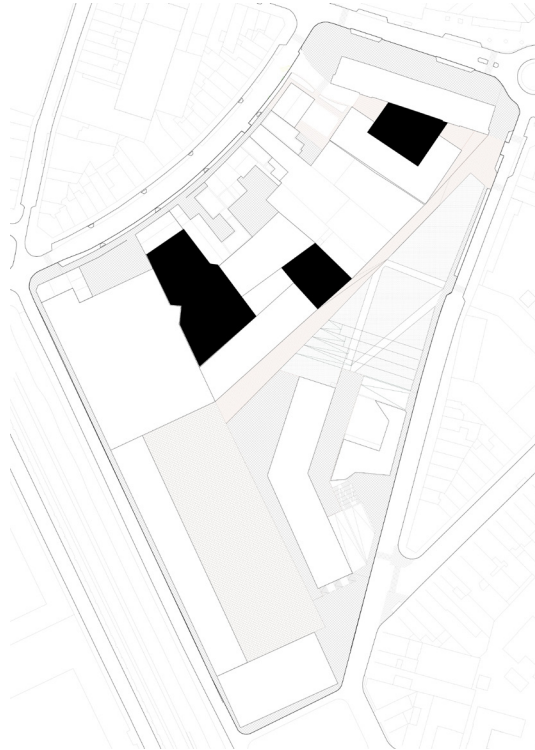
Urban voids



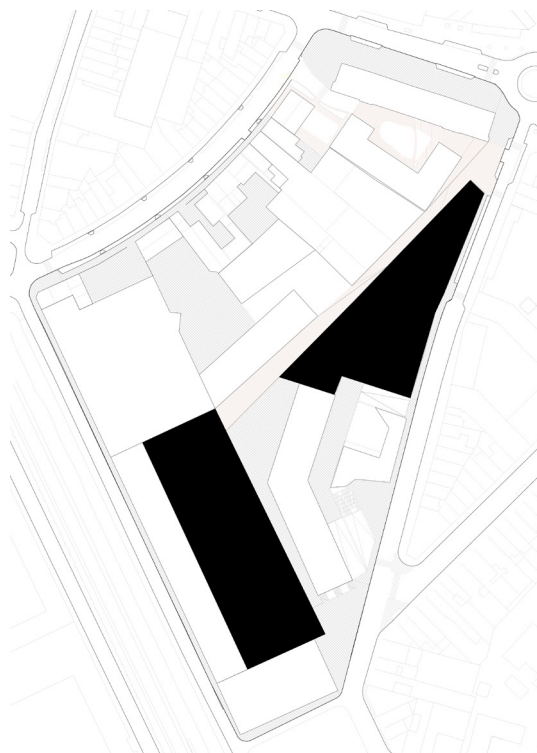
Transition spaces



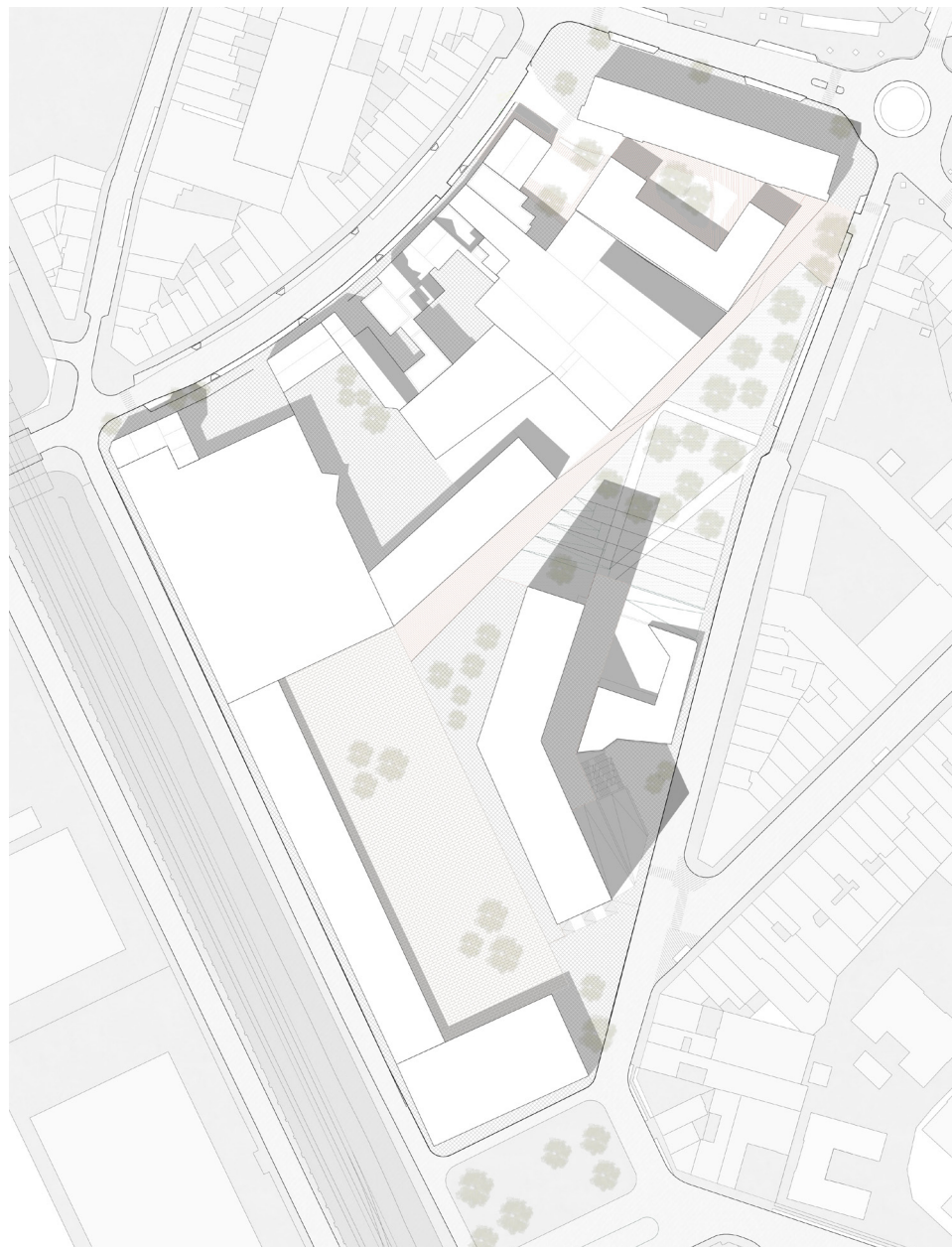
Urban rooms



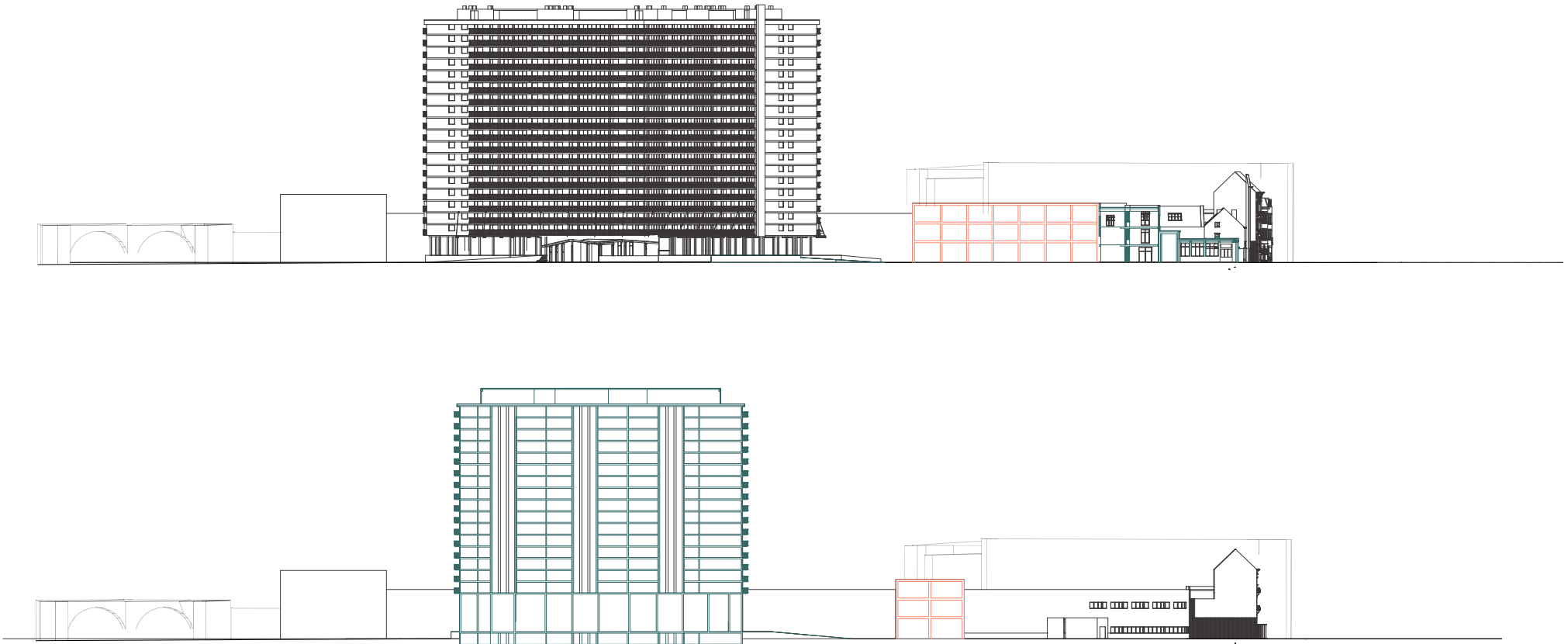
Public Spaces



The final masterplan proposal



Urban Sections
Relationship with Les Goujons

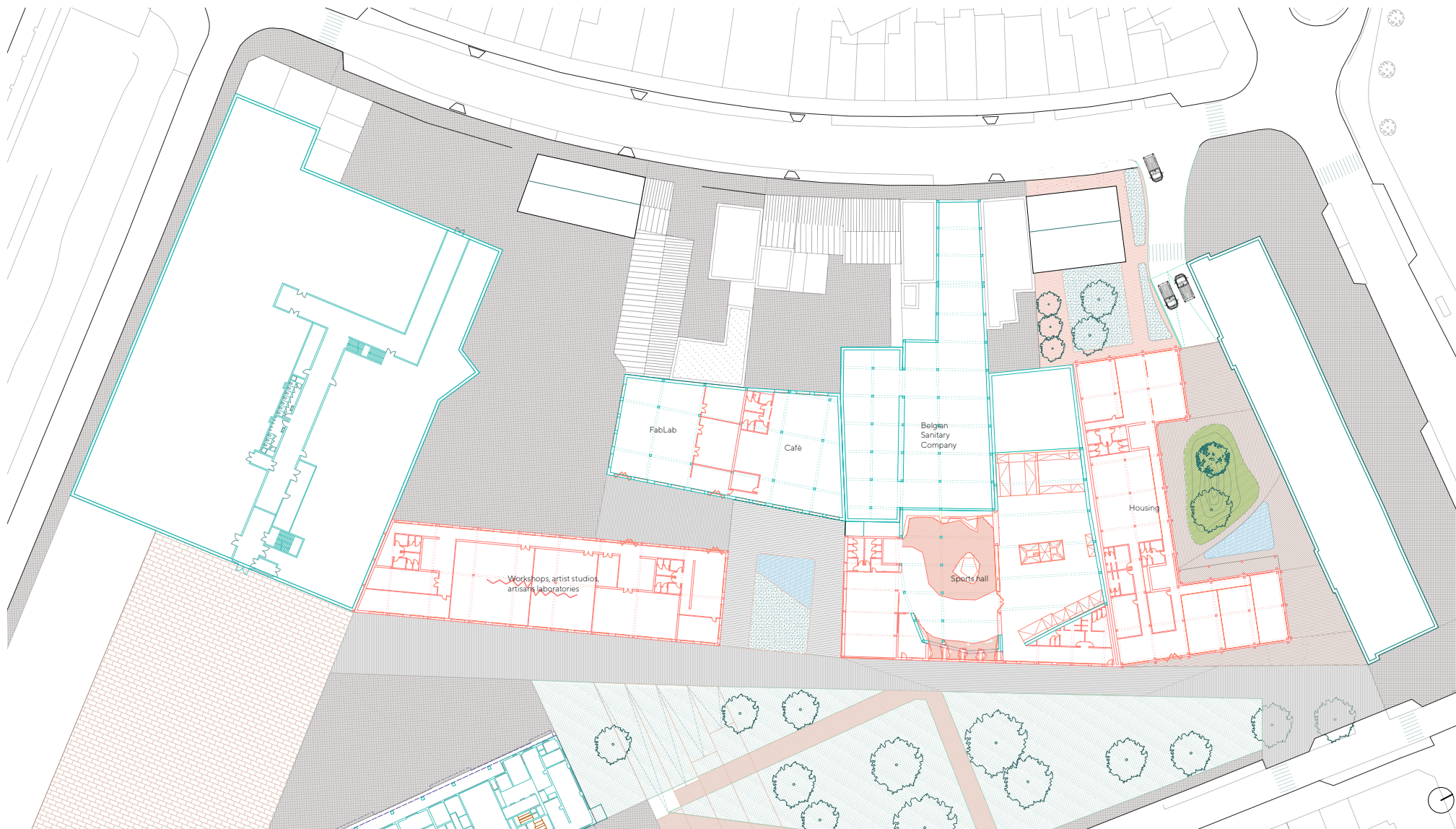


03.

Architectural proposal

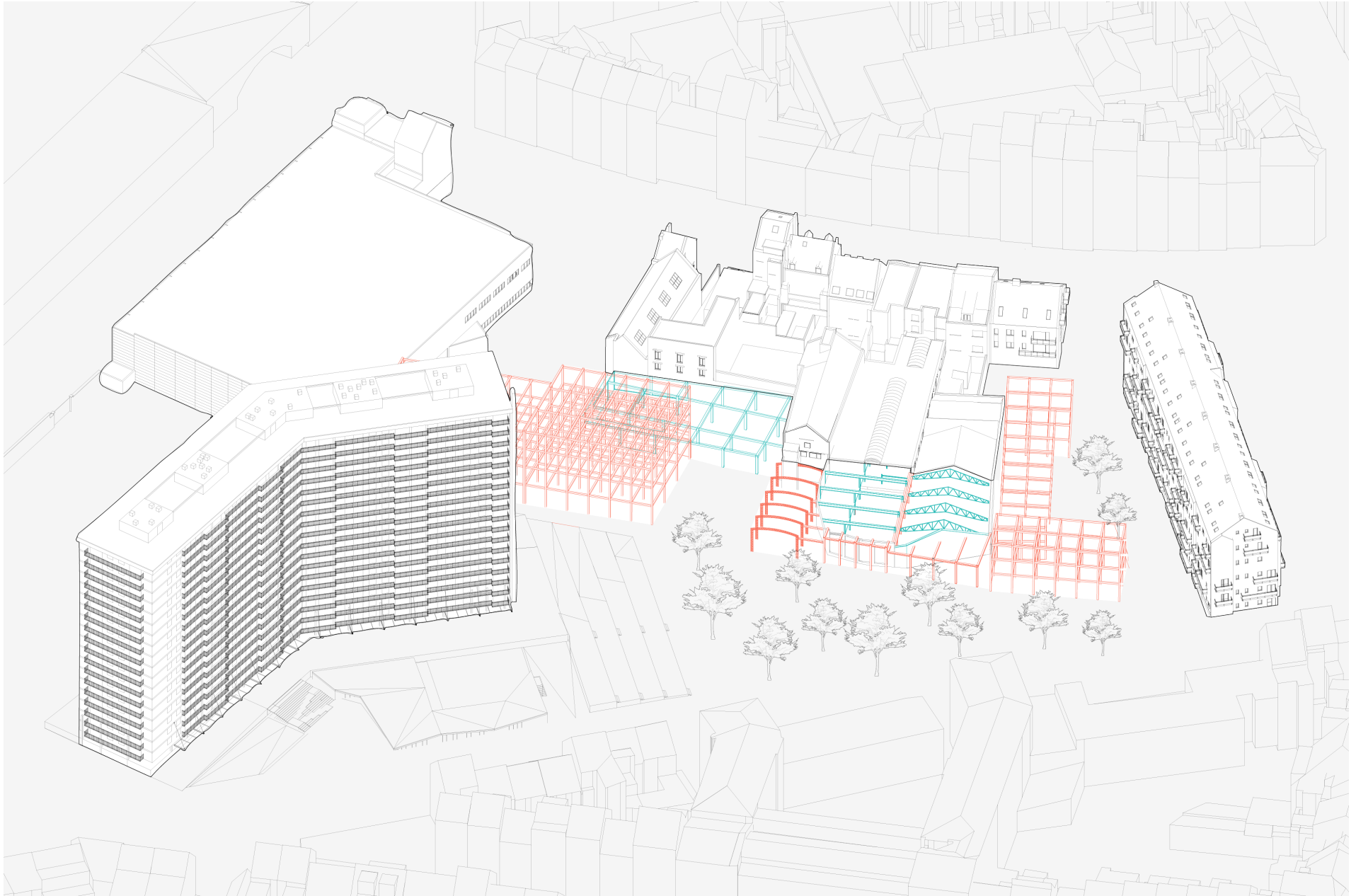
The ground floor plan

Existing versus addition

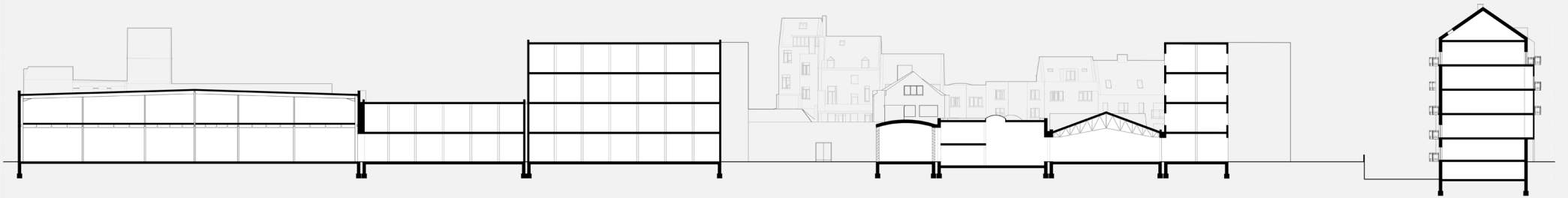


The program



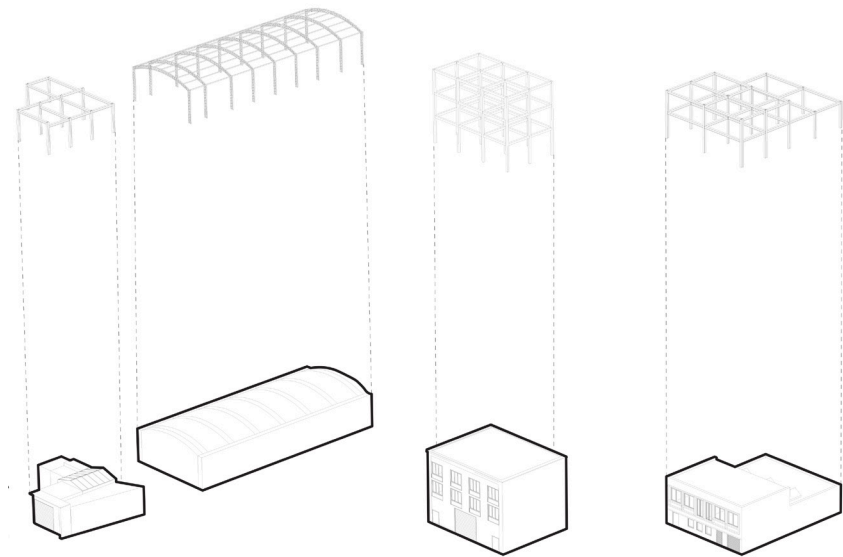
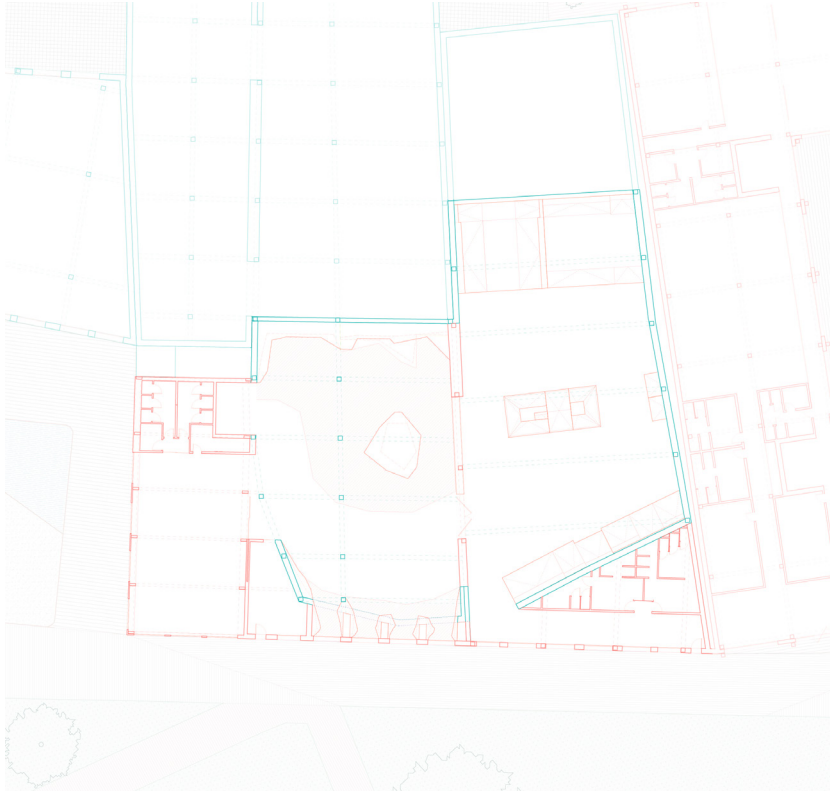


