



MASTER-/DIPLOMARBEIT

The Innovation Center

Co-working centre in Cracow

ausgeführt zum Zwecke der Erlangung des akademischen Grades
eines Diplom-Ingenieurs / einer Diplom-Ingenieurin
unter der Leitung von

Manfred Berthold
Prof Arch DI Dr

E253 - Institut für Architektur und Entwerfen

eingereicht an der Technischen Universität Wien
Fakultät für Architektur und Raumplanung

Michelle Schreuder
Matr. Nr. 01170027

Vienna, on _____

Date

Signature

ABSTRACT EN

This master thesis deals with the concept of a co-working centre in Cracow, Poland, emphasizing a flexible architectural construction and layout.

The challenge is multifold - on the one hand, the modern working space requires a high level of flexibility to accommodate various organizational structures for different target groups such as freelancers, startups, medium size companies and on the other hand it needs to consider various aspects such as privacy, safety, and comfort of users. The result of the thesis is a multi-functional space that is adaptable over time. The space allows for an individual as well as collaborative work. It can be reconfigured, and other new functions can be added depending on the needs such as eatery, daycare, exhibition, and event spaces.

Furthermore, an important aspect of the design was the connection to the city. The structure that's made of four independent volumes and located in a post-industrial area in Cracow, contributes with its open form and circulation to the revival of the neighbourhood and creates space for social exchange and leisure activities.

KURZFASSUNG DE

Diese Masterarbeit beschäftigt sich mit dem Konzept eines Co-Working-Center in Krakau, Polen, und legt den Schwerpunkt auf eine flexible architektonische Konstruktion und Gestaltung.

Die Herausforderung ist vielfältig - einerseits erfordert der moderne Arbeitsraum ein hohes Maß an Flexibilität, um verschiedene Organisationsstrukturen für mehrere Benutzerzielgruppen wie Freiberufler, Start-ups und mittelständische Unternehmen unterzubringen. Andererseits müssen verschiedene Aspekte wie Privatsphäre, Sicherheit und Komfort der Nutzer berücksichtigt werden. Das Ergebnis der Arbeit ist ein multifunktionaler Raum, der im Laufe der Zeit anpassungsfähig ist. Das Co-Working-Center ermöglicht sowohl individuelles als auch gemeinschaftliches Arbeiten. Das Zentrum kann neu konfiguriert werden, und je nach Bedarf können neue Funktionen hinzugefügt werden, wie z. B. ein Restaurant, eine Kindertagesstätte, Ausstellungs- und Veranstaltungsräume.

Ein wichtiger Aspekt des Entwurfs war auch die Verbindung zur Stadt. Das aus vier unabhängigen Volumen bestehende Gebäude in einem postindustriellen Gebiet in Krakau trägt mit seiner offenen Form und Zirkulation zur Wiederbelebung des Viertels bei und schafft Raum für sozialen Austausch und Freizeitaktivitäten.

Thank you note

I would like to take the opportunity to express my gratitude to my family, who supported me throughout my studies and especially during my thesis work.

Additionally, I would like to thank my supervisor, Professor Manfred Berthold, who guided me in this work and allowed me to engage with this topic.

Content page

Abstract (EN/DE)

1. Introduction

2. Site analysis

- 2.1. City Cracow
- 2.2. District of Zabłocie History
- 2.3. District of Zabłocie today
- 2.4. District of Zabłocie: Green Analysis
- 2.5. District of Zabłocie: Public Transport
- 2.6. Urban analysis of the district Zabłocie
- 2.7. The site

3. Goal of the project

- 3.1. The requirements
- 3.2. The functions

4. Methodology

- 4.1. Form studies: shape
- 4.2. Form studies: the final form
- 4.3. Form studies: entrance
- 4.4. Form studies: Circulation and green roof
- 4.5. Construction
- 4.6. Cycling Ramp – reference projects
- 4.7. Design process
- 4.8. Ramp construction
- 4.9. Flexible coworking spaces
- 4.10. Informal coworking
- 4.11. Interior circulation
- 4.12. Program
- 4.13. Sustainability
- 4.14. Photovoltaic facade

5. Results

- 5.1. Site plan
- 5.2. Plan Overview
- 5.3. Plans (Underground floor, Ground floor, First Floor, Second Floor)
- 5.4. Sections (A, B)
- 5.5. Elevation South
- 5.6. Elevation North
- 5.7. Elevation East
- 5.8. Elevation North
- 5.9. Facade section
- 5.10. Detail A
- 5.11. Detail B
- 5.12. Detail C
- 5.13. Detail D
- 5.14. Detail E

6. Perspectives

7. Valuation

8. 3D model

9. Summary

10. References

11. CV

1. Introduction

1. INTRODUCTION

The project is in a post-industrial area in Cracow and aims at introducing a new program that will contribute to the revitalization of the area. The project's objective is to design a co-working space that allows for ever-expanding forms of working to take place, such as freelancing, gigs, part-time independent work as well as small to medium organizations. Derived from the program, the project's challenge is to design highly flexible spaces that can not only create the right kind of working environment with an emphasis put on privacy and safety but can also encourage exchange and communication among the users.

Moreover, the project looks at how architecture can contribute to the overall city landscape by adding publicly accessible green spaces that can improve the well-being of the local community.