Section of the new street front

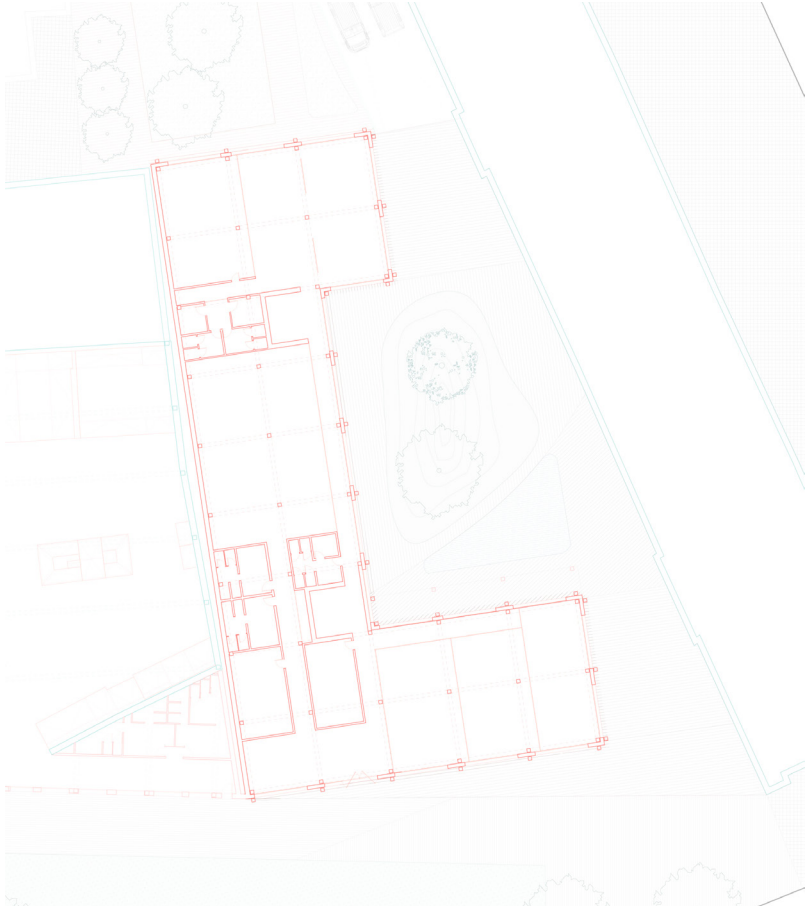


Part 1

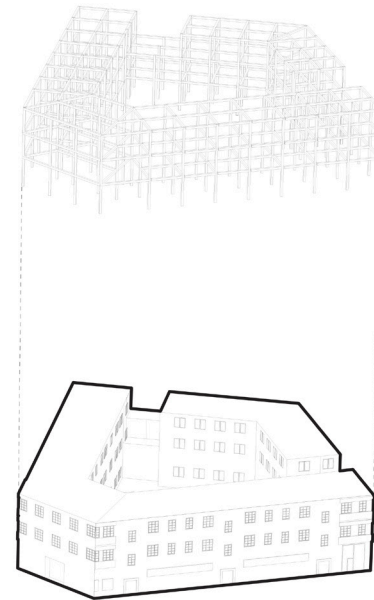
Structures adopted



Part 2

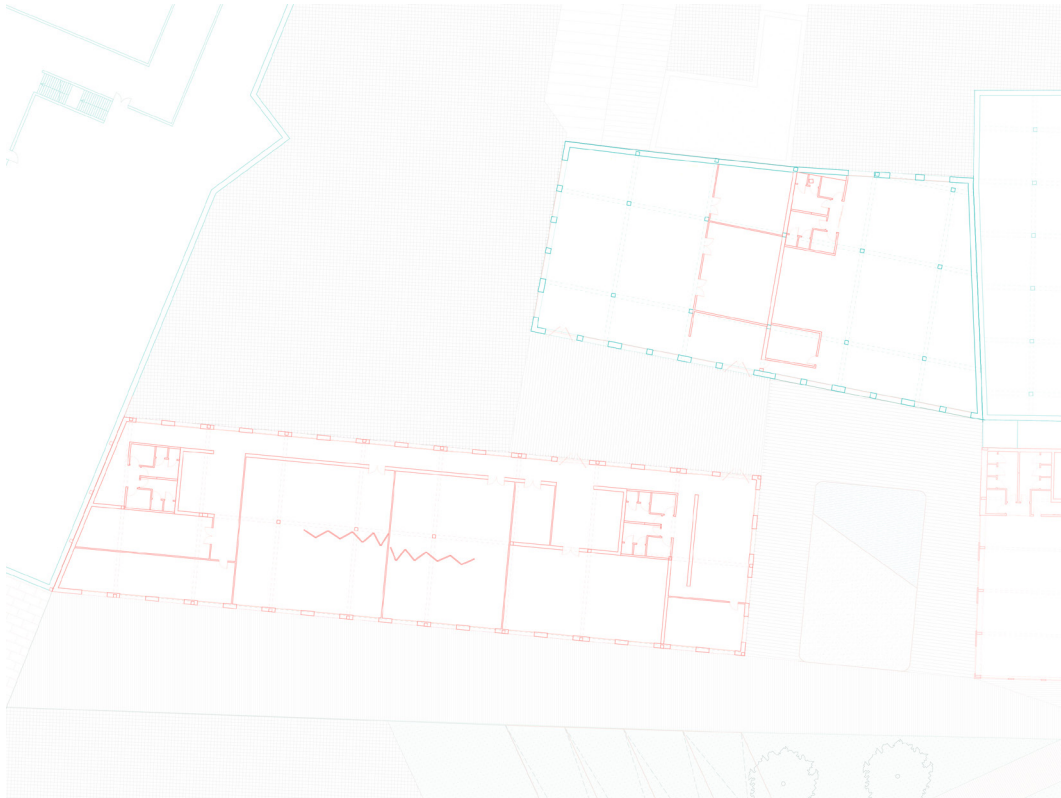


Structures adopted



Part 3

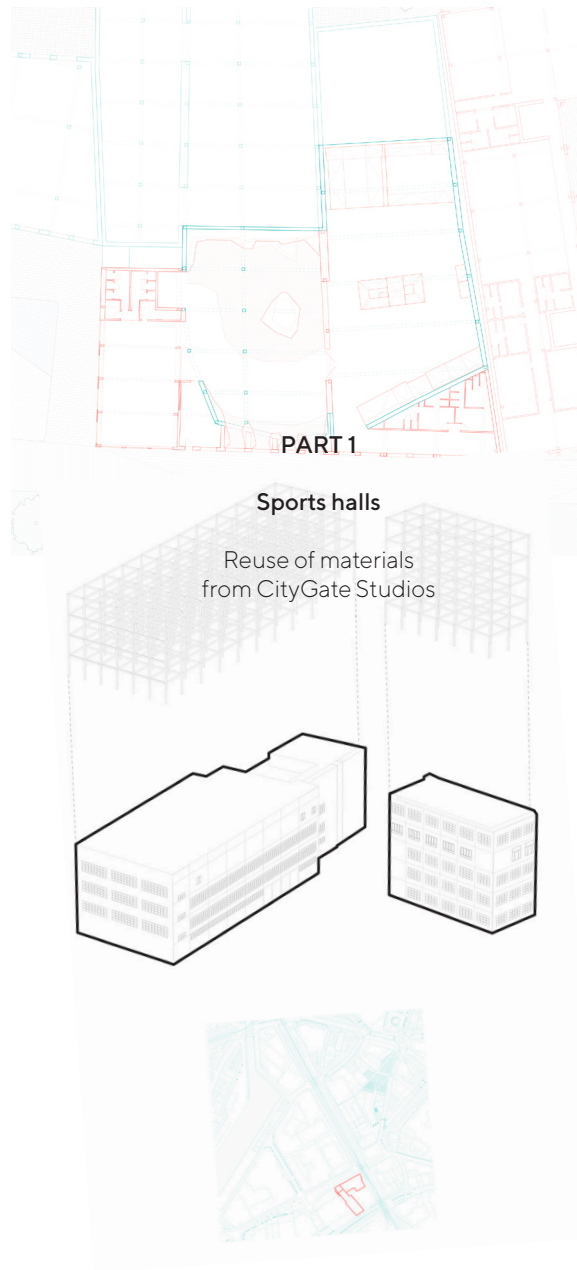
Structures adopted

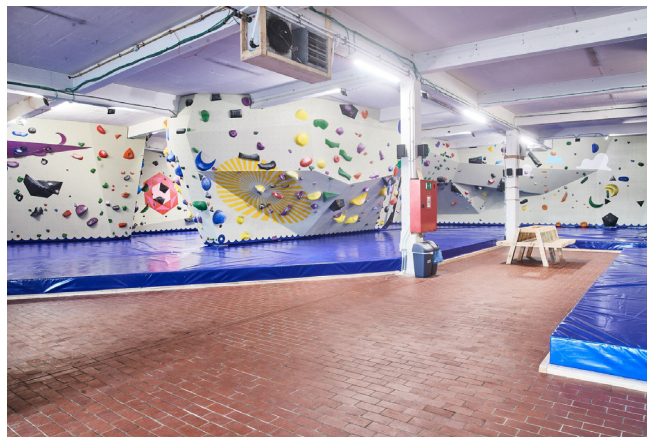
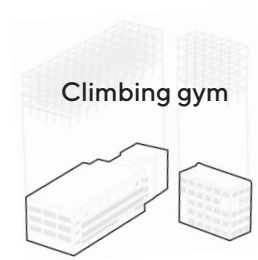


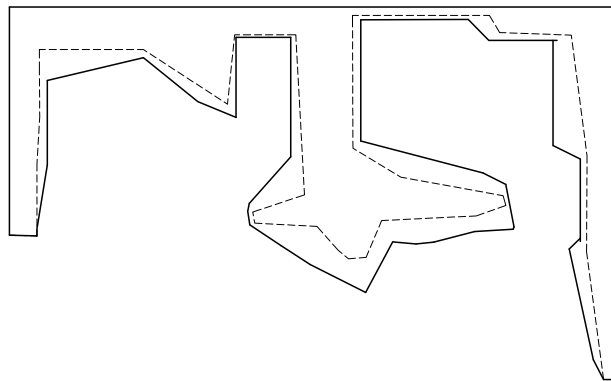
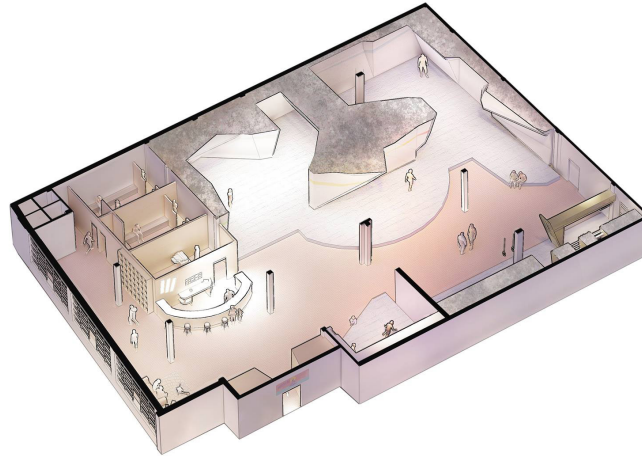
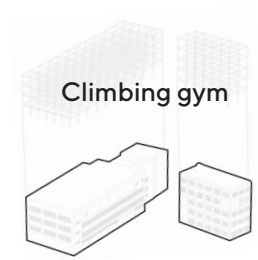
OPALIS

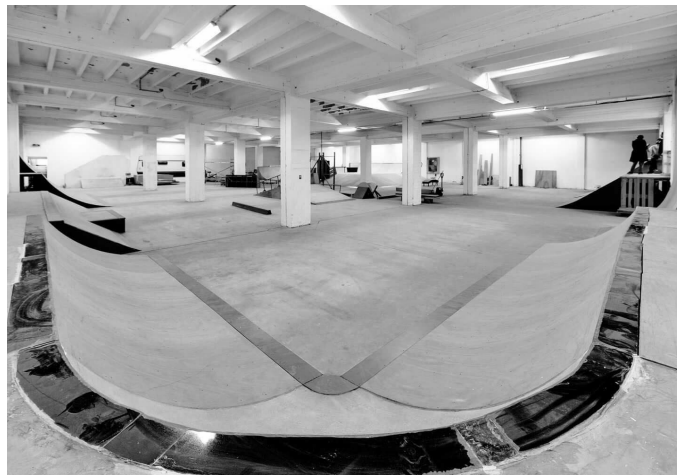
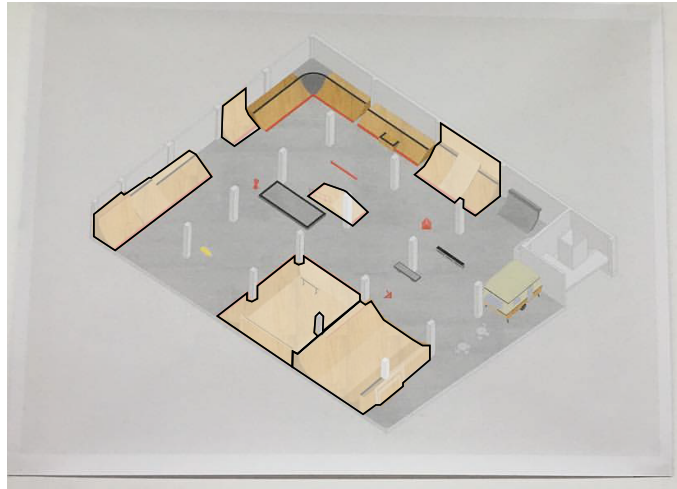
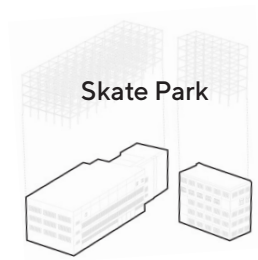


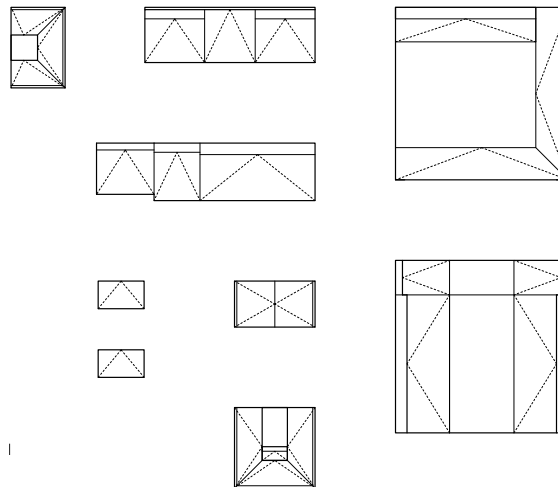
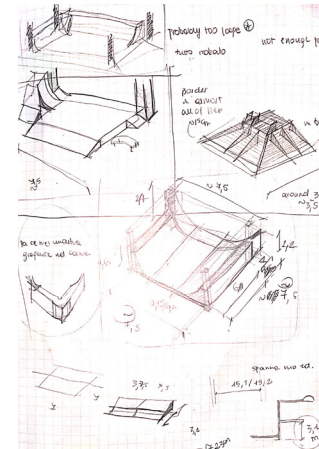
Steel Structure



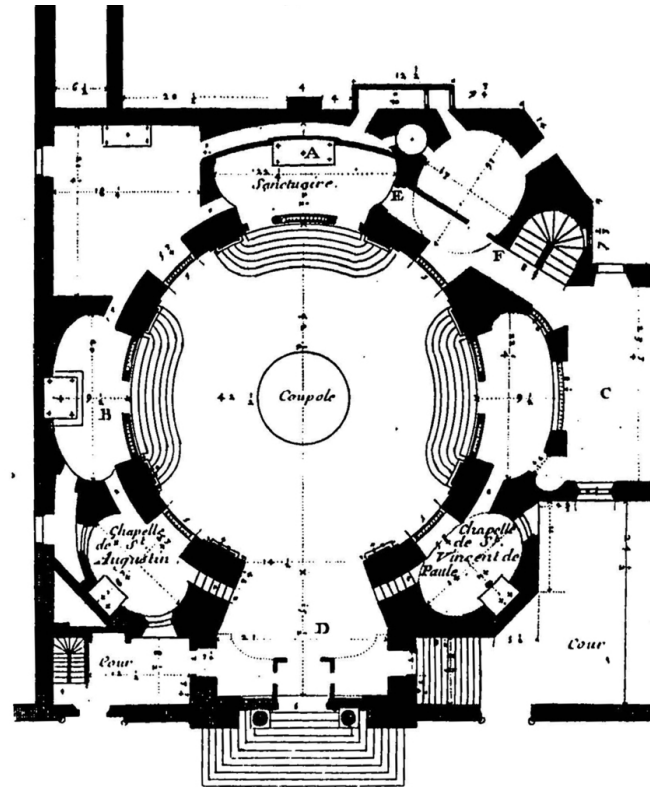
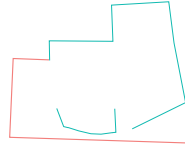


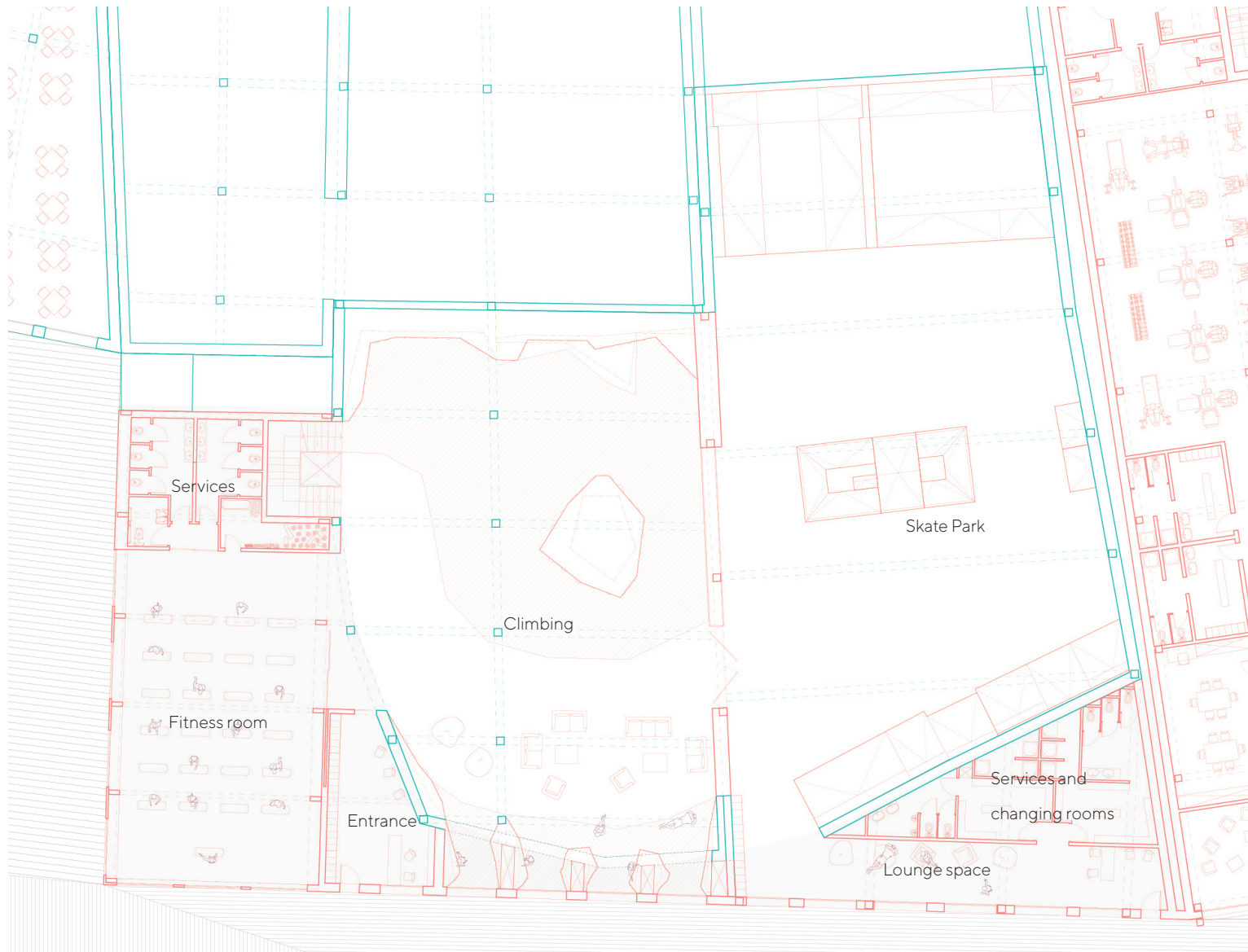




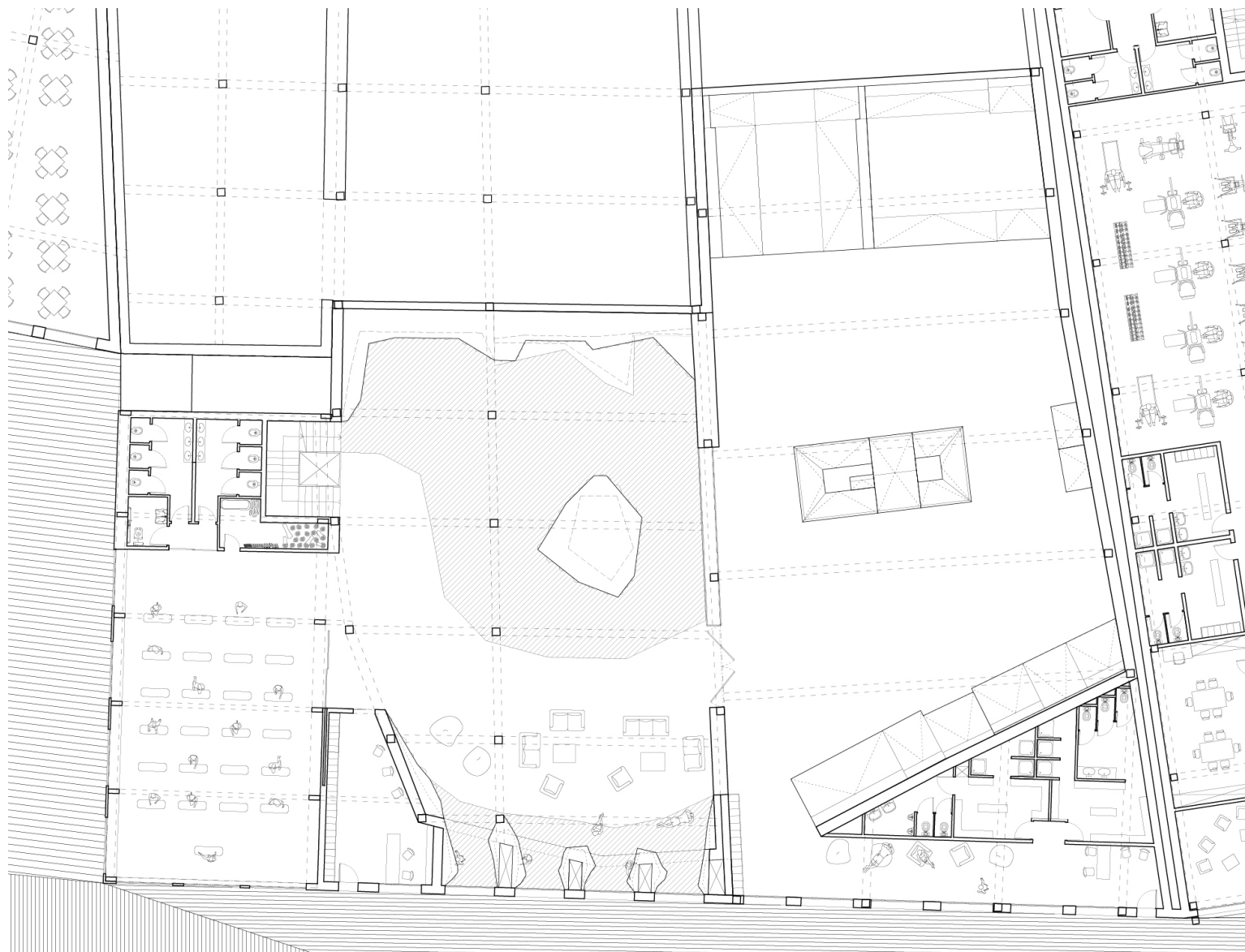


Concept of poche

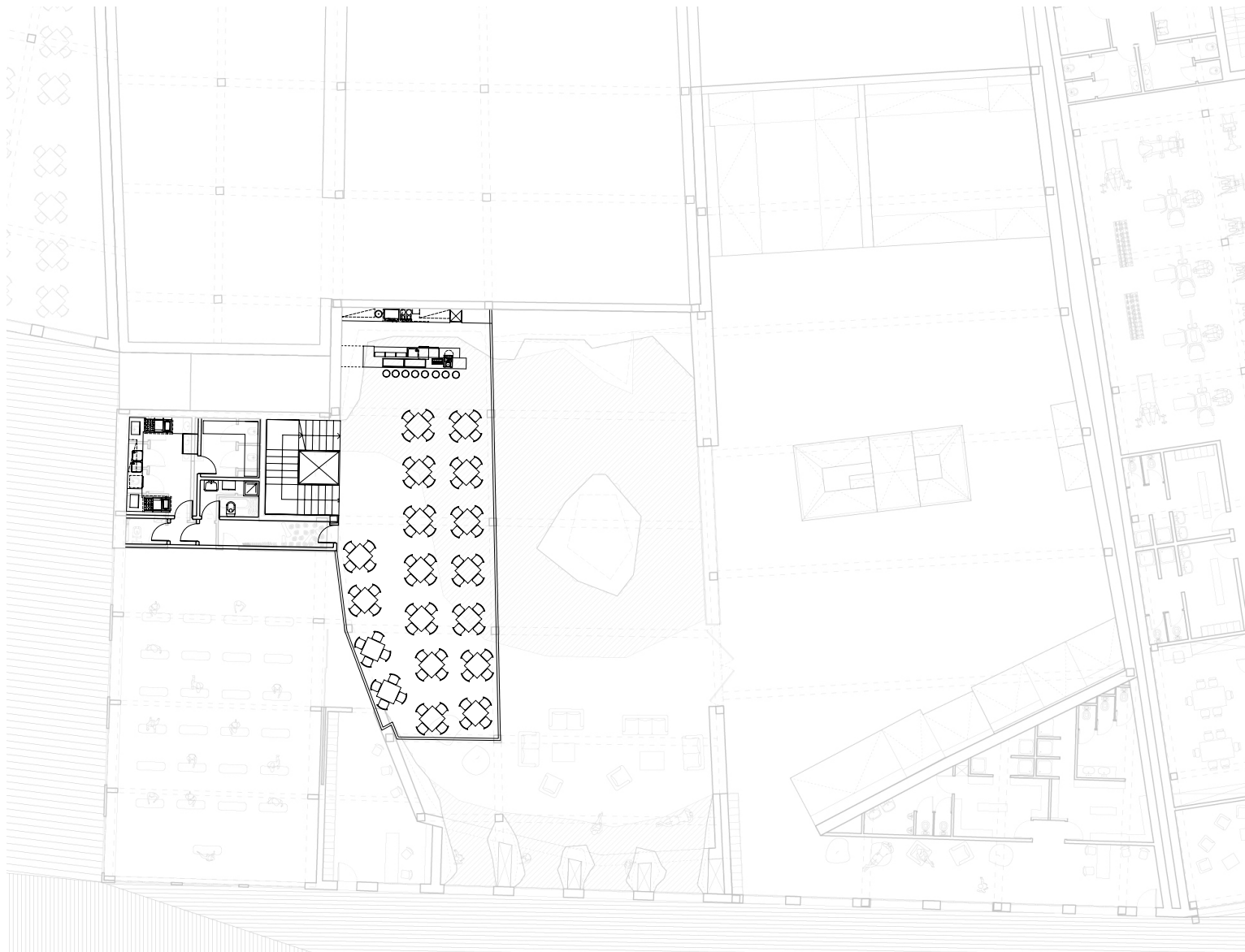




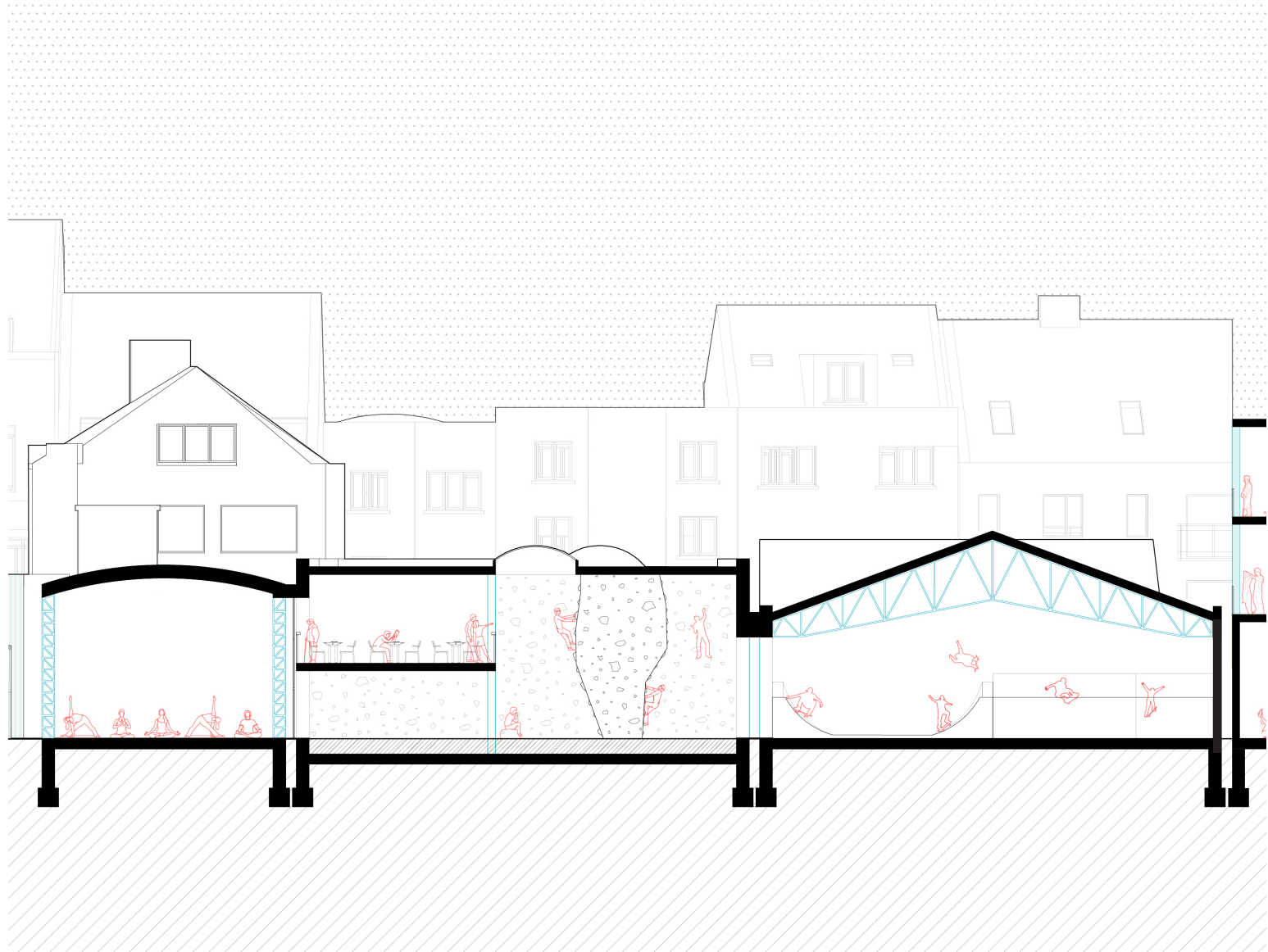
Ground floor plan



Ground floor plan

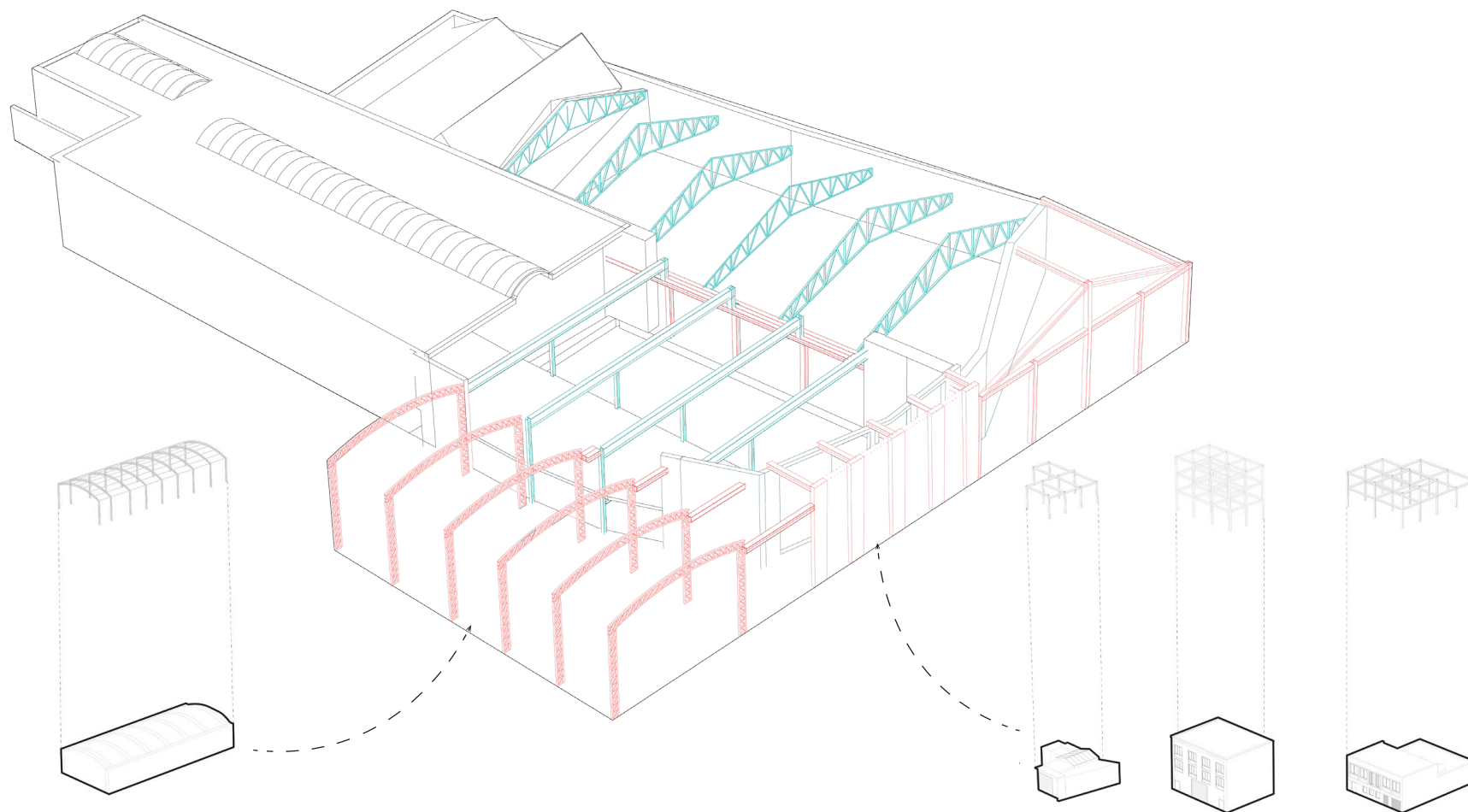


First floor plan



Section

The structural composition

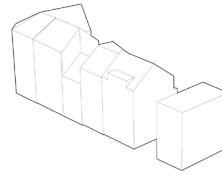




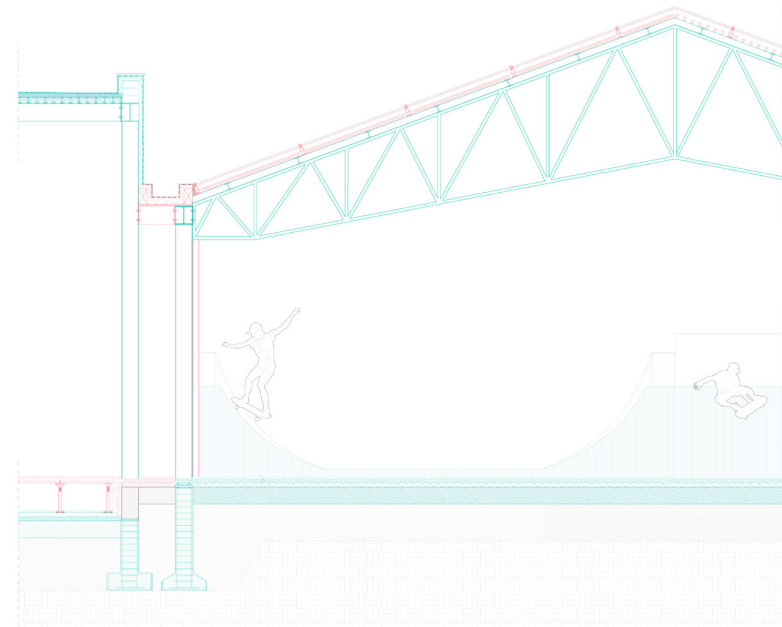
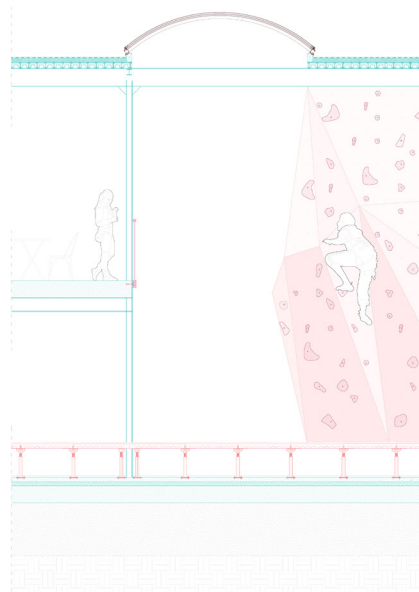
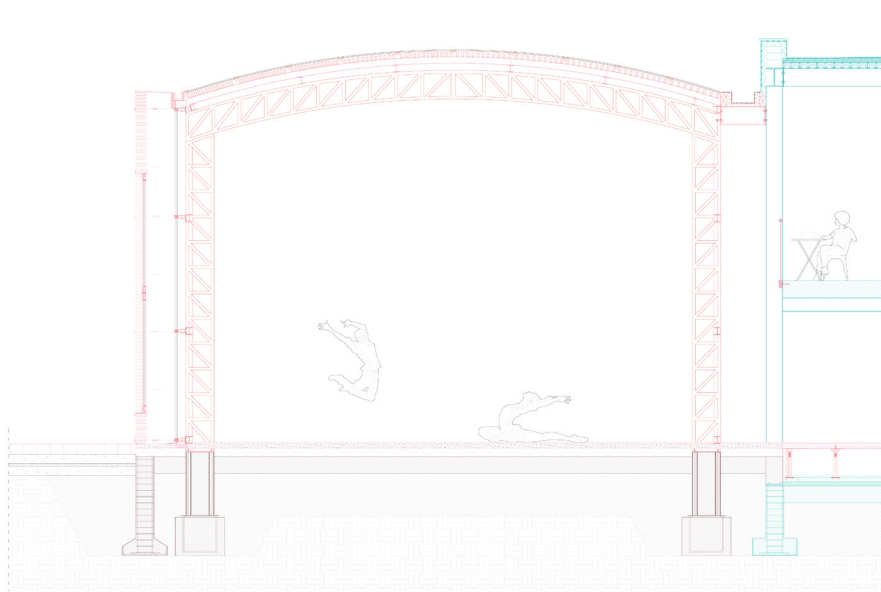
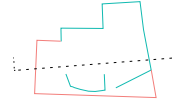
South-East Elevation