2. Site analysis



Fig 2.1.1. CRACOW CENTER



Fig. 2.1.2. Cloth Hall Square



Fig .2.1.3. Okraglak na placu Nowym



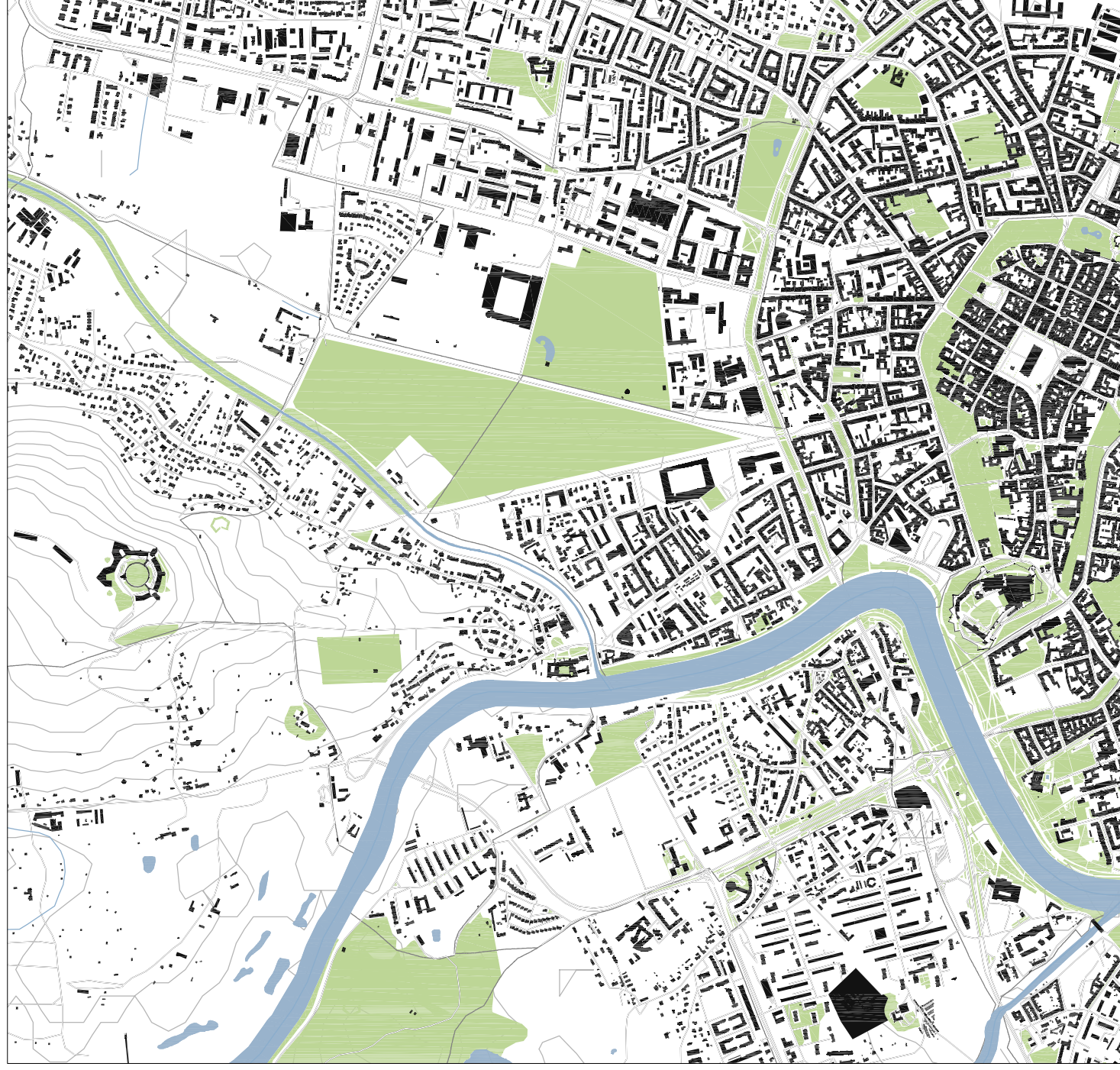
Fig. 2.1.4. Wawel Castle - Cracow

2.1. Cracow

The city of Cracow is one of the oldest, largest and most beautiful cities in Poland. It was once the capital of Poland, specifically from 1038 to 1569. It's historical importance and past glamour is still visible nowadays, with well preserved historical city fabric. Most noteworthy is the main city square, the Wawel Castle as well as the National Museum. Economically, the city is one of the fastest growing in Poland. This phenomenon can be attributed to tourism and innovation in the area of technology. The city is described by many as an innovation ecosystem, because of it's vast amount of higher education and cultural institutions. (Source: Britannica, 2023)

Krakow is a natural hub for businesses, especially those in the following sectors: IT, financial sector and business services and is a leader in regards to start-ups that specialize in IoT and EduTech sectors. The working population amounts to 77% of all inhabitants and is very diverse in terms of cultural background and languages spoken. (Source: ieeenap.org, 2023)

Fig. 2.2.5. Cracow



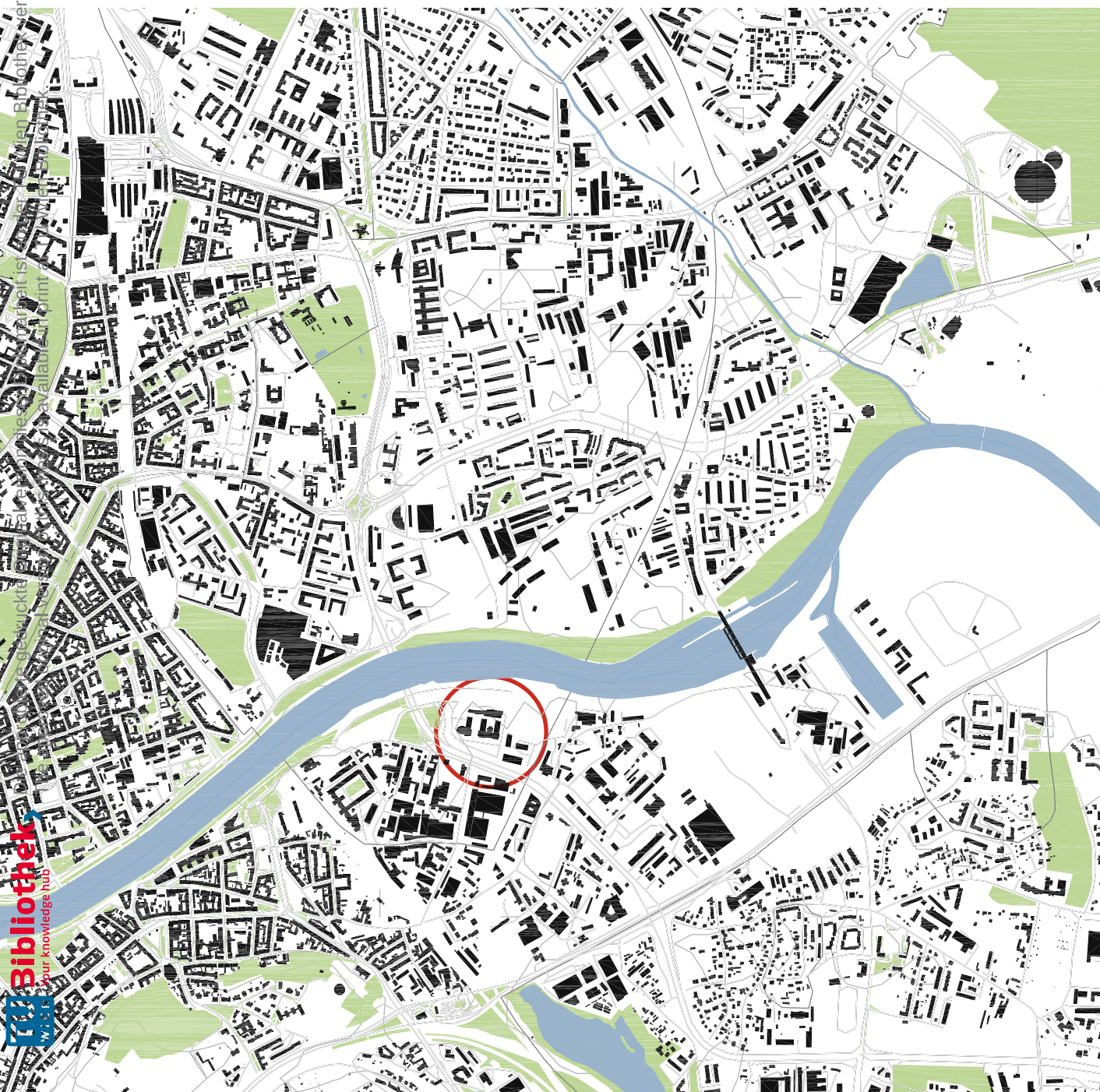


Fig. 2.2.6. Map of Cracow, 1:20000



Fig. 2.2.7. Schindler's Factory



Fig. 2.2.8. Zabłocie, industrial landscape

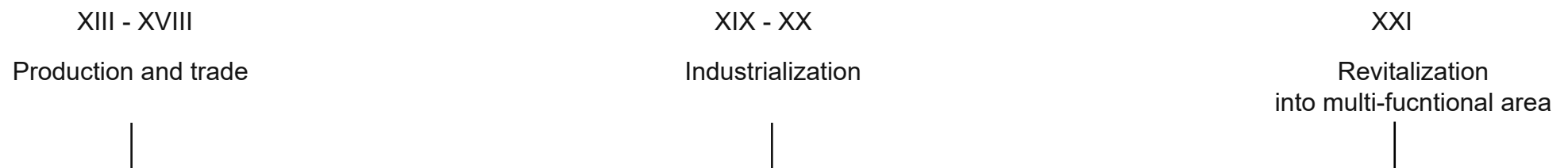
2.2. District of Zabłocie History

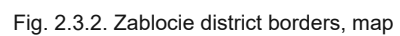
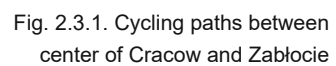
Zabłocie district has a rich and diverse history and has had many various functions over time. During medieval times, the district's main function was the river port, which was used for the transportation of salt from the Wieliczka river port.