Facade Elements

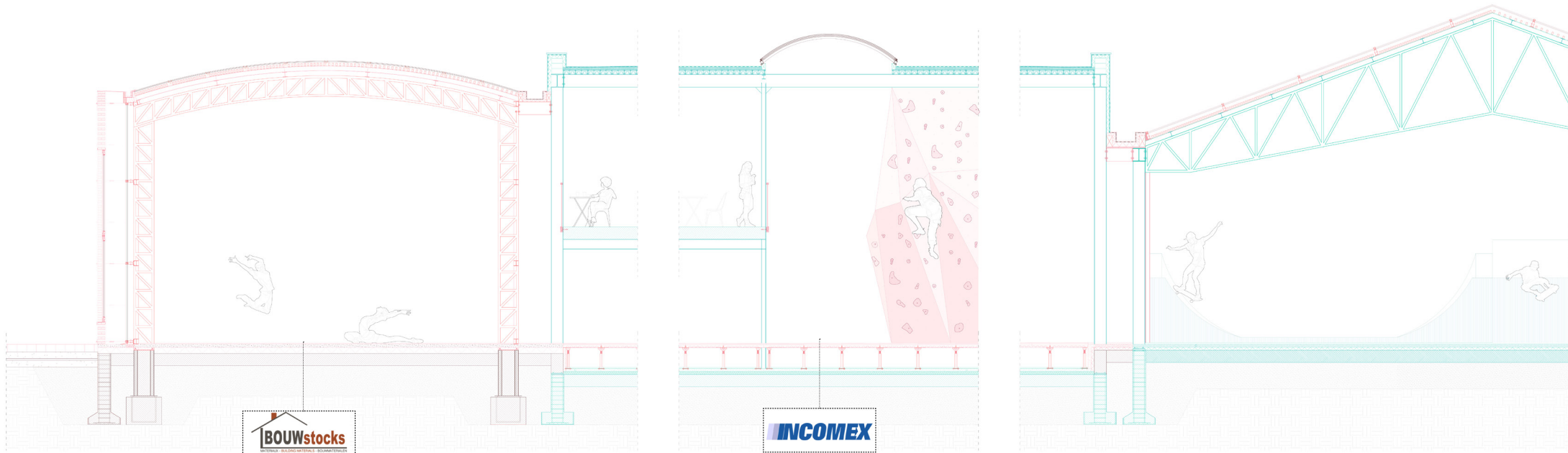
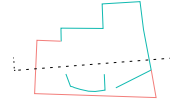
Rue du Printemps 45, Ixelles



Detail: longitudinal section



Detail: longitudinal section



Clean removal



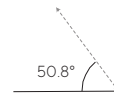
Palletizing near drop-off area



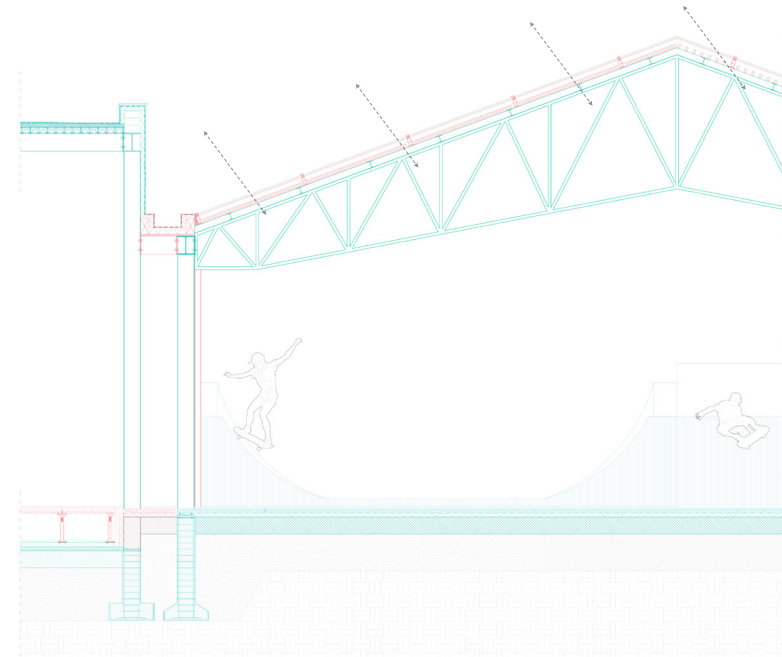
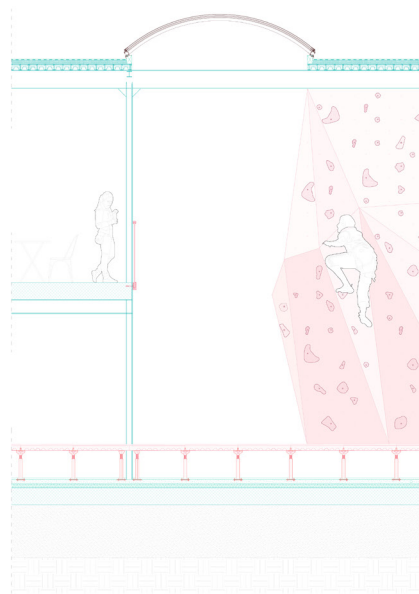
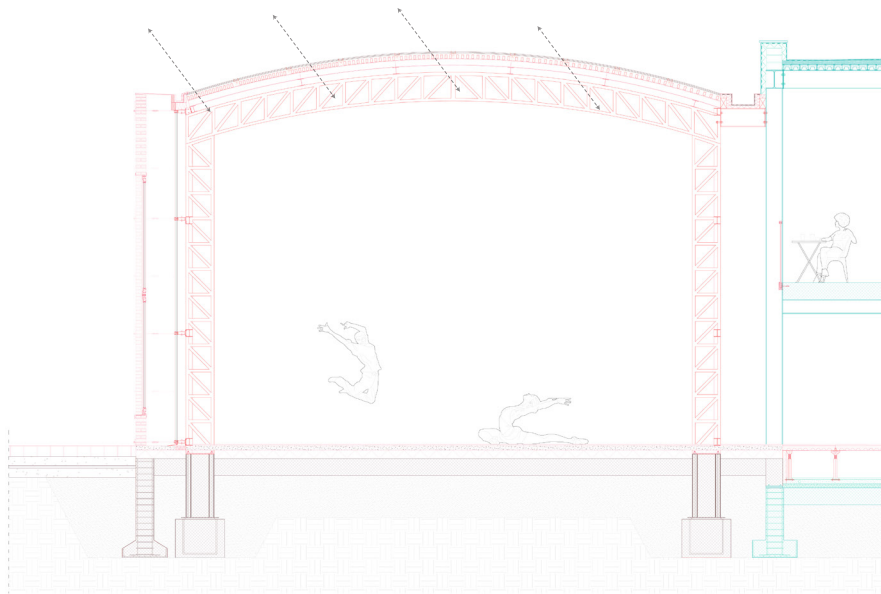
We do not hesitate with classic demolisher

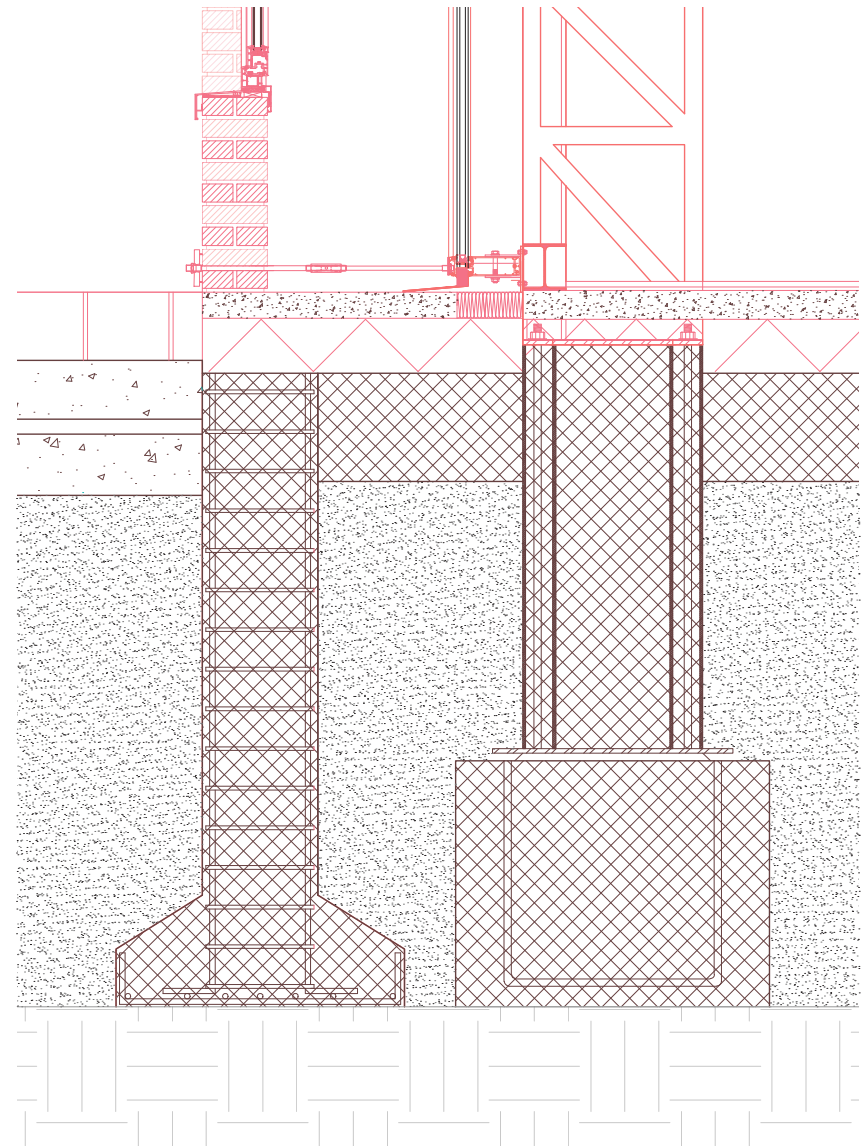
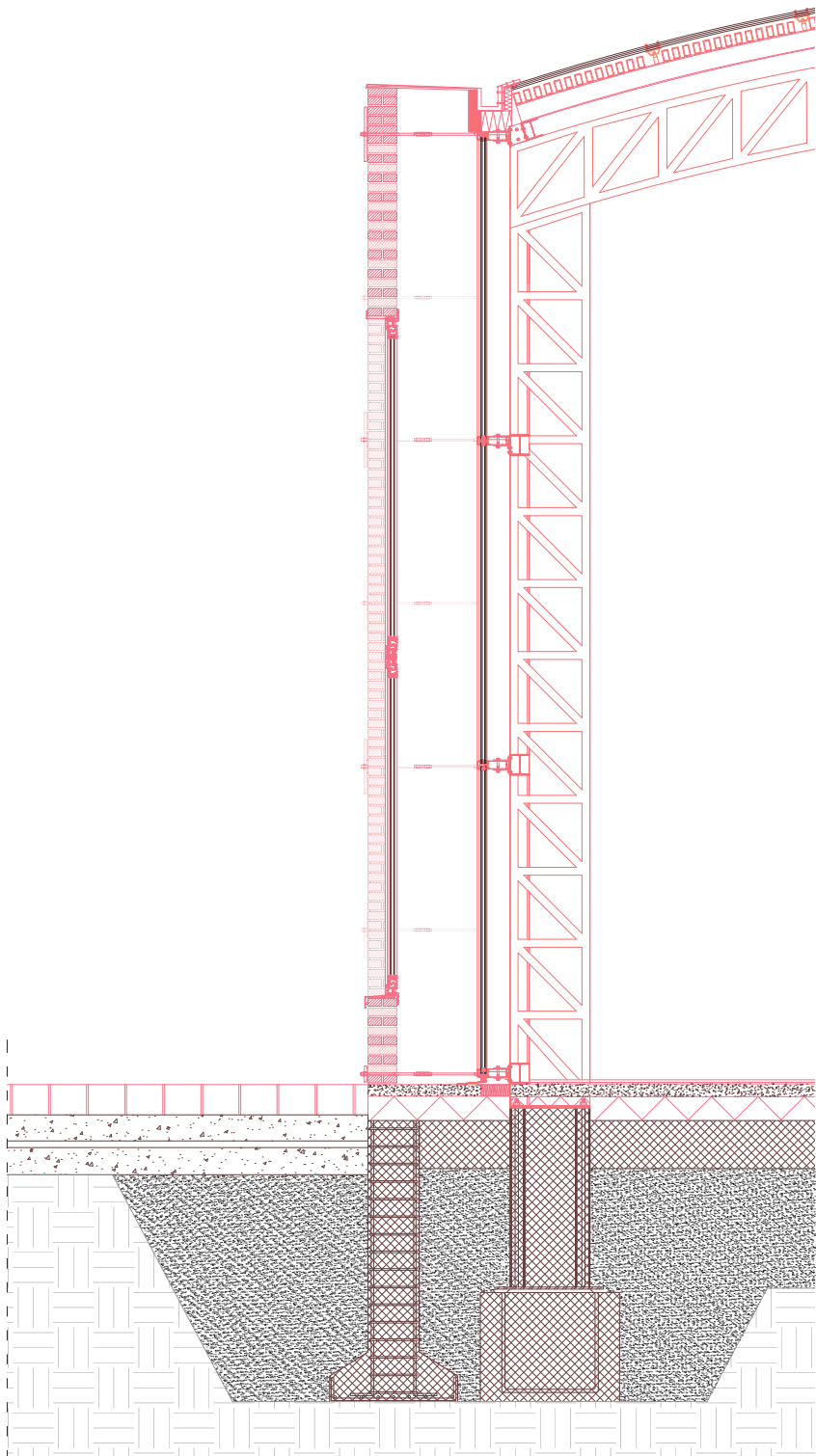


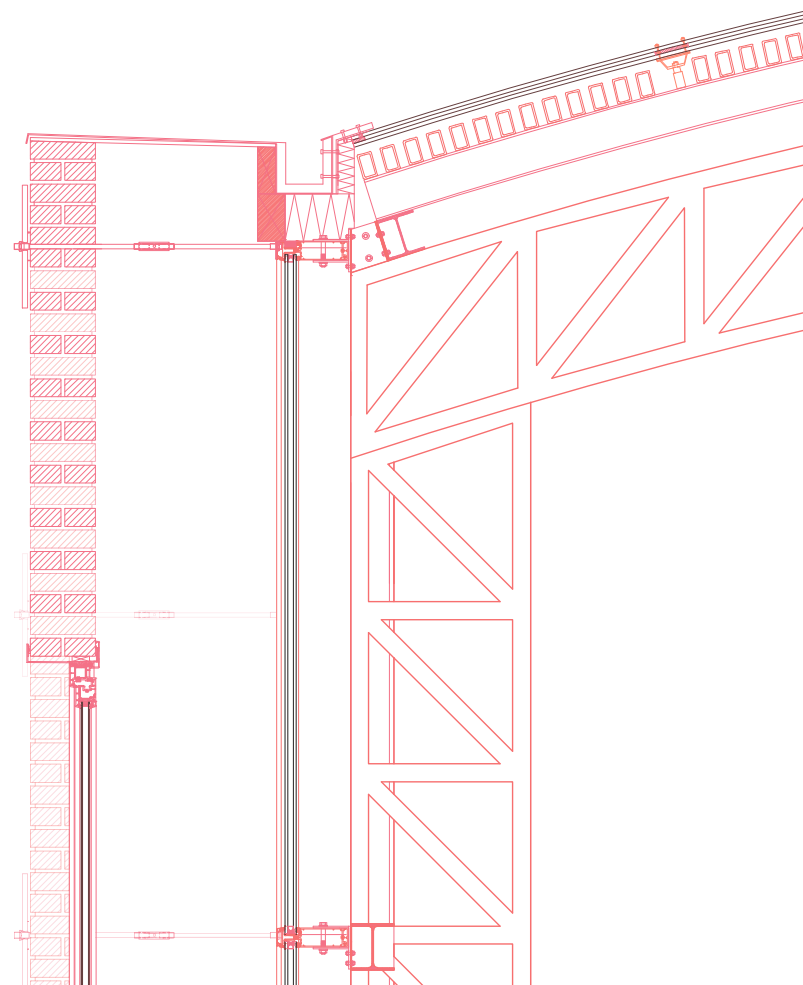
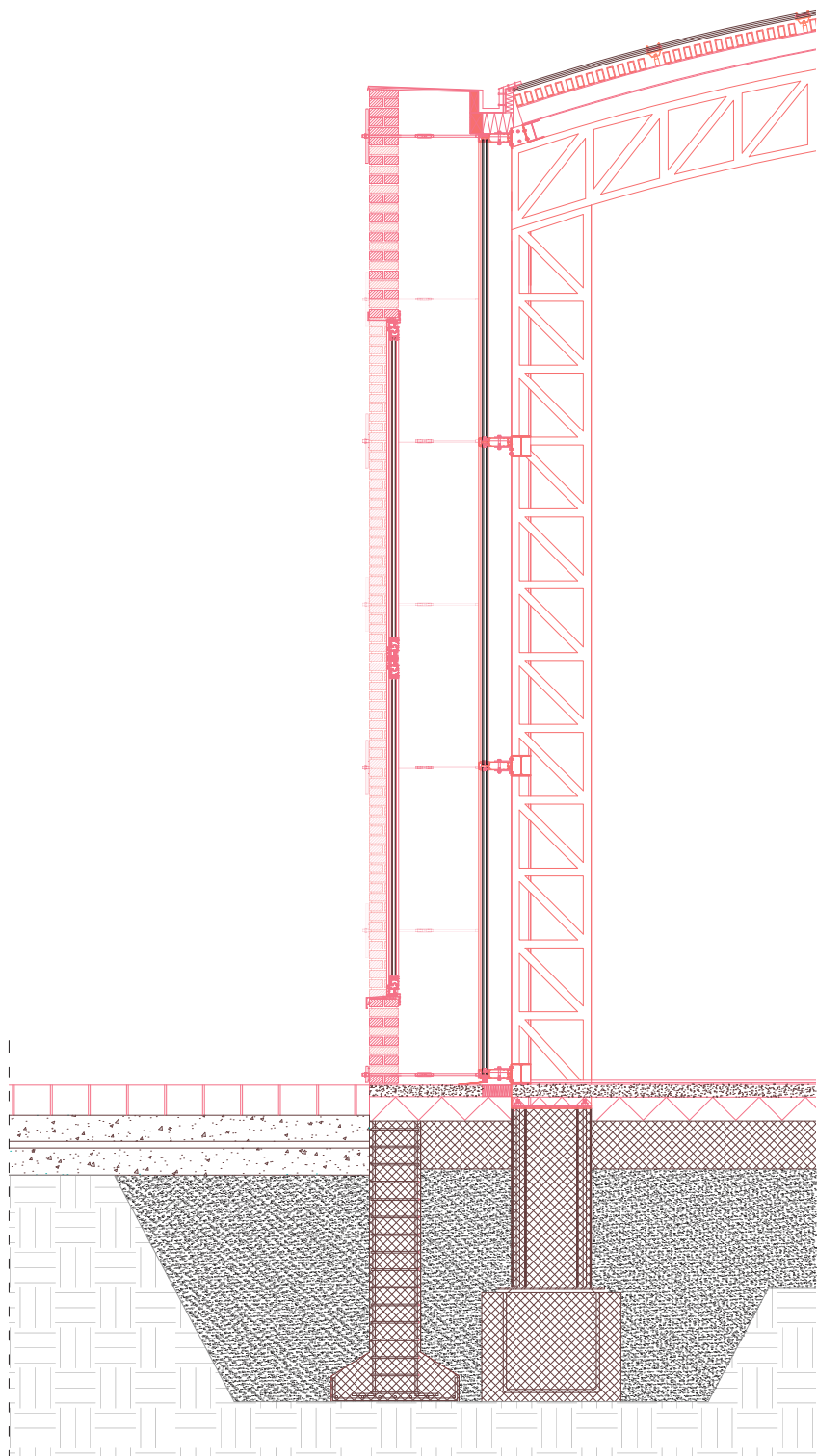
Detail: longitudinal section

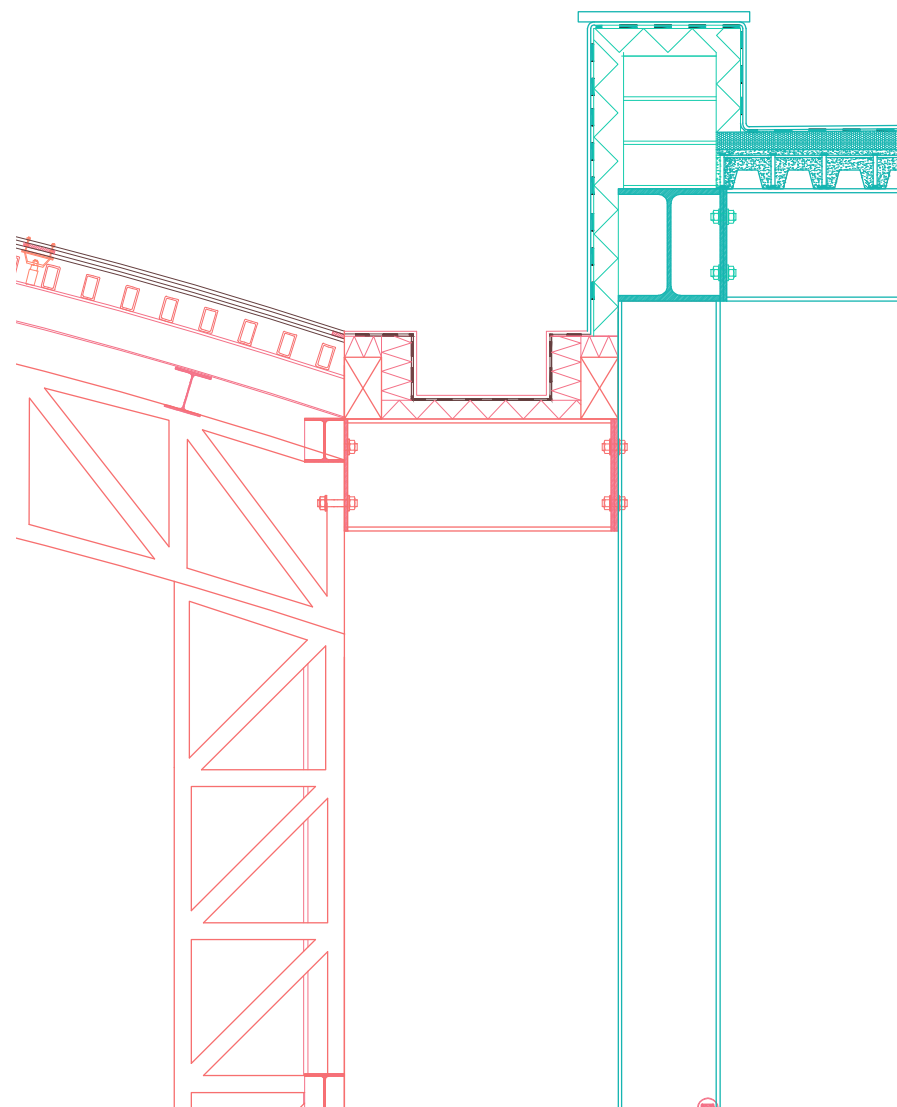
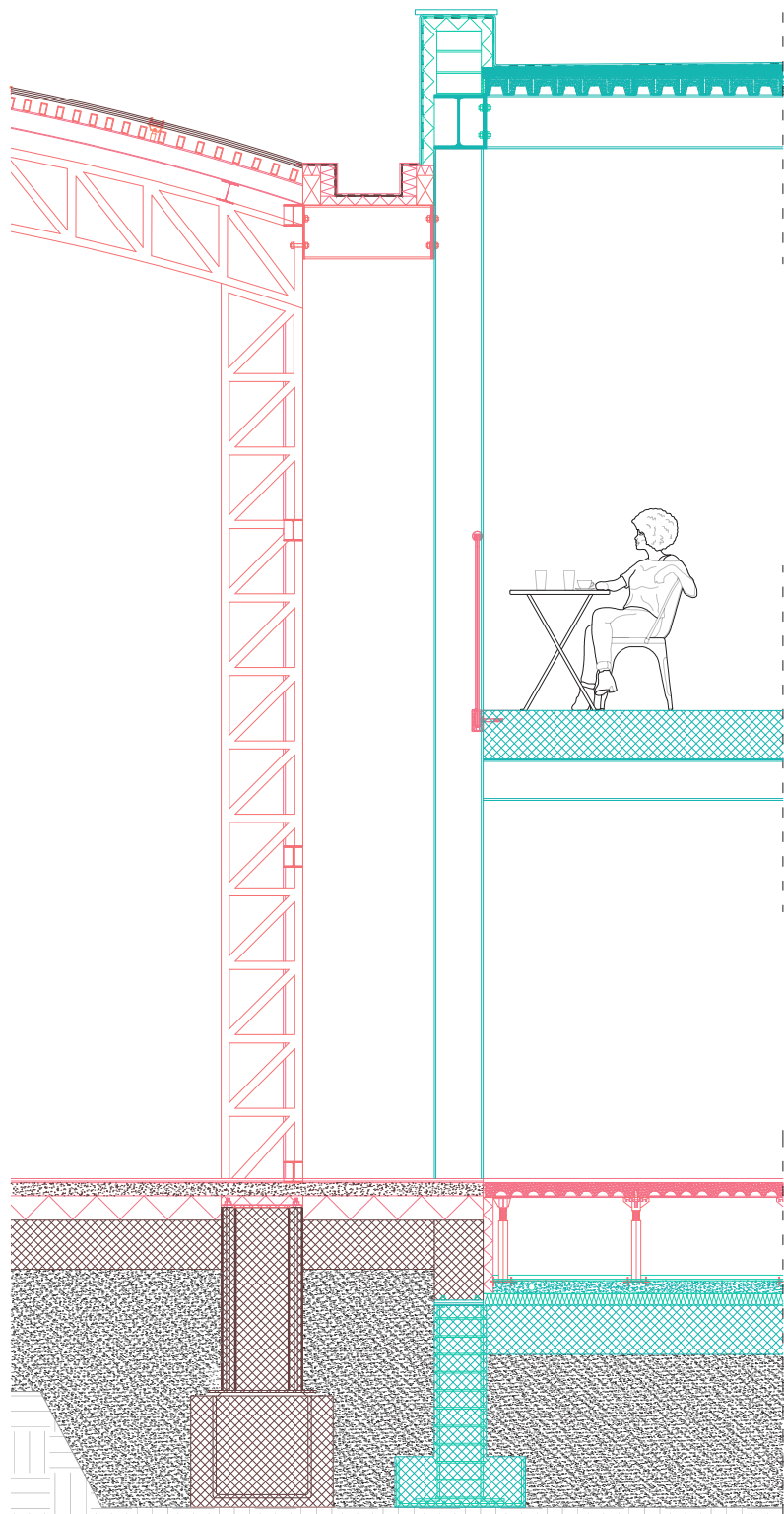


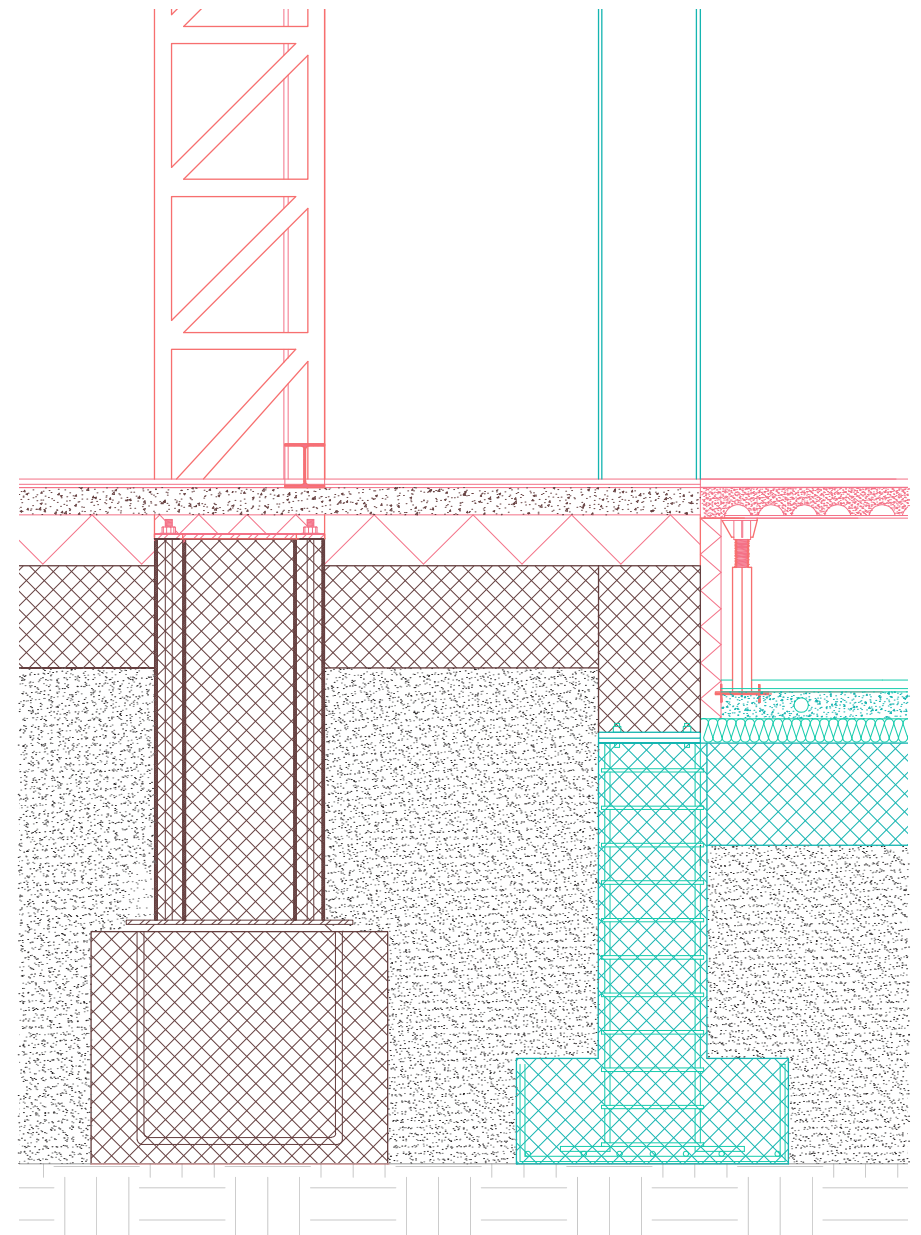
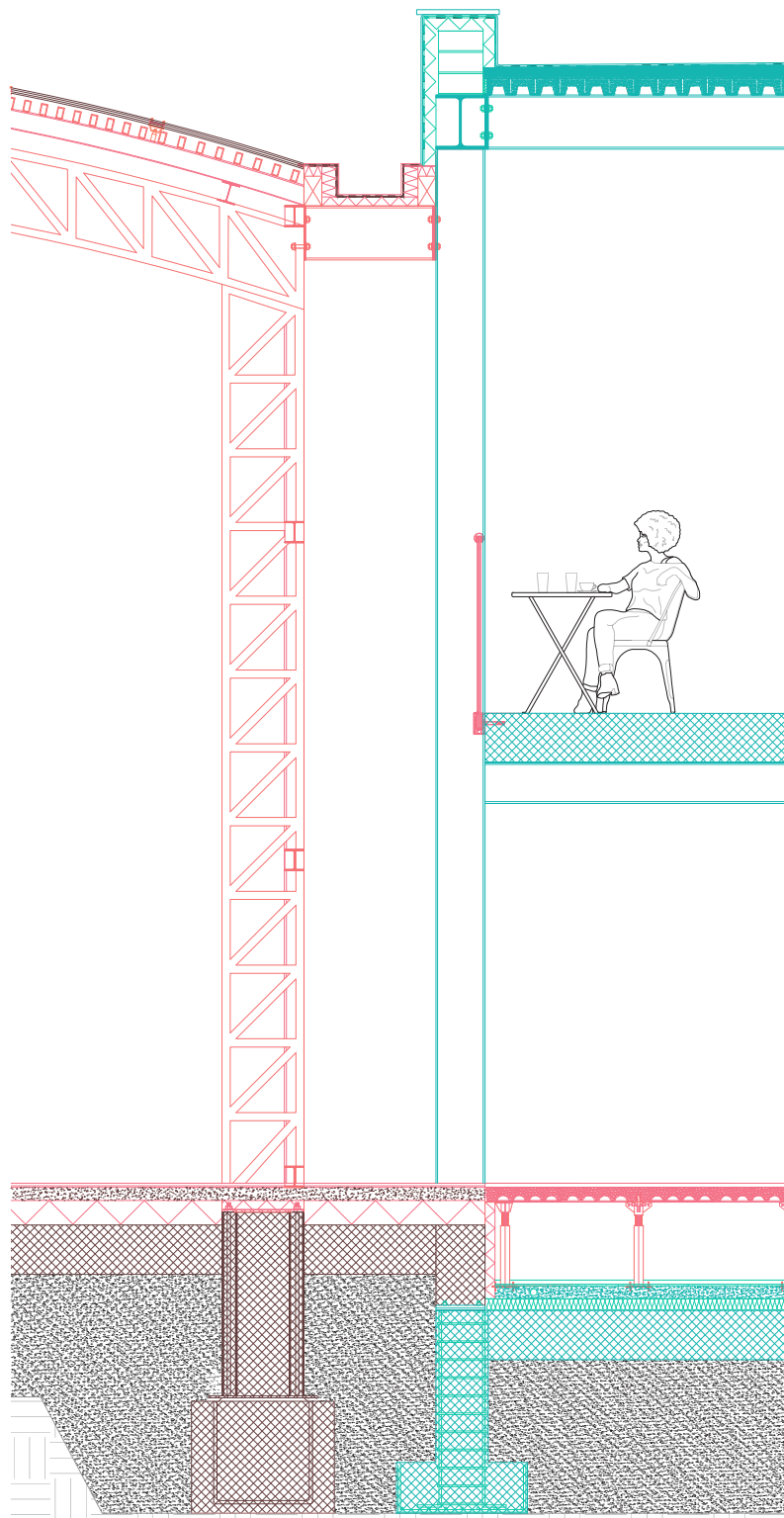
Angle of incidence of
the sun in Brussels

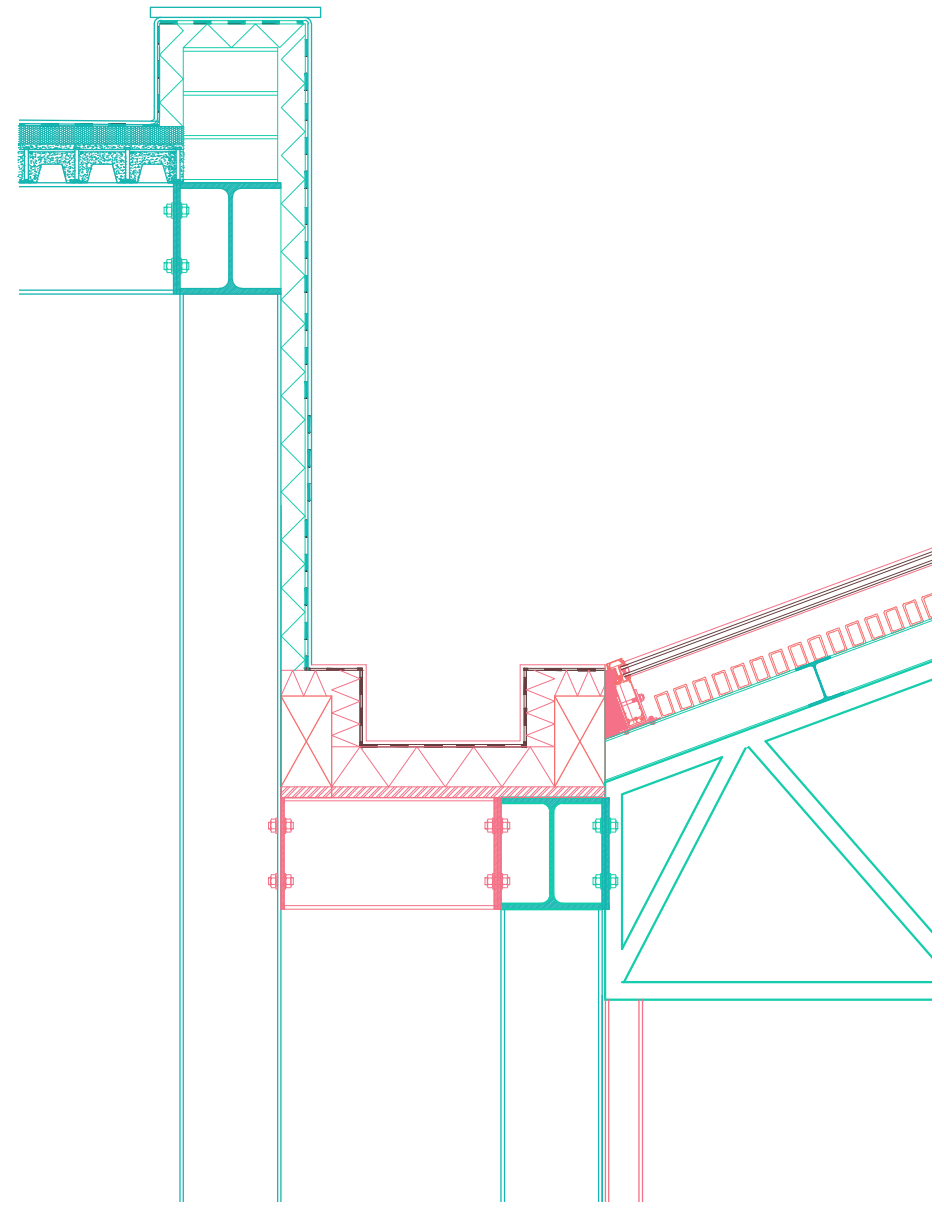
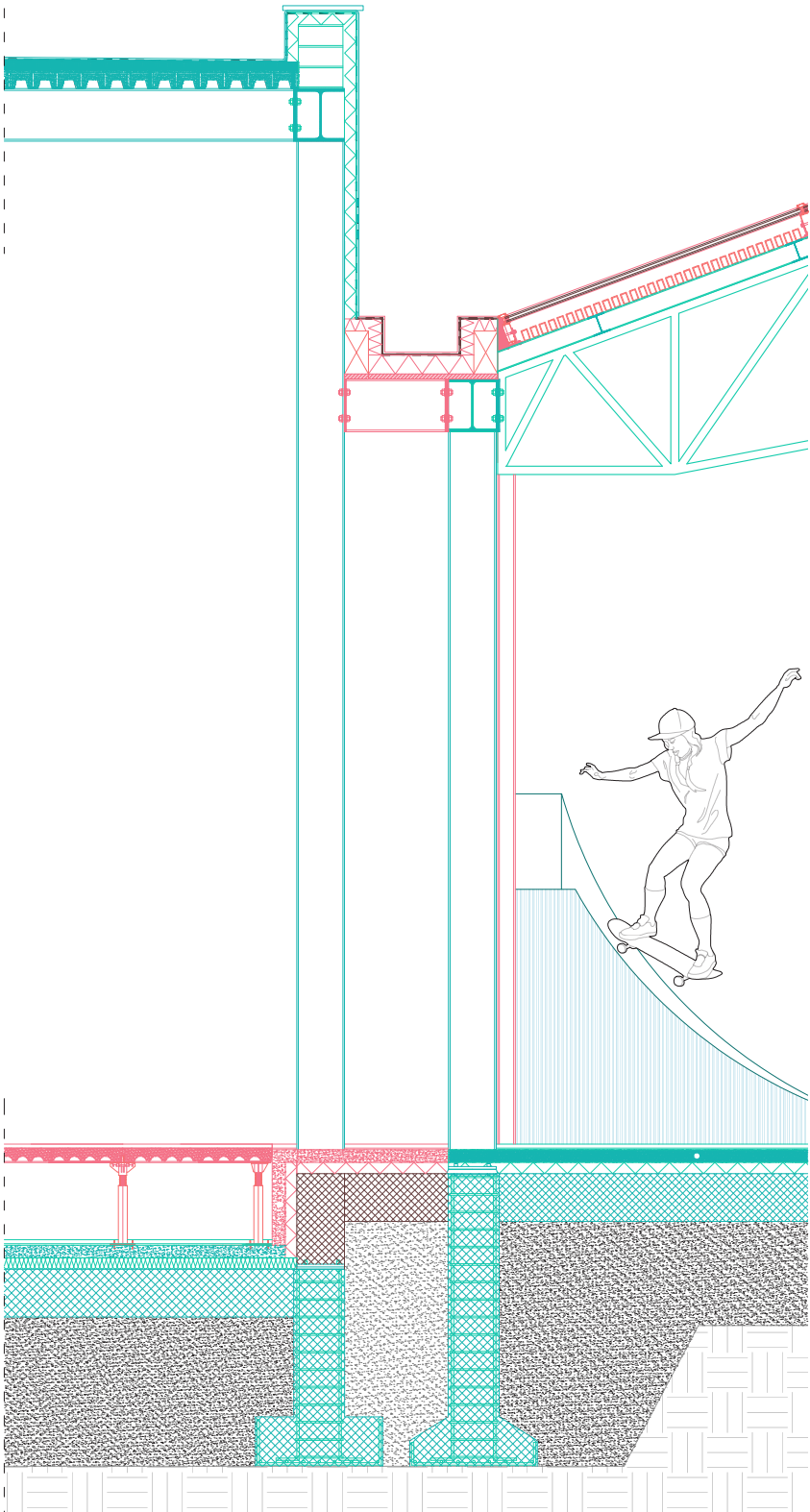