After the first partition of Poland, the districts' main purpose was a storage area for the city of Podgorze, which was established by the Austrians. With the arrival of industrialization, the area was transformed into a typical purely functional area with various factories and warehouses.

The most important time for the area was right at the beginning of the 21st century when the city of Krakow realized the potential of the until now, stagnating area of Krakow. The stagnation started after 1989 when state-owned companies started to move out of the district.

Nowadays, because of the proximity to the city centre, the area is extremely popular among investors, causing a massive building boom. (Source: Herito., 2020)





2.3. District of Zablocie today

The long industrial history resulted in a scattered urban fabric, with the presence of many deteriorating factory halls, production facilities and railways. This poses a challenge for the current planners whose aim is to create a multi-functional area that can be an extension of Cracow's main city centre. Even though many projects have already been executed in this area, including cultural spaces as well as school and residential projects, no master plan or design thought is being executed with consistency.

In the past years, a new bridge has been built that connects the area with the city centre and allows for faster access for local commuters, however, public transportation is still not well developed, and the area is dominated by car traffic. In addition, there is a lack of green recreational areas for the public, which becomes more and more important with new functions such as living, being introduced.



Fig. 2.3.4. Street view of Zablocie



Fig. 2.3.2. Zablocie district borders, map



Fig. 2.3.5. Street view of Zablocie

2.4. District of Zabłocie: Green Analysis

Zabłocie lacks public green spaces that are easily accessible to everyone. The only recreational public area is the Park Stacja Wisła which is located right next to a major road leading to the city centre and is therefore hard to access. There are no other recreational green spaces in Zabłocie that can be used for specific functions such as a playground for children or sports activities.

As Zabłocie's natural north border is the Wistula river, it provides the opportunity for a natural green recreational area. Unfortunately, there has been no plan so far to make this area more usable, instead, it's not being maintained and is rarely used by the locals for any sort of leisure activities.

2.5. District of Zabłocie: Public transport

Currently, there are only two major beltways across the city, which due to their high acoustic pollution, are unattractive to pedestrians and cyclists. One of the beltways passes through the heart of Zabłocie dividing the district into two separate parts.

Even though a new railway bridge has been created to connect the Zabłocie district to the rest of the city, it can be said that the majority of the traffic is caused by cars as this is still the most effective transportation medium.

0
|
100
|
200
|



- Cultural
- Business
- Green Public spaces

Fig. 2.4.1. Schwarzplan - district of Zablocie



4 Fig. 2.4.5. Butterfly garden



5 Fig. 2.4.6. Park Stacja Wisla



3 Fig. 2.4.4. MOCAR Museum of Contemporary Art

2.6. Urban analysis of the district Zabłocie

Since the beginning of the 21st century, isolated attempts at revamping the area have been undertaken without a master plan. The focus lay on museums as well as redesigning factories into other types of spaces such as offices and apartments. The most noteworthy architecture in Zabłocie is certainly the MOCAR museum which houses contemporary art and the Schindler's factory museum which examines the Jewish history of the area.



6 Fig. 2.4.7. Loftmill - Co-working space



7 Fig. 2.4.8. Diamante Plaza - Co-working space

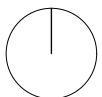


1 Fig. 2.4.1. Schindlers factory museum



2 Fig. 2.4.3. Center for Glass and Ceramics





0
|

50
|

100
|

2.7. The site

The site where the building is located is 11.780 square meters and is facing the main traffic artery to the south, which leads directly to the city centre. On the west, the building site is facing a railway road and, on the east, an educational facility. In the north of the building site, there is a new housing development. The actual building site was used for storage and had not been maintained for while eventually leading to deterioration and then the demolition of the buildings on the site.

3. Goal of the project

3. GOAL OF THE PROJECT

The goal of this architectural project is to design a co-working space that will revitalize the district by providing a versatile building with multiple uses. The co-working facility will offer an innovative working environment and will provide access to its green rooftops via a ramp leading from the interior courtyard, and adjustable walls indoors. There will be additional functions that will be integrated into the building, that will support the users and maintain their productivity.

3.1. The requirements

The co-working space is designed to meet the needs of various professionals who value collaboration and flexible usage of space. In addition to the collaborative atmosphere, the co-working space will also accommodate individual work and teamwork. This requires scalable workspaces that can be adapted to the needs of each user, whether they require a private desk or a larger team area. The flexible layout and adjustable walls create an environment that is adaptable to the changing needs of the users, allowing them to focus on their work and be productive, whether they are working alone or as part of a team. The building fosters creativity and productivity by providing green spaces to take breaks and recharge energy. Moreover, it animates to be more active by providing easy access by bicycle or foot.