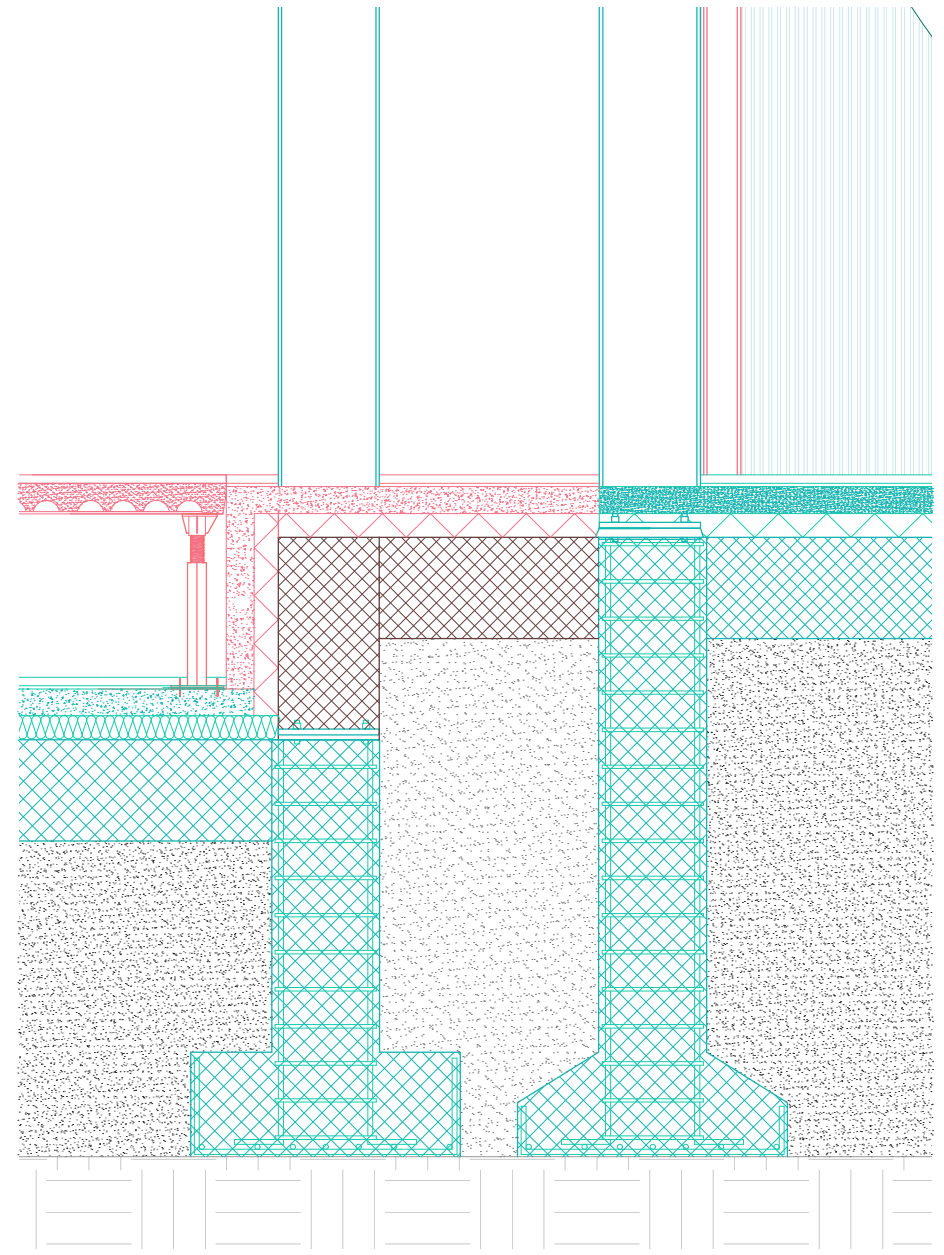
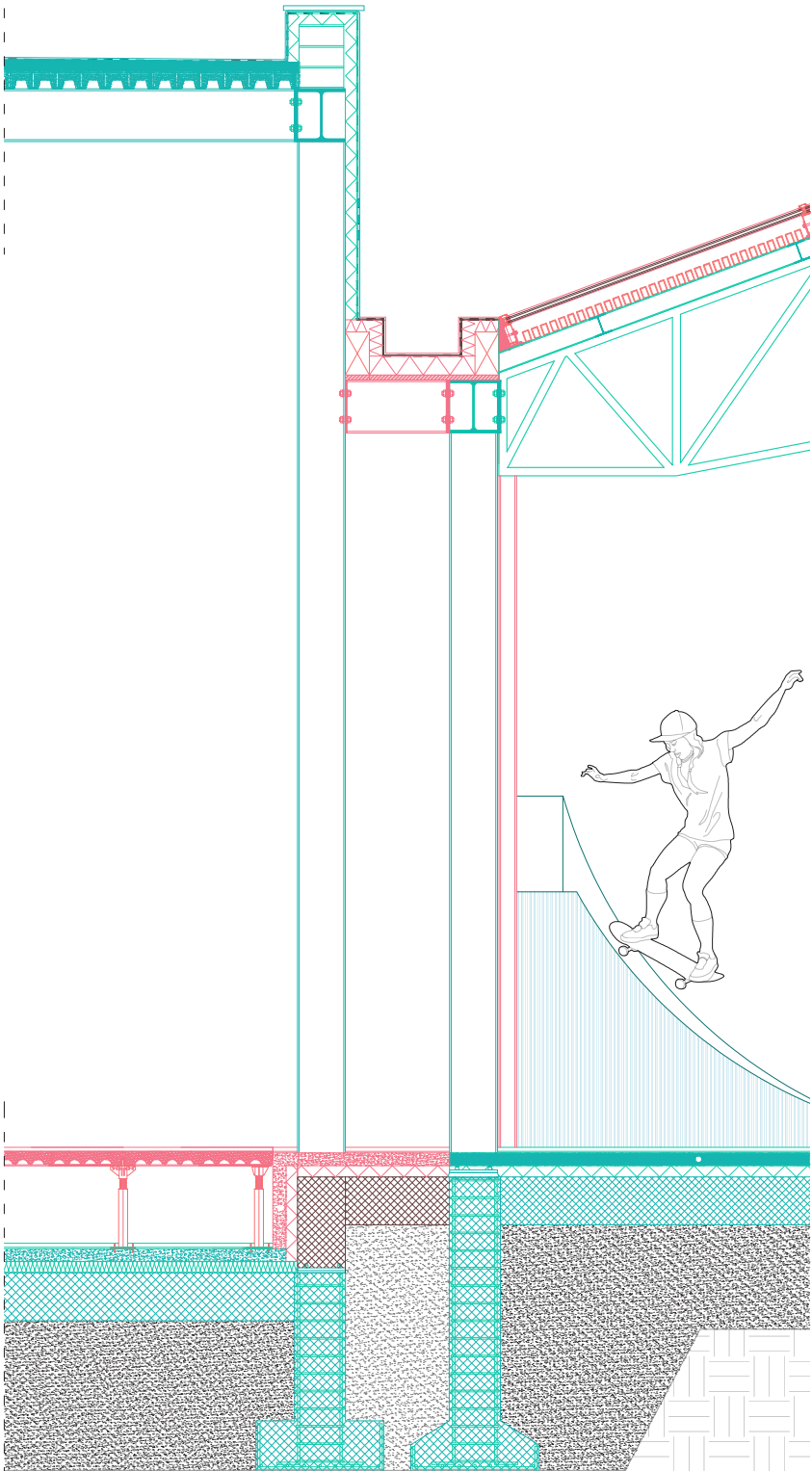




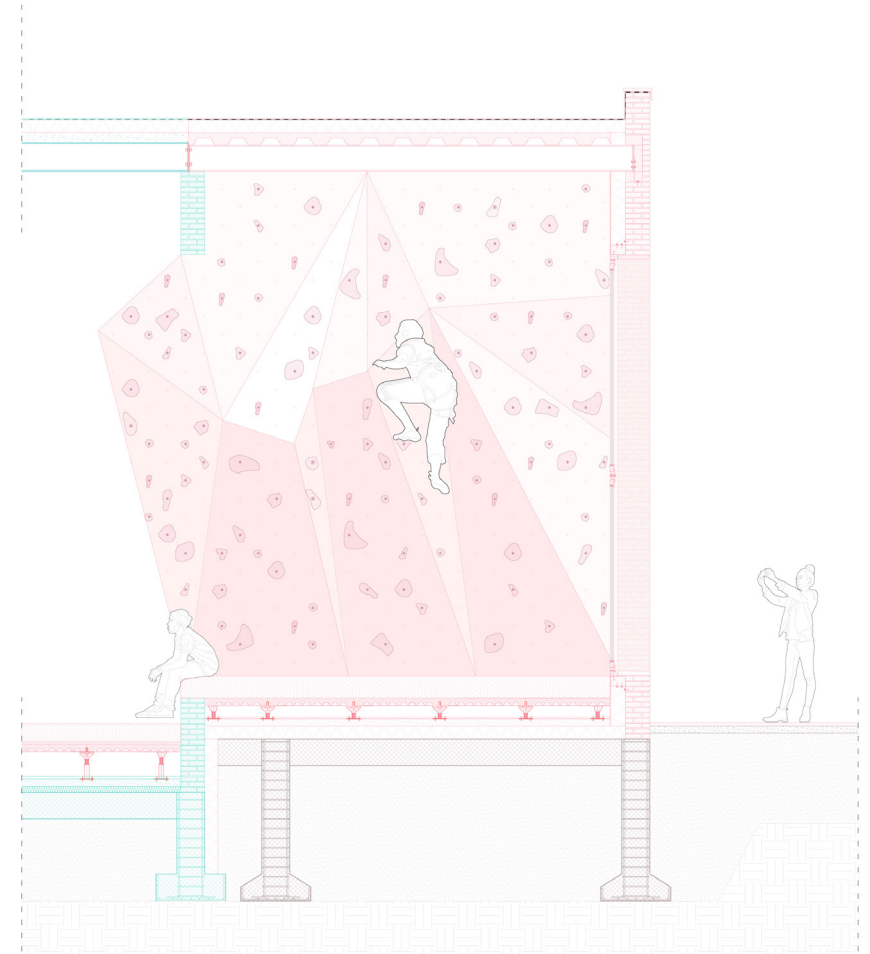
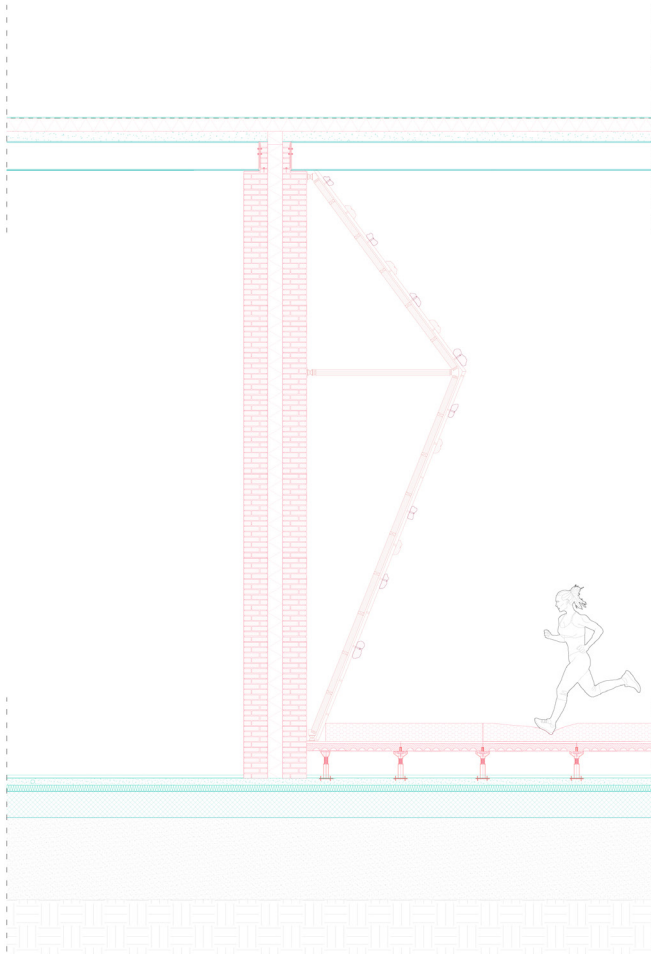
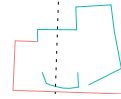


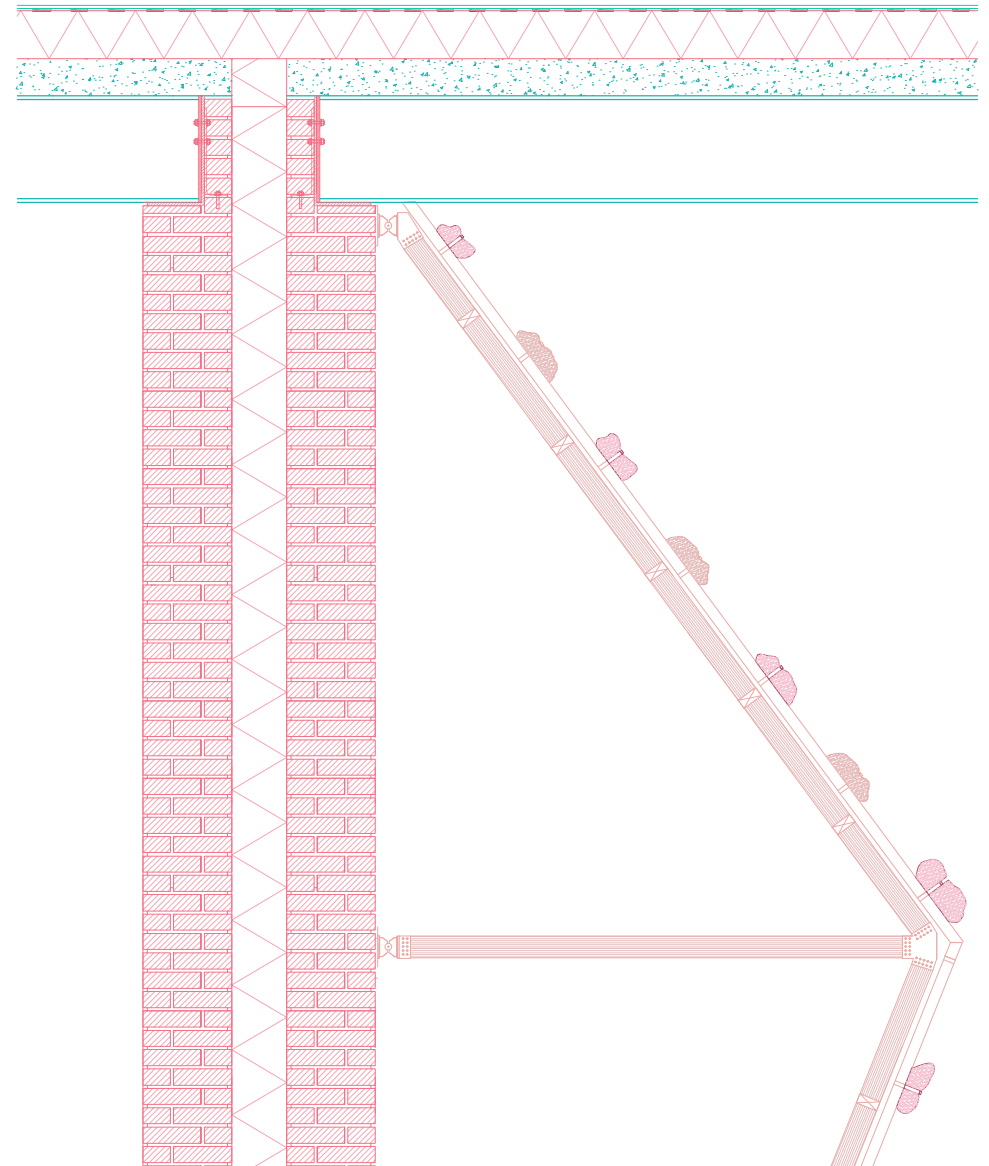
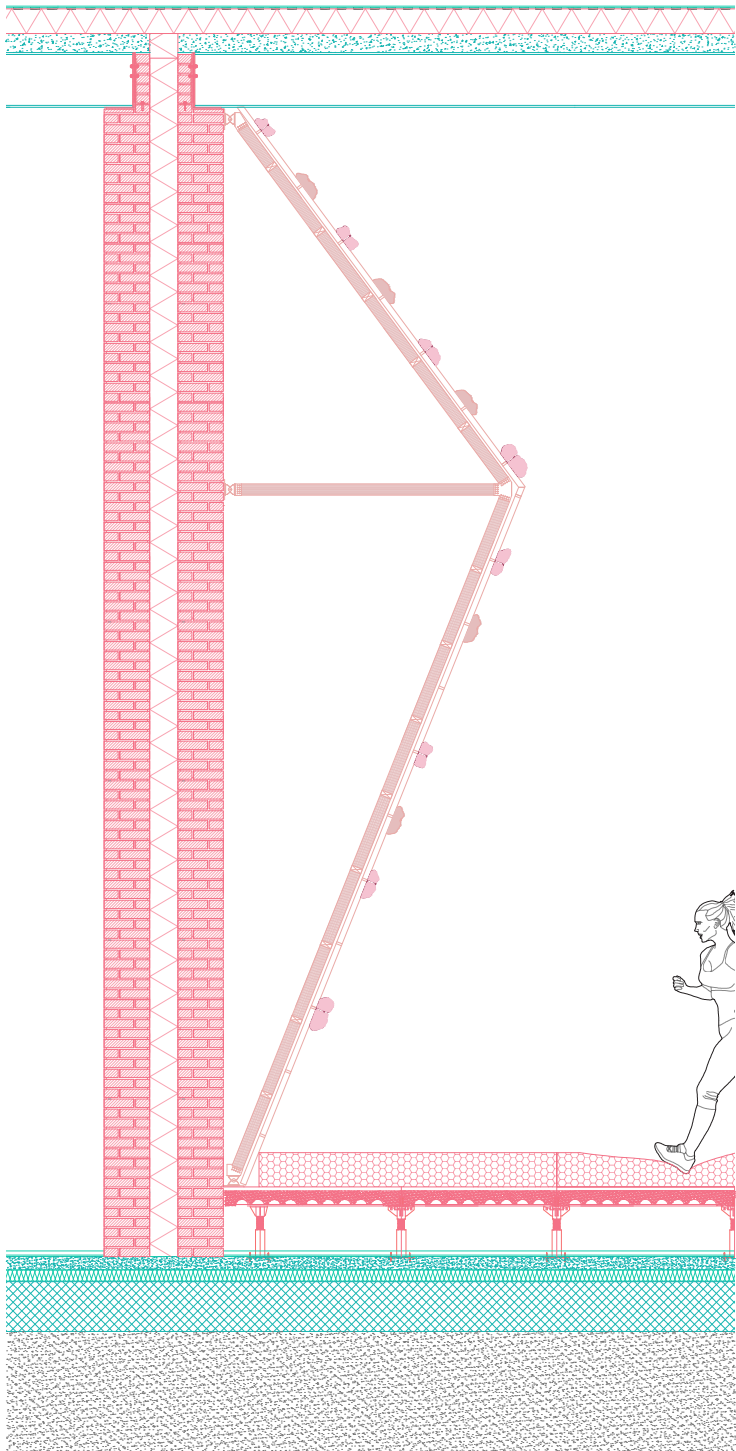


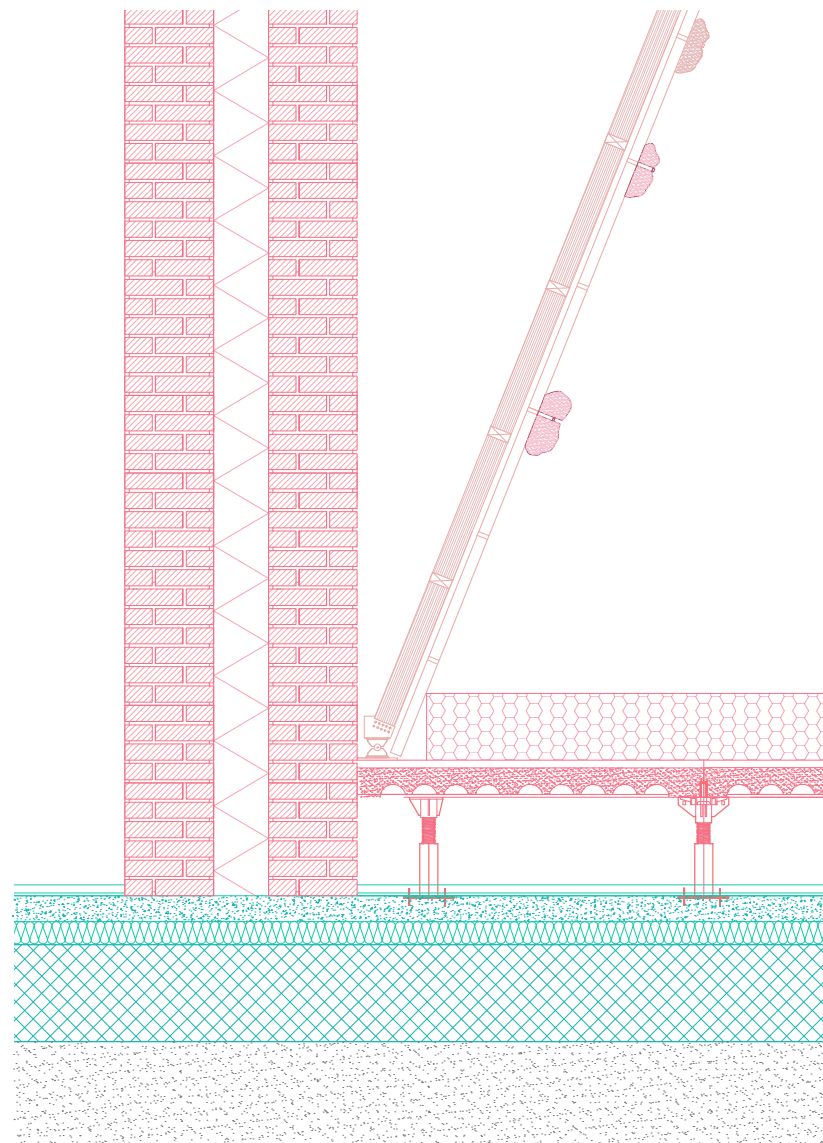
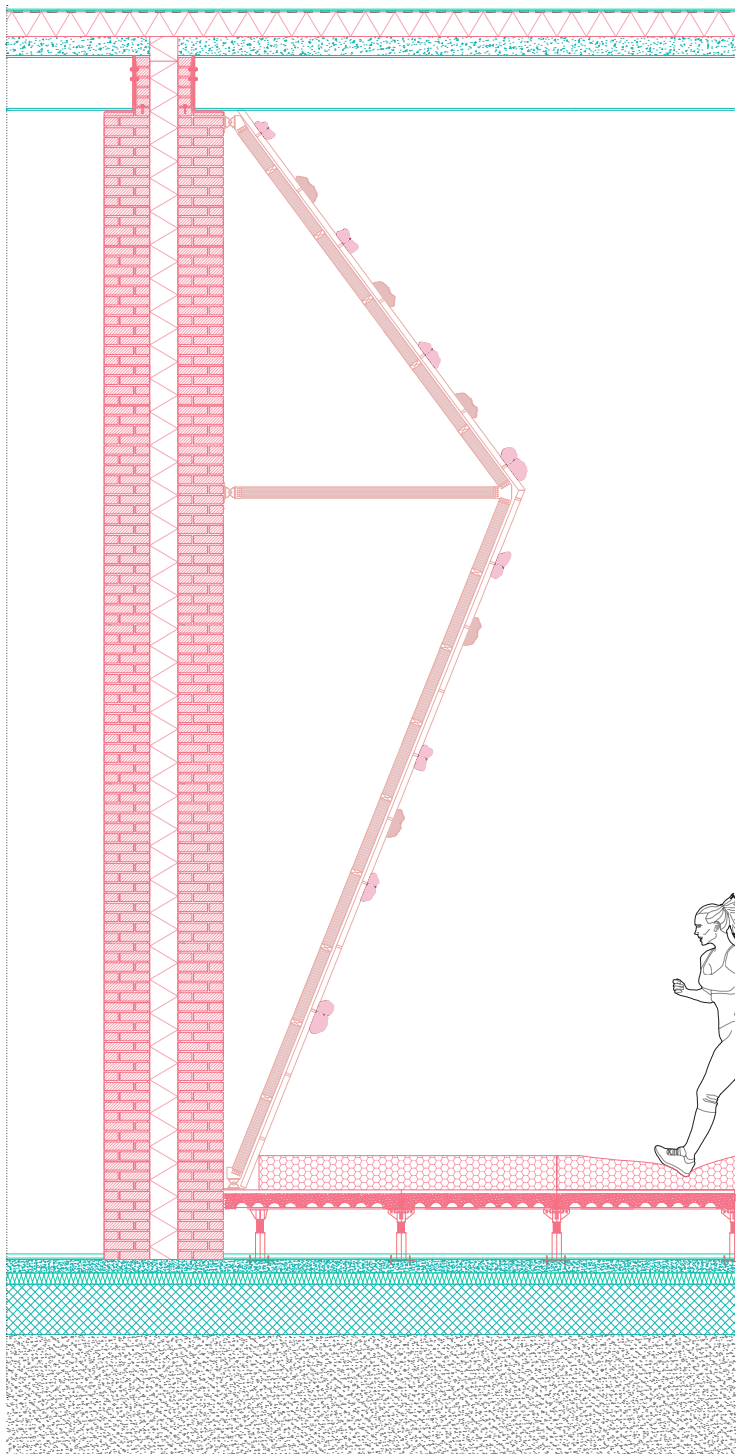


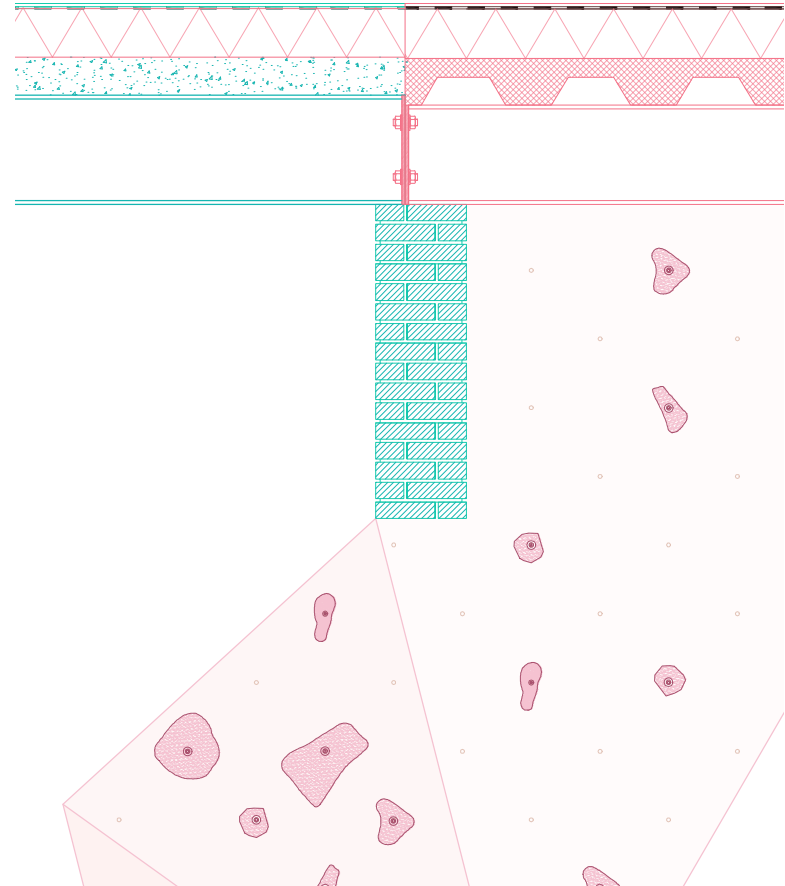
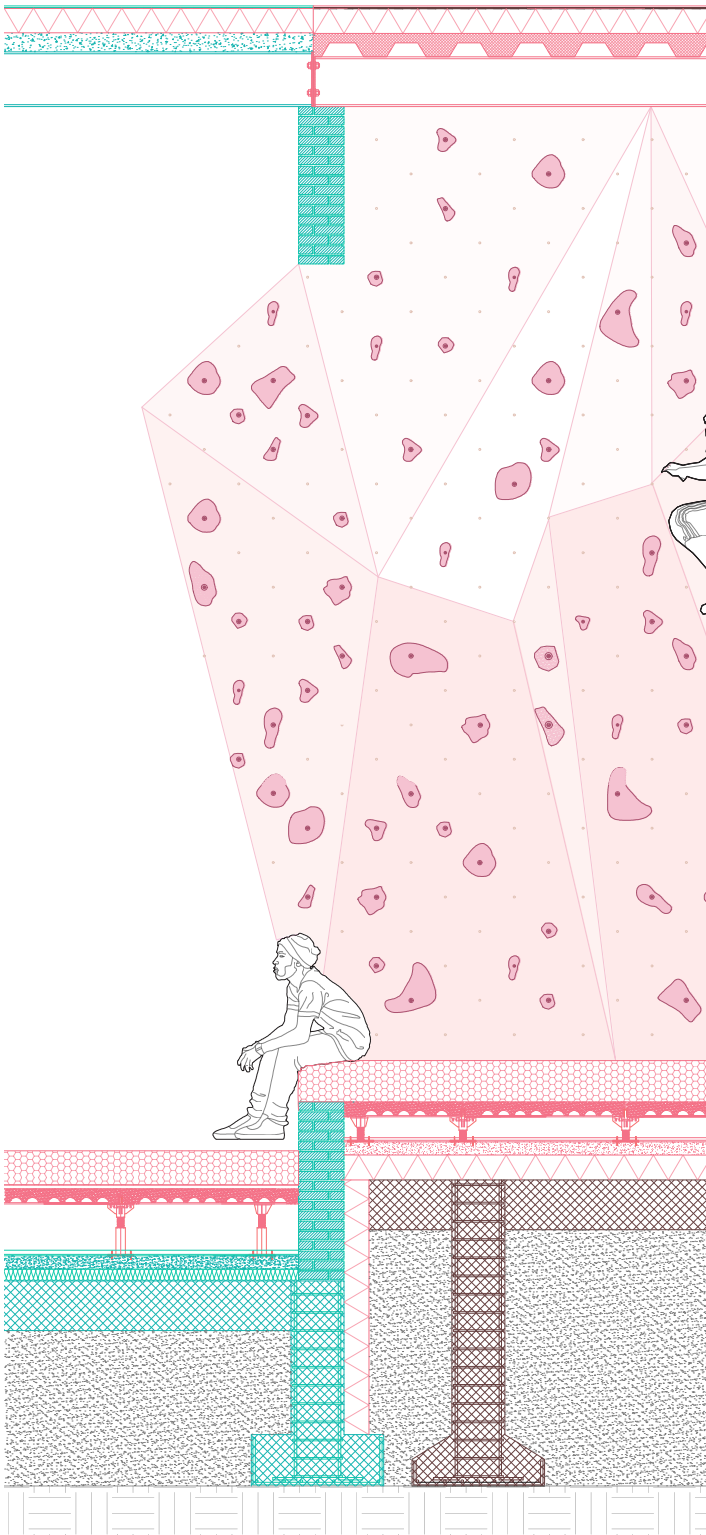


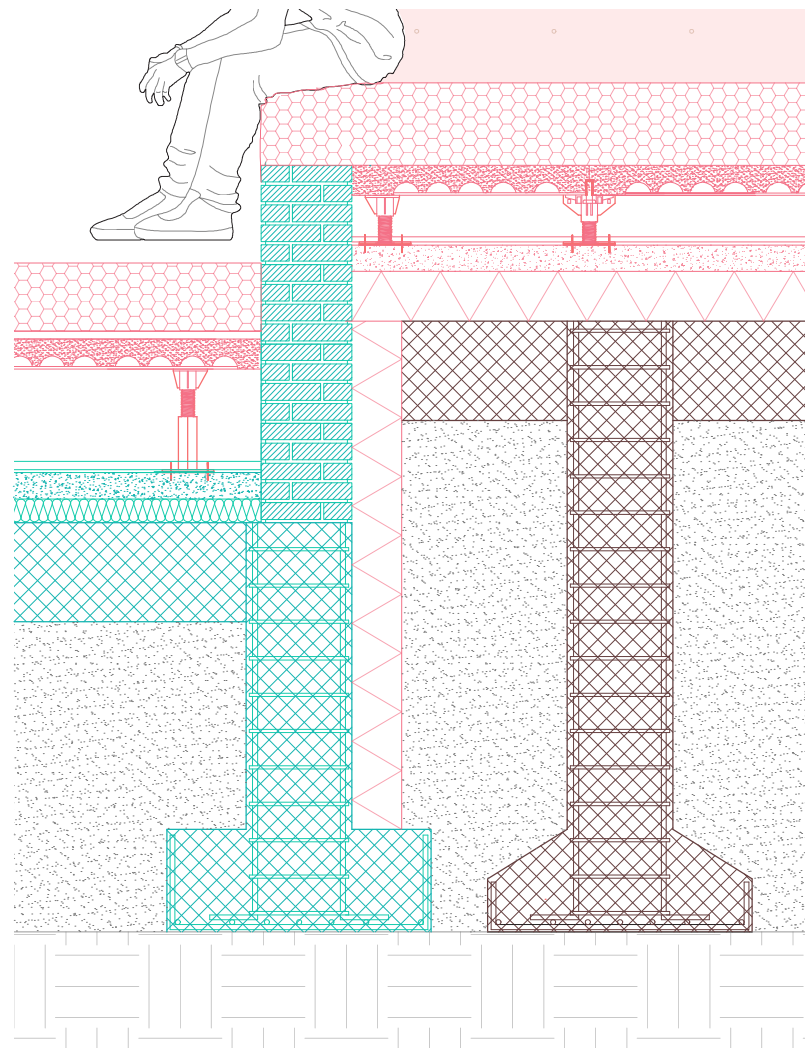
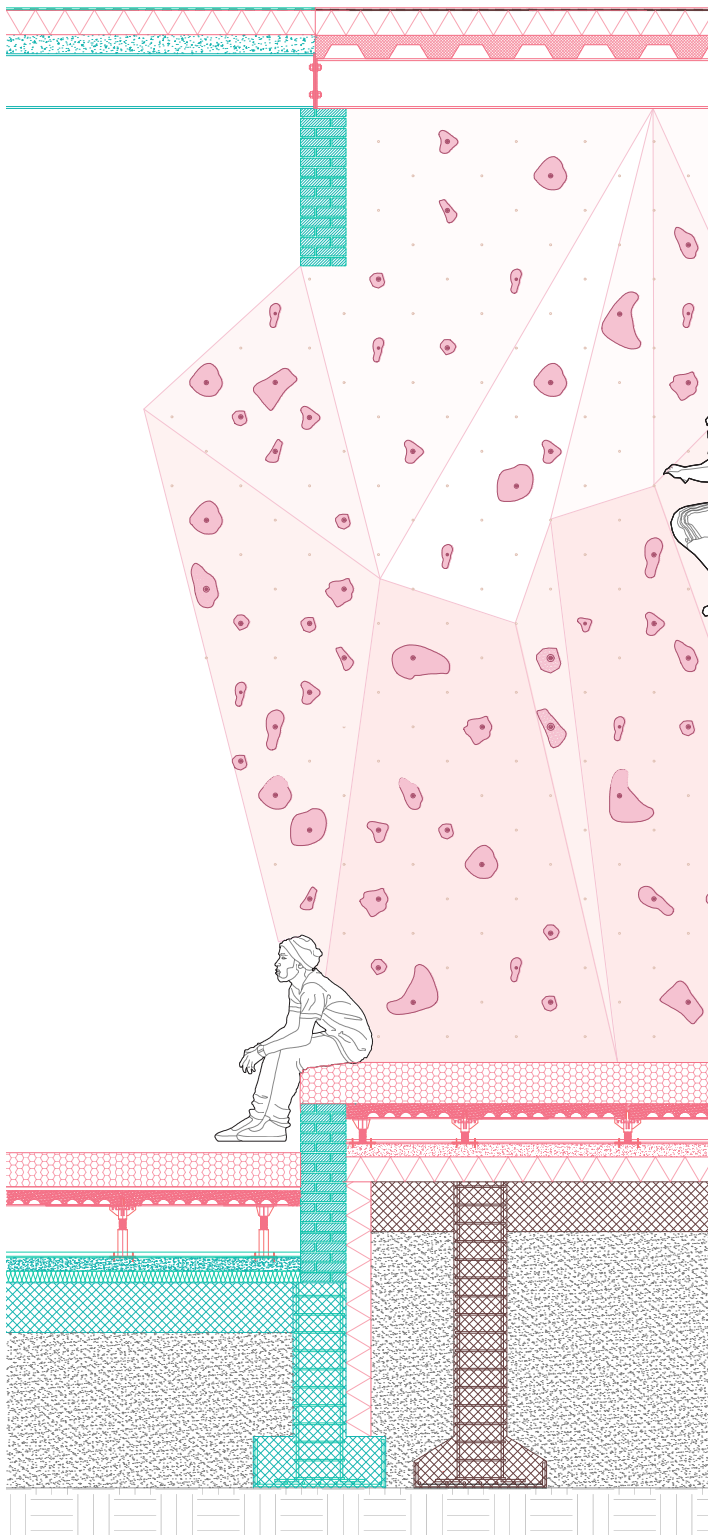
Detail: transversal section