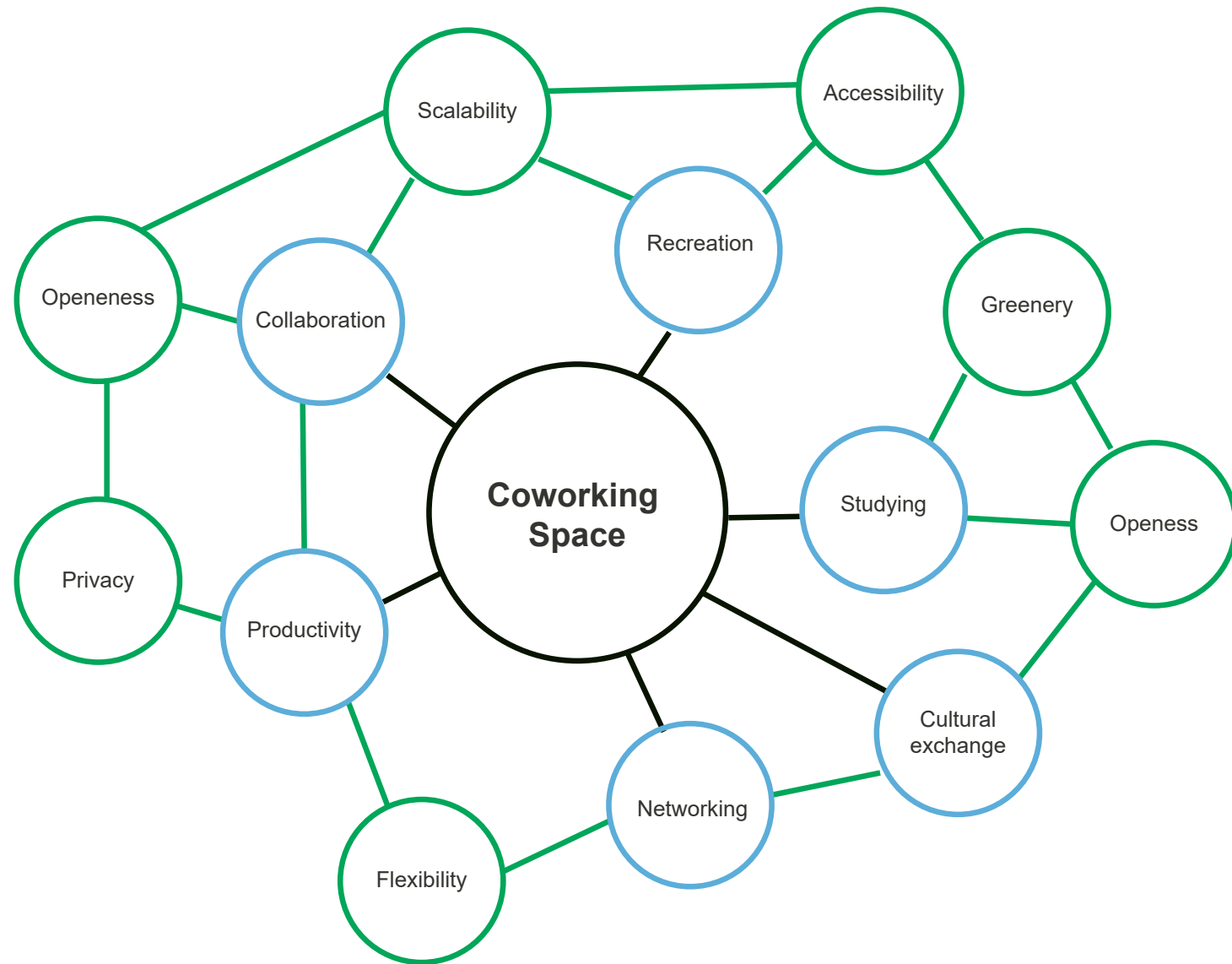


Fig. 3.1.1. Needs matrix

3.2. The functions

The co-working buildings offer a unique mixture of working spaces for small or bigger businesses, but also community areas such as lounges and balconies where more ideas can be exchanged informally. The public spaces such as exhibition or event rooms allow for flexible usage of the building beyond just classical co-working spaces.



Offices

Open plan office
 Private offices
 Individual focus areas
 Meeting rooms



Public

Courtyard/cycling ramp
 Green roof
 Exhibition spaces
 Event rooms



Informal working

Lounges
 Kitchens
 Balconies



Services

Welcome area/Information
 Kindergarten
 Storage
 Administration
 Technical rooms

4. Methodology

Therefore, the idea was to design a space that creates a usable public space and connects the public and the inhabitants, therefore a courtyard typology was considered.

From there on various forms in terms of openness to the public were evaluated.



Fig. 4.1.1. Form studies: shape 1

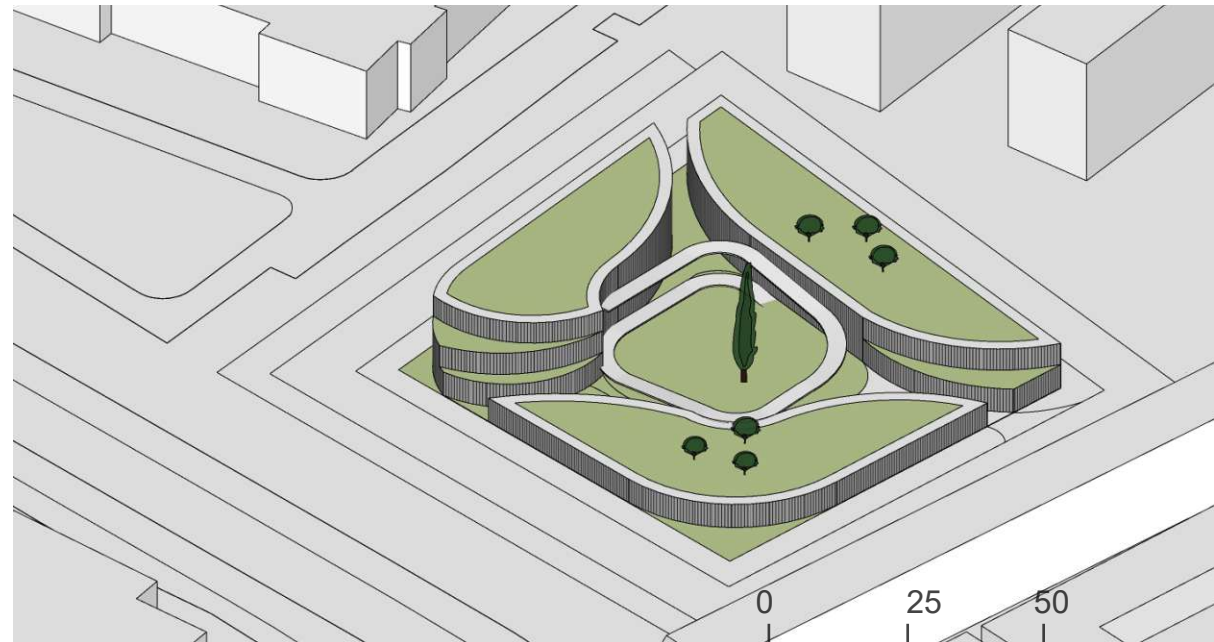


Fig. 4.1.2. Form studies: shape 2

4.1. Form studies: shape

I investigated various forms to determine the most adequate design. Firstly, based on the research I knew that it was crucial to integrate the building into the city. Therefore, I have decided to split the buildable area into separate volumes. Furthermore, due to the program and the various needs of the users, such as the need for exchange, creativity, and connection to locals, it was clear that there must be a "playful" element, that gives life to the building. As a result, I decided to introduce exterior vertical access in form of a ramp which can be used both by the public as well as the inhabitants of the building.

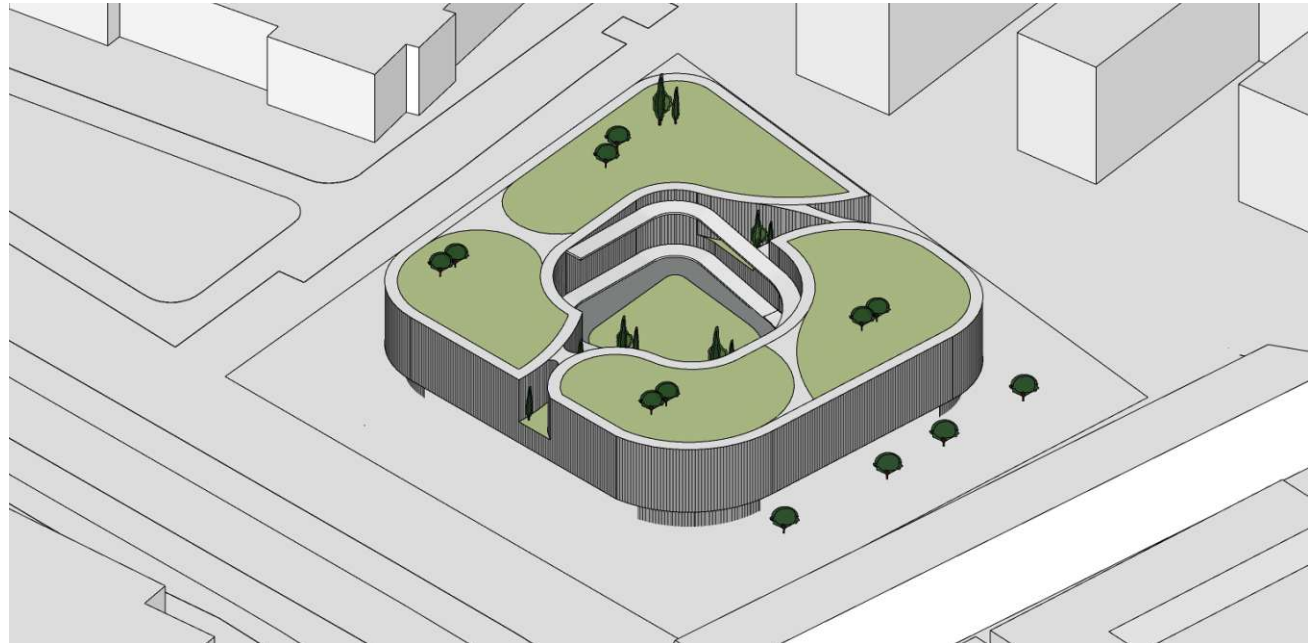


Fig. 4.1.3. Form studies: shape 3

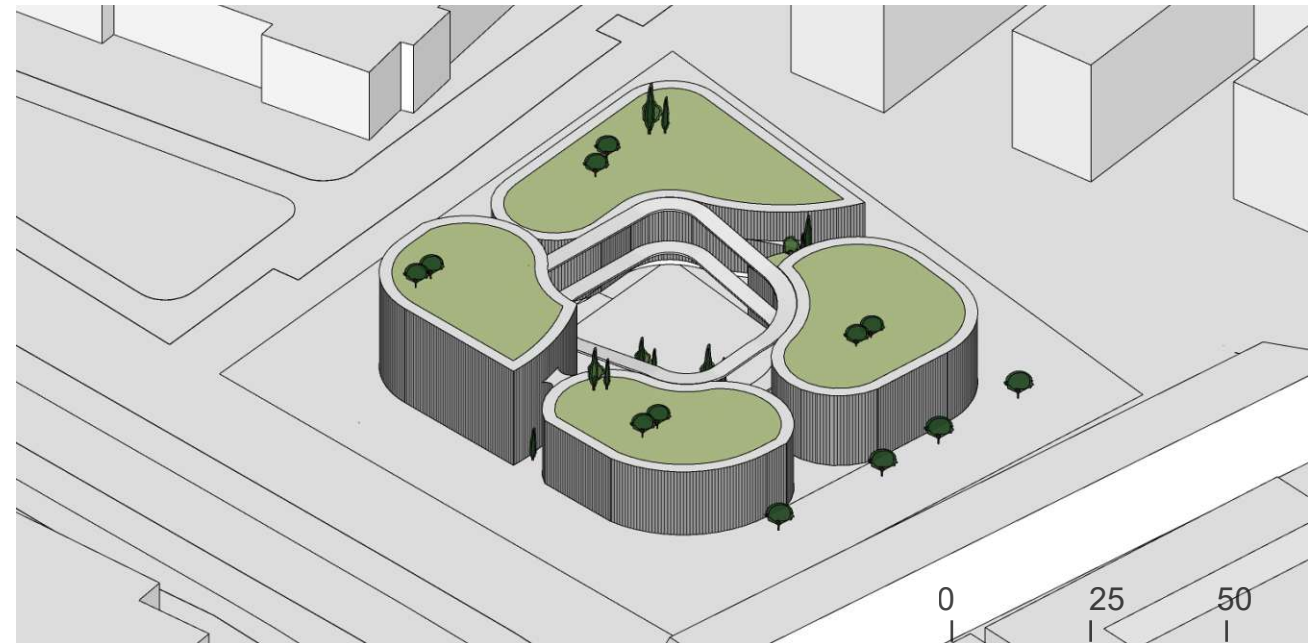
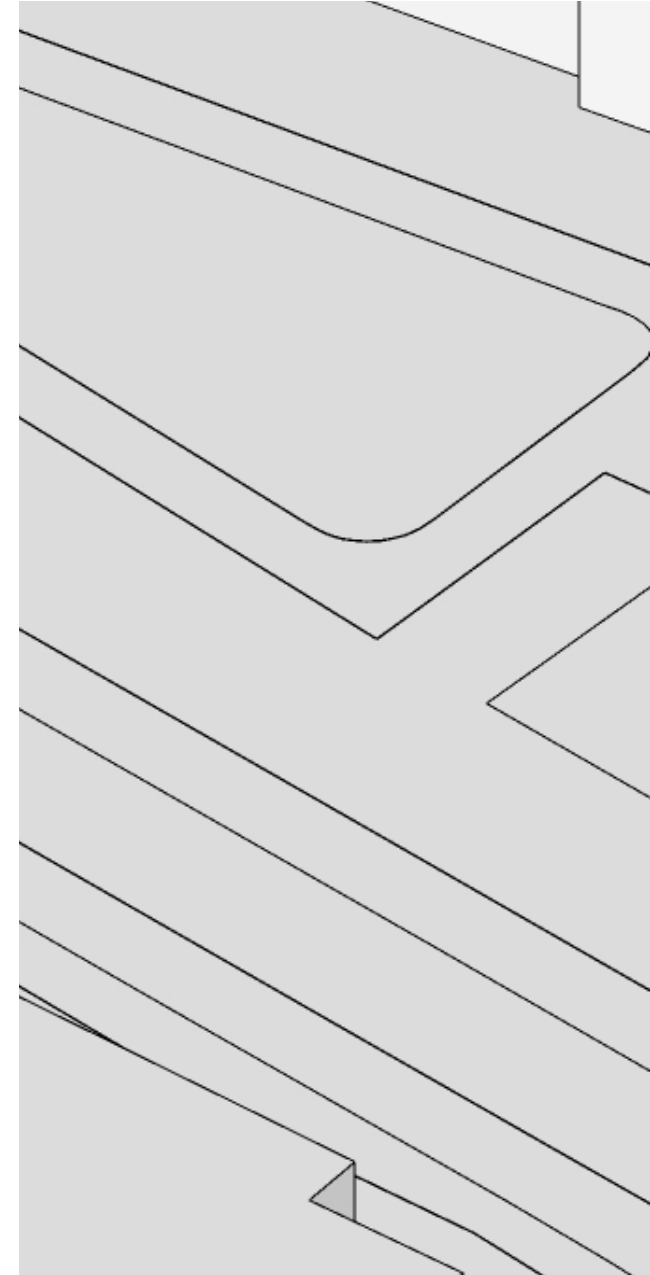


Fig. 4.1.4. Form studies: shape 4

4.2. Form studies: the final form

The final form of the building has been chosen based on various factors, such as accessibility, the program and considerations regarding the public space. the form features 4 interconnected volumes which vary in height and volume. The division of the volume into 4 buildings creates access for the local community. The form is designed to be organic to allow for efficiency, regarding light, ventilation and sustainability. In addition, the organic form allows for various in-between spaces which can be appropriated by the inhabitants and locals based on their needs.





0 25 50

Fig. 4.2. Form studies: final shape

4.3. Form studies - entrance

The primary entrance is in the west of the building site and allows for access to the interior courtyard. Additionally, there are 3 other passageways giving access to the main green space of the site. The entrance to the green roof is further possible by the interior cycling ramp.

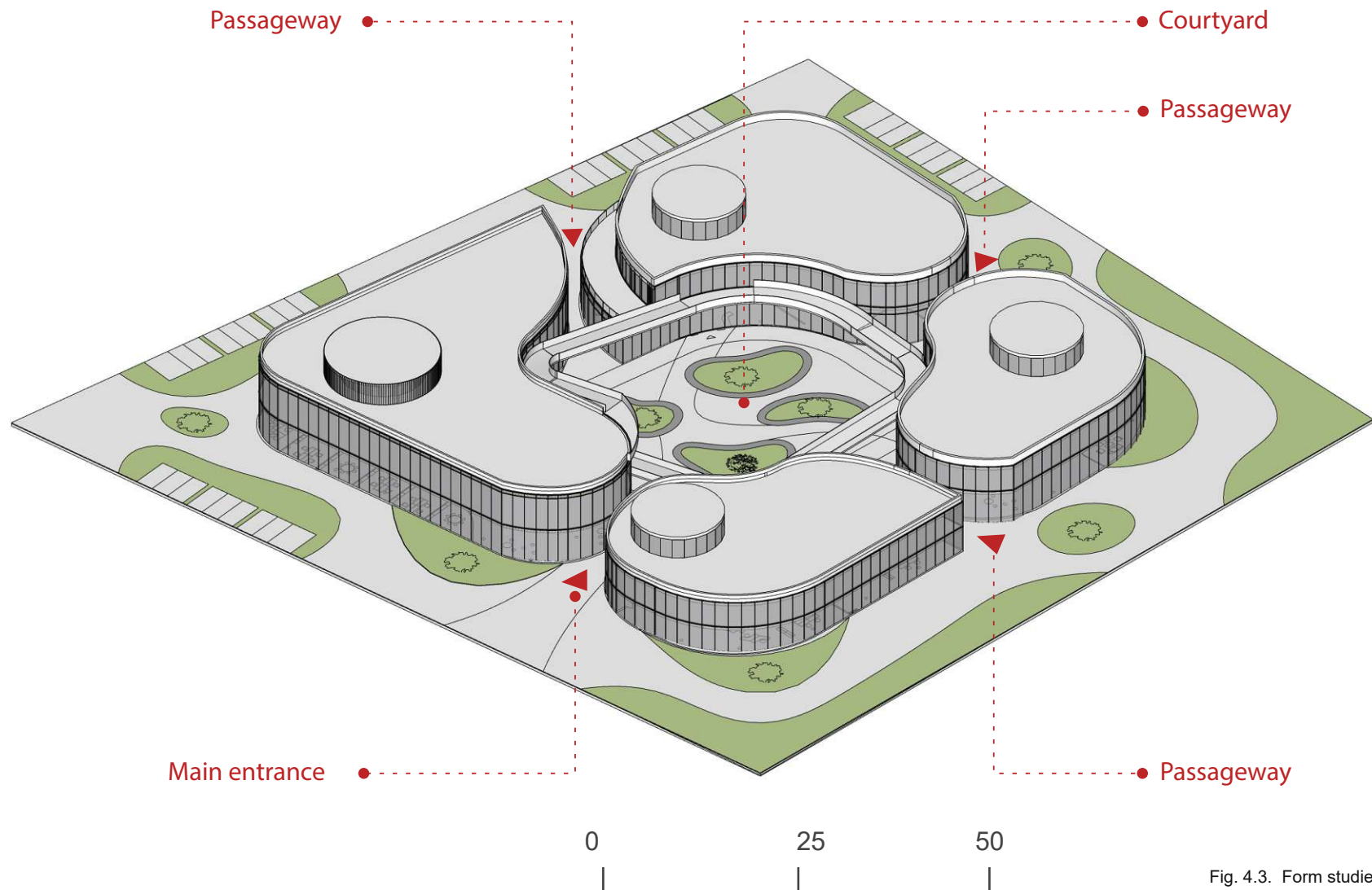


Fig. 4.3. Form studies: entrance

4.4. Form studies - Circulation and green roof

The four volumes can be accessed via the interior courtyard and the upper levels of the building can be accessed via the cycling ramp. Each level of the building reacts to the cycling ramp, resulting in various building heights. I choose to place the main cores of the building in the centre of each volume to allow for maximum flexibility and space division. The cores connect all floors and provide access to the green roofs. The shape of the volumes furthermore reacts to the shape of the cycling ramp and allows for an organic and seamless circulation.

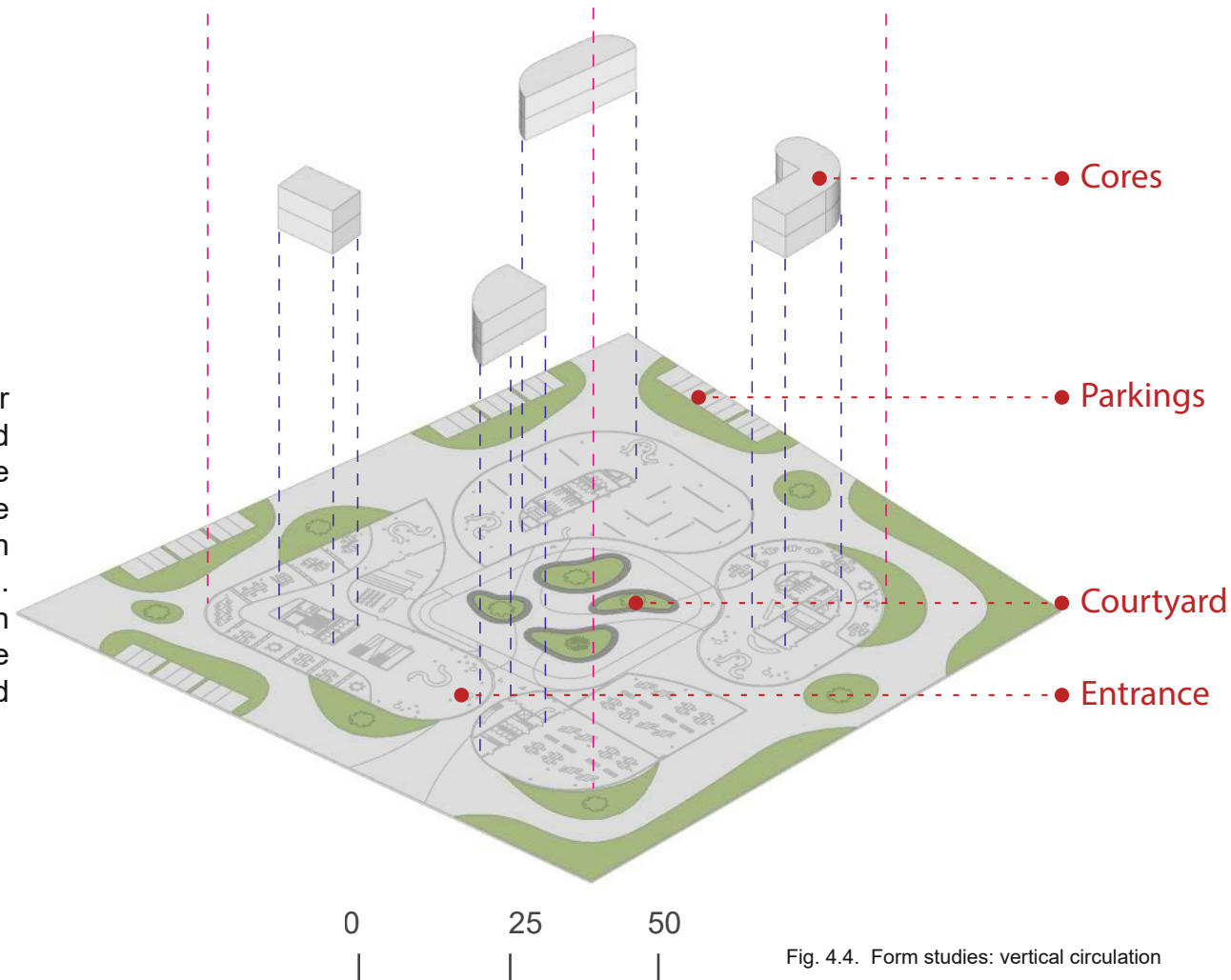


Fig. 4.4. Form studies: vertical circulation

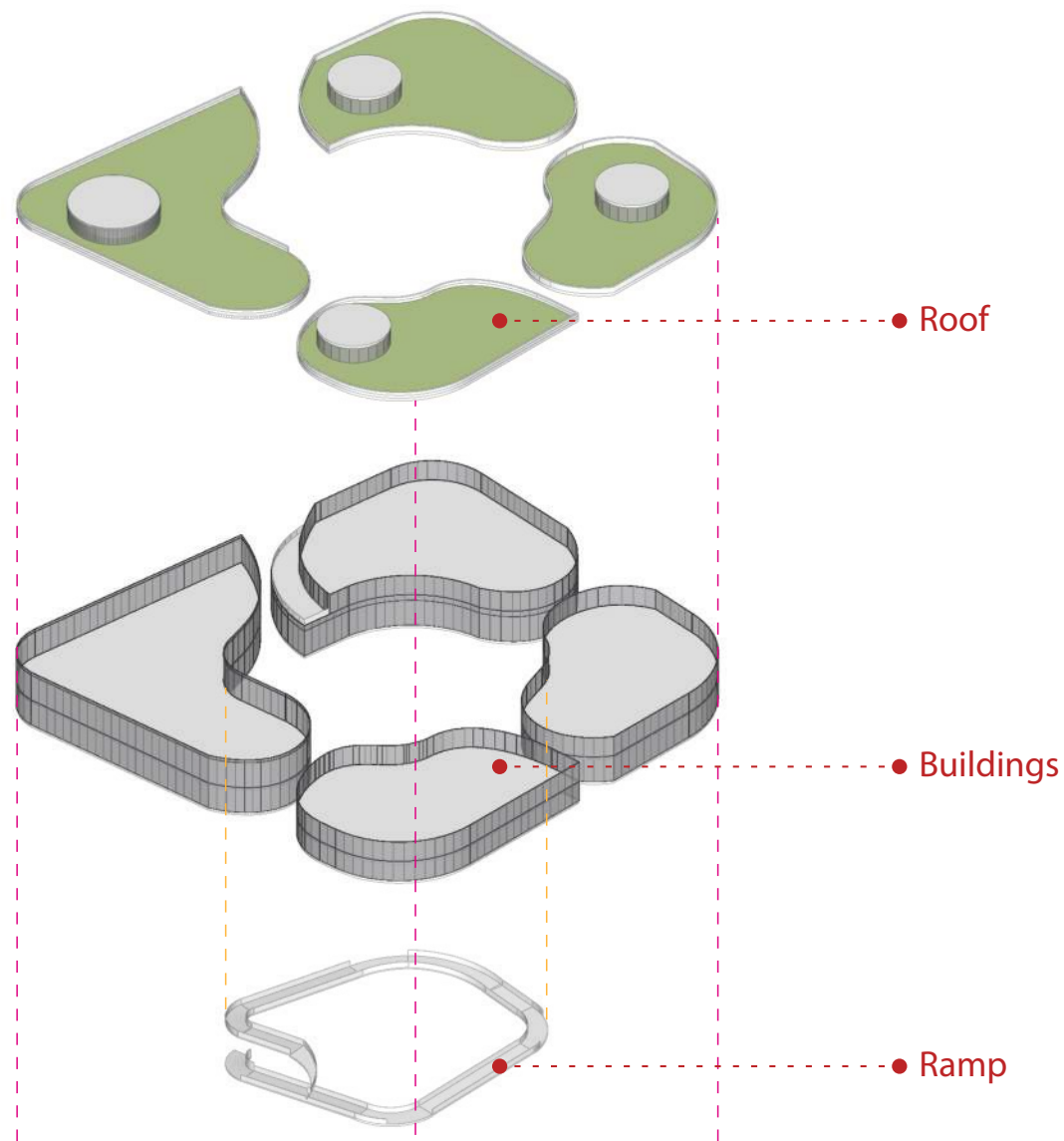


Fig. 4.4. Form studies: vertical circulation

4.5. Construction

The construction of the building was aimed at providing a maximum level of flexibility for the interior. Therefore, the cores were inserted into the middle of the structure and the columns were positioned based on a predefined grid adjusted to fit the organic outlines of each volume.

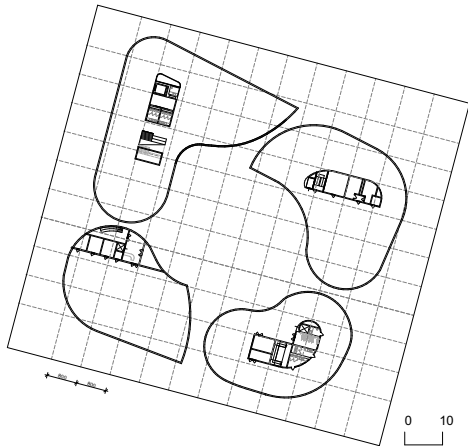


Fig. 4.5.1. Construction Variant 1

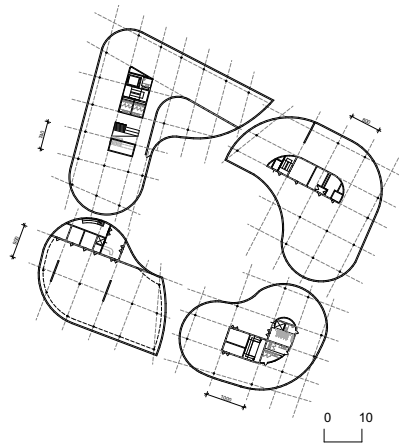


Fig. 4.5.2. Construction Variant 2

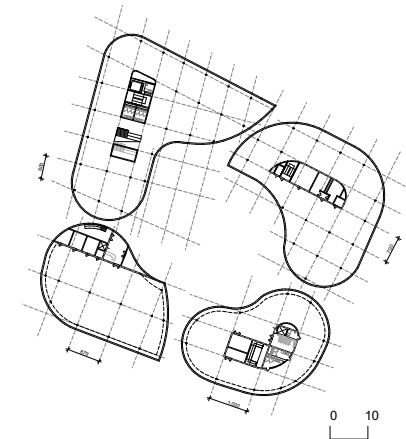


Fig. 4.5.3. Construction Variant 3

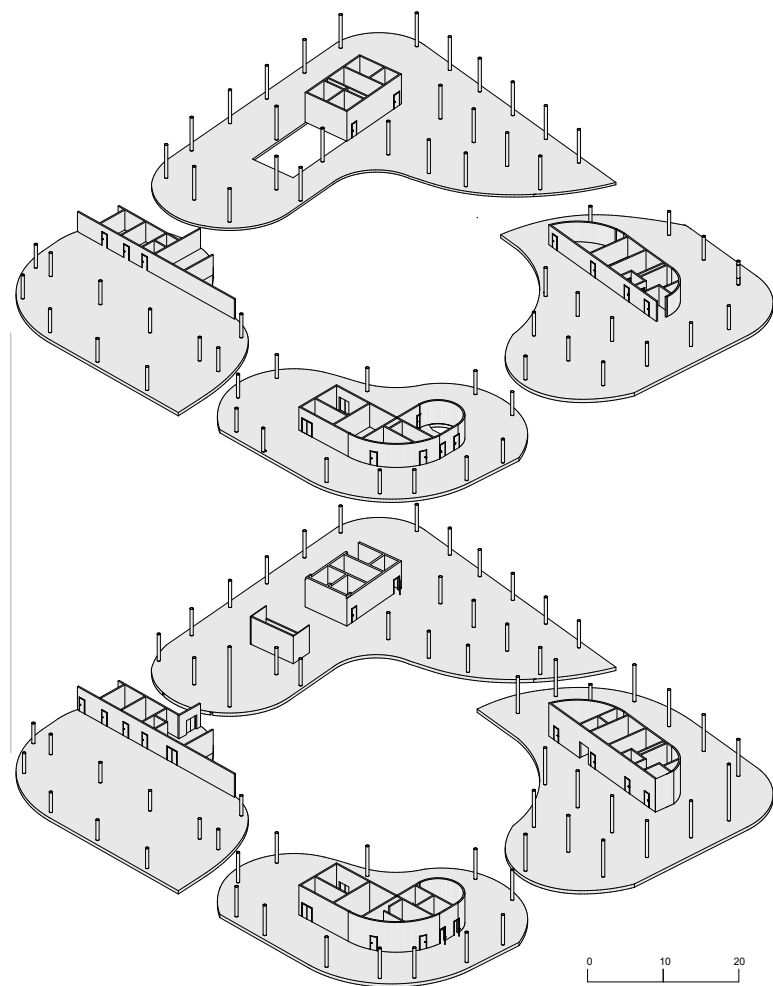
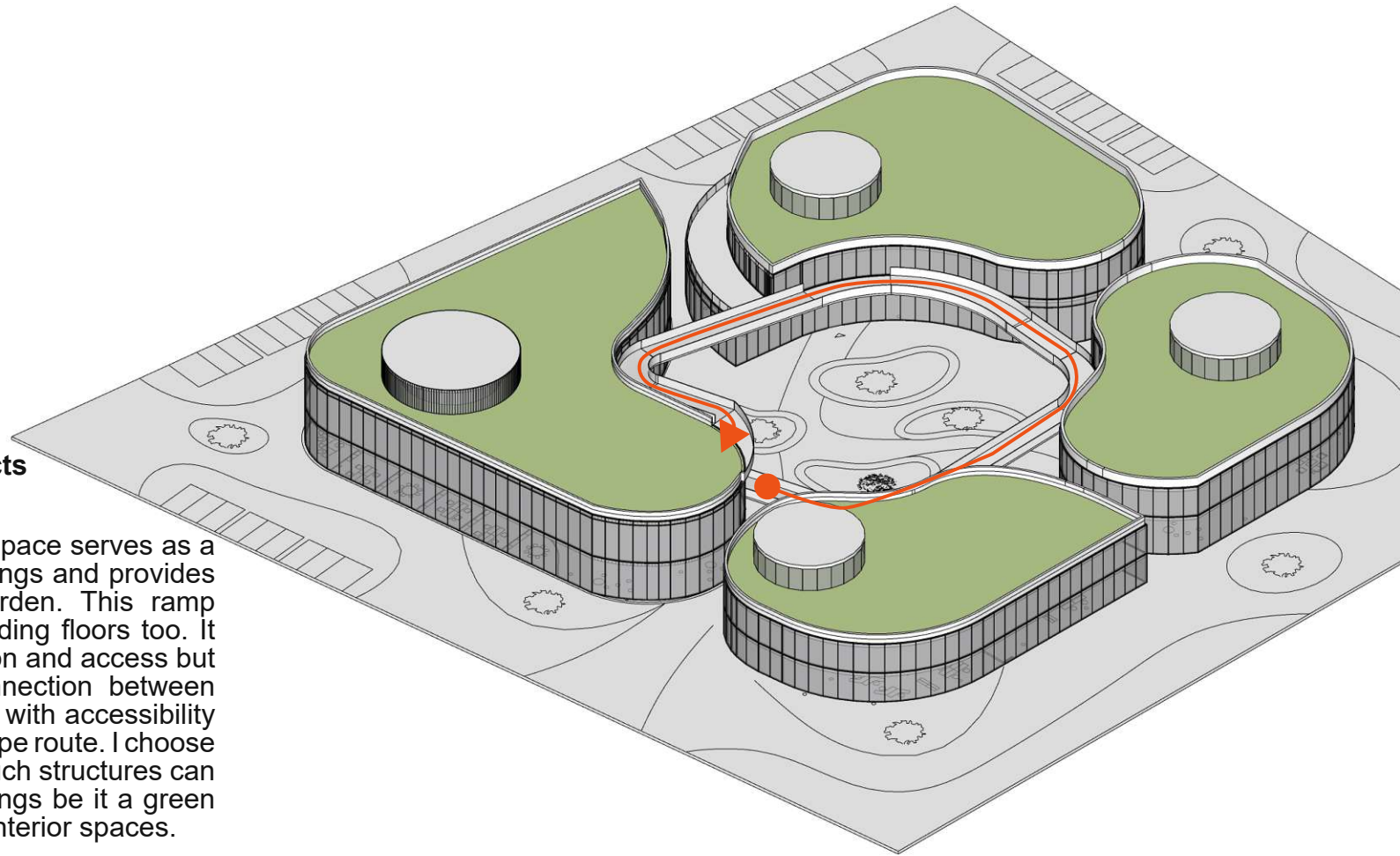


Fig. 4.5.3. Construction Variant 3, 1:1000

4.6. Cycling Ramp - Reference projects

A circular ramp in a co-working space serves as a unique feature that connects four buildings and provides direct access to a public rooftop garden. This ramp allows for alternative access to all building floors too. It not only serves the purpose of circulation and access but also encourages interactivity and connection between coworkers. In addition, It was designed with accessibility in mind and serves as an additional escape route. I choose the reference project to illustrate how such structures can seamlessly integrate into the surroundings be it a green public space or a connection between interior spaces.



0
|

25
|

50
|

Fig. 4.6.1. Form studies: vertical circulation ramp



Fig. 4.6.2. Photo 1 & 2, Camp Adventure, Spiral Ramp from Architecture office EFFEKT

4.7. Design Process - Ramp

I looked at 3 different ramp variants. The aim was to provide access to the rooftops and each floor separately. Variant 1 is composed of 2 separate ramps with more than 10% slope in some areas. Variant 2 consists of 1 ramp with less than 6% slope. Each subsequent volume was elevated. Ground-level access is obstructed by the ramp. Variant 3: The main slope varies between 6 and 10% and provides access to all necessary areas. Building floors have various heights.

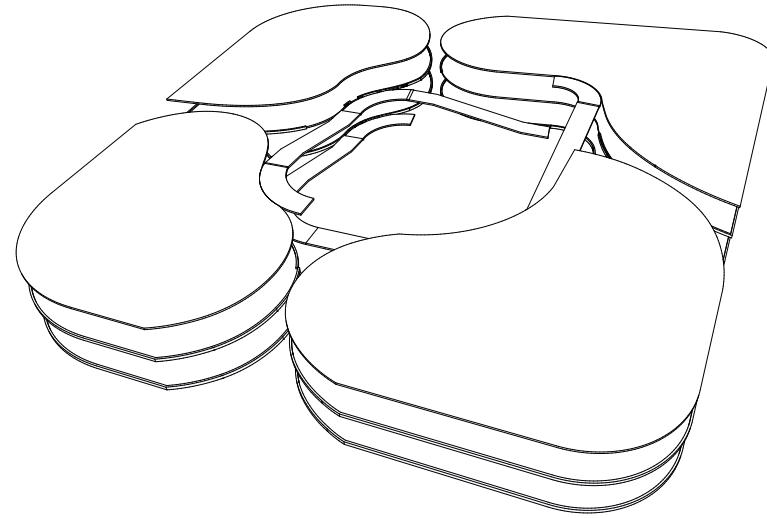


Fig. 4.7.1. Ramp variant 1

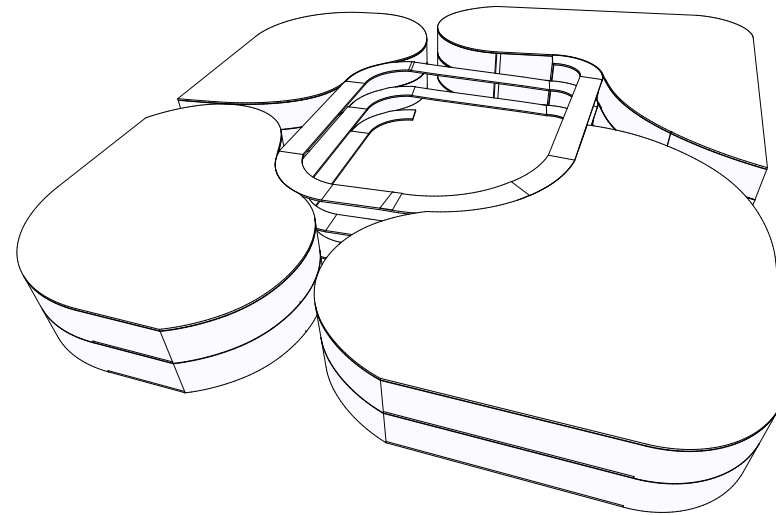