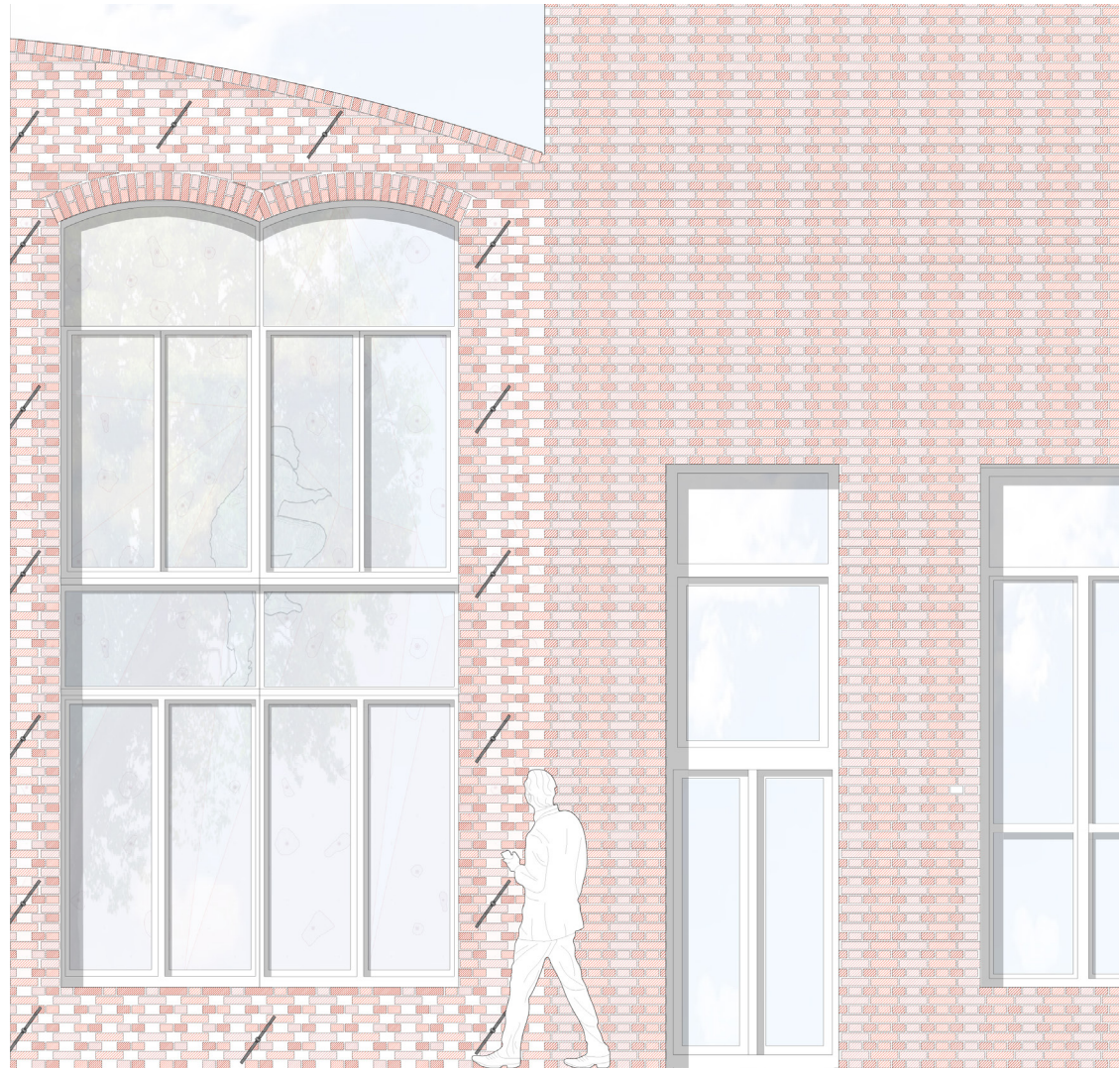
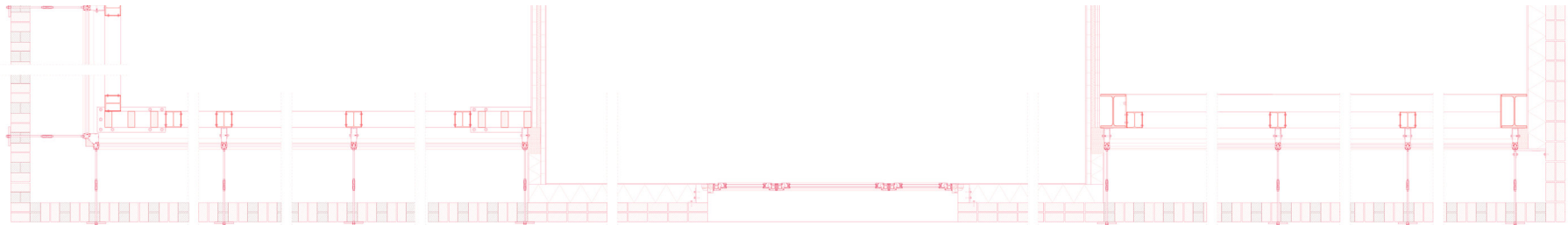
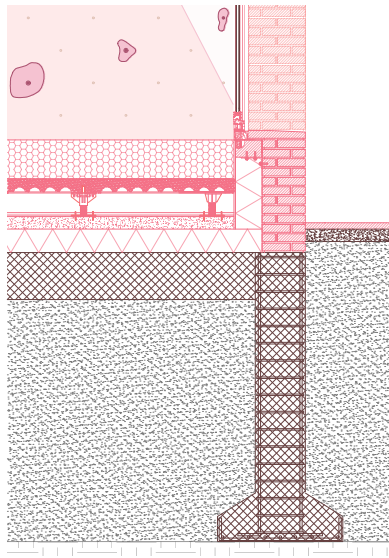
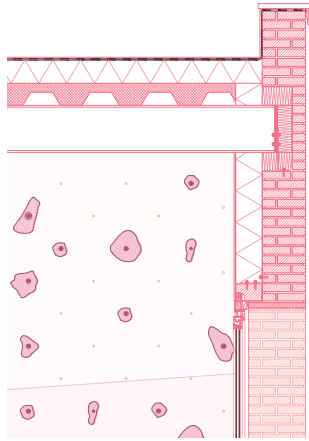


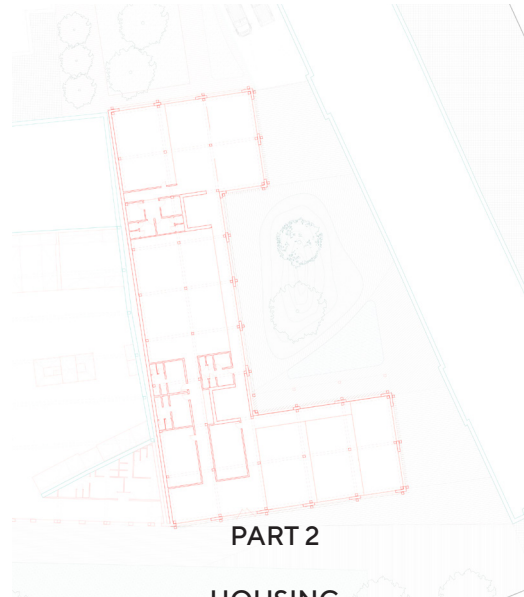






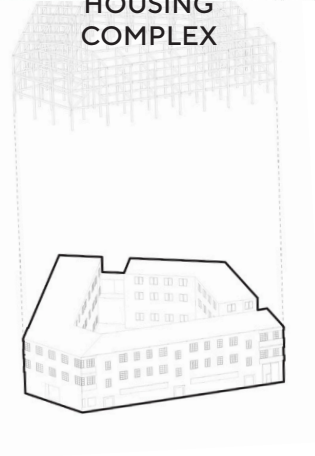






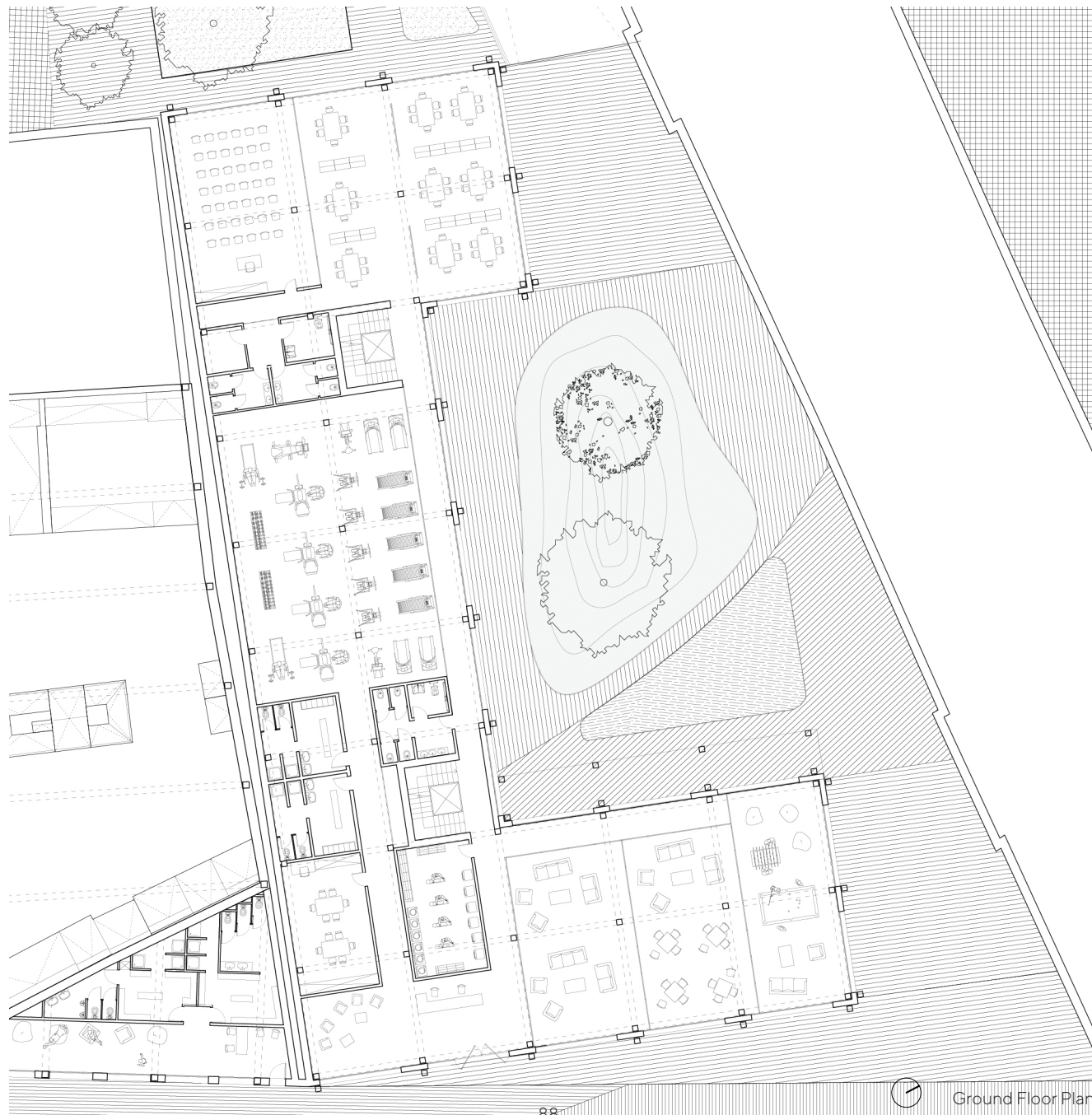
PART 2

**HOUSING
COMPLEX**





Ground Floor Plan





Structure VS internal partitioning grid



Services

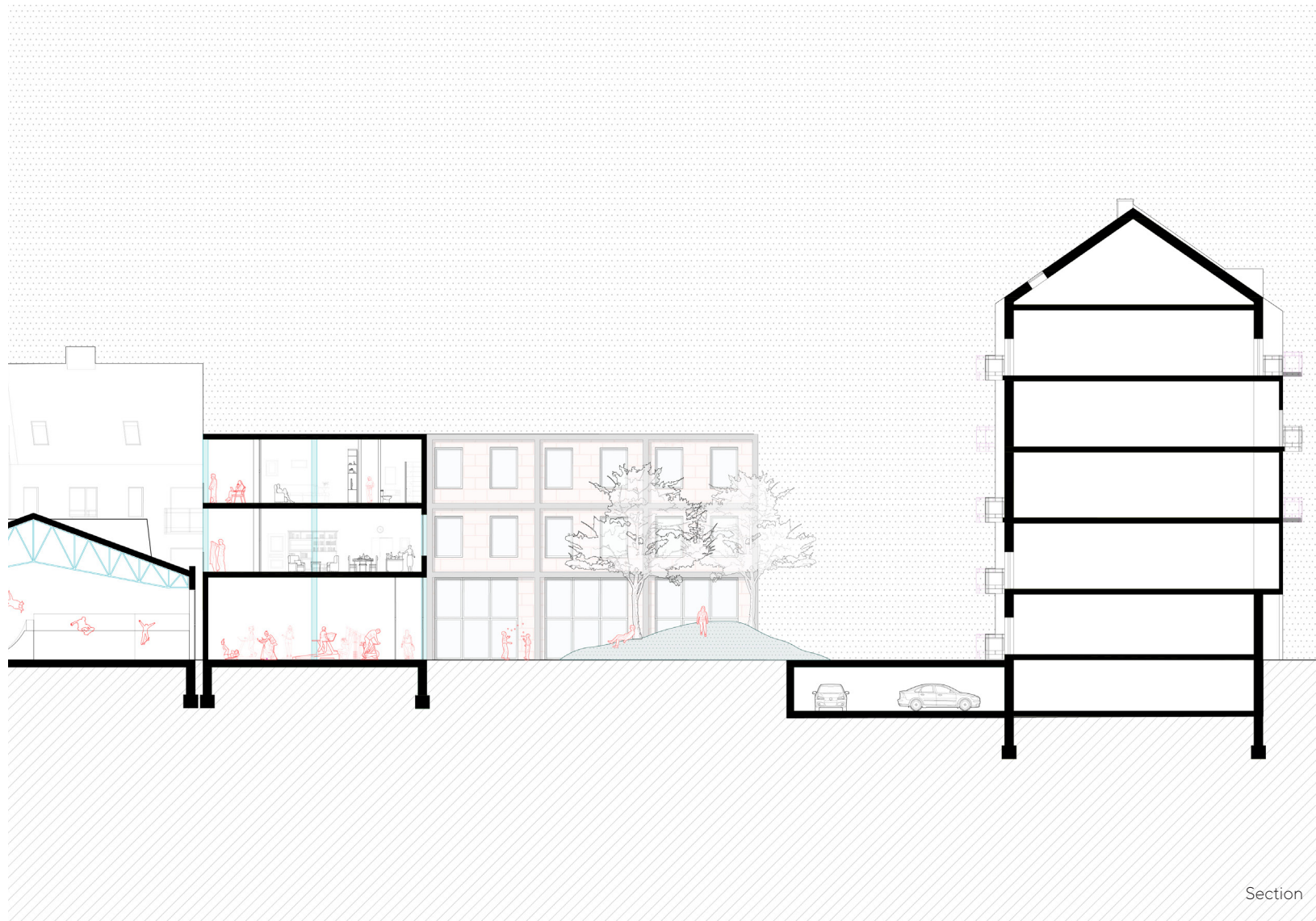


Apertments and number of residents



First and Second floor plan





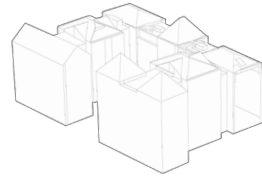
Section



South -East Elevation

Facade elements

Former KBC site, Avenue du Port, Molenbeek



Part 3

Productivity Workshops area





Ground floor plan

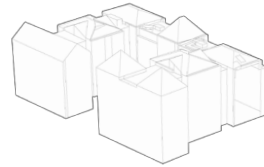


First and Second floor plan

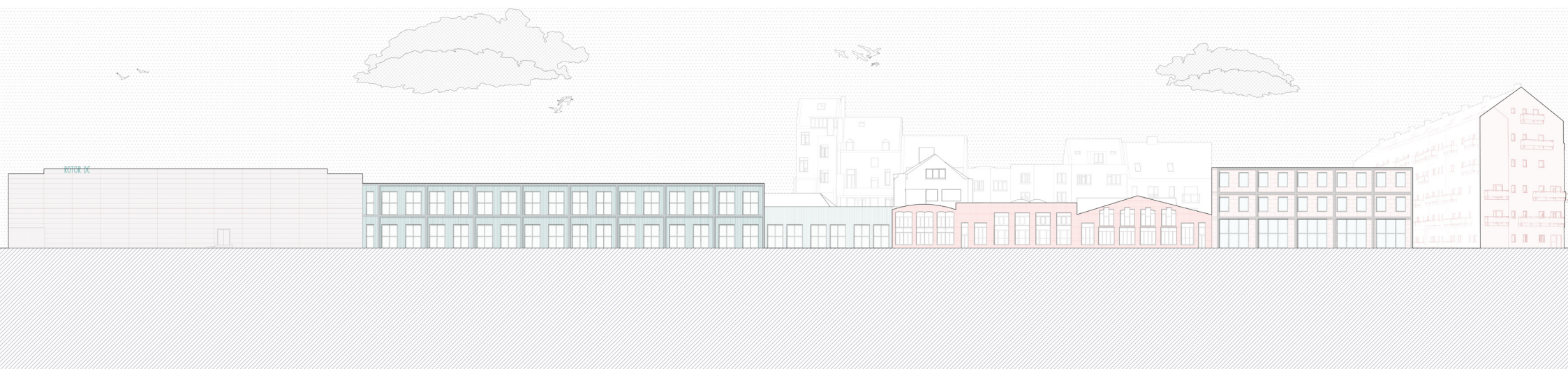


Facade elements

Former KBC site, Avenue du Port, Molenbeek



The final street front

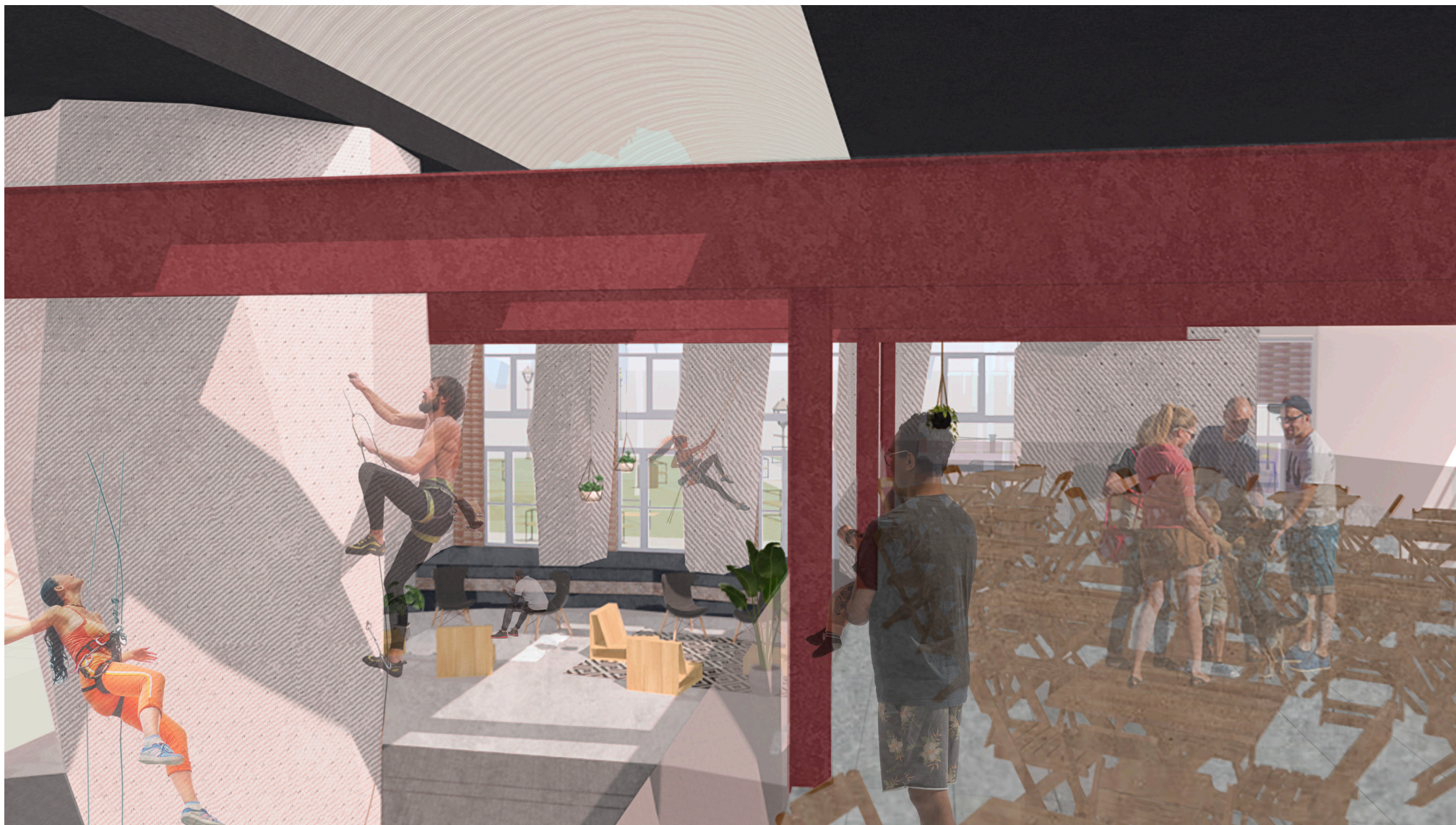


The existing street front

Rue Des Bassins











Thank you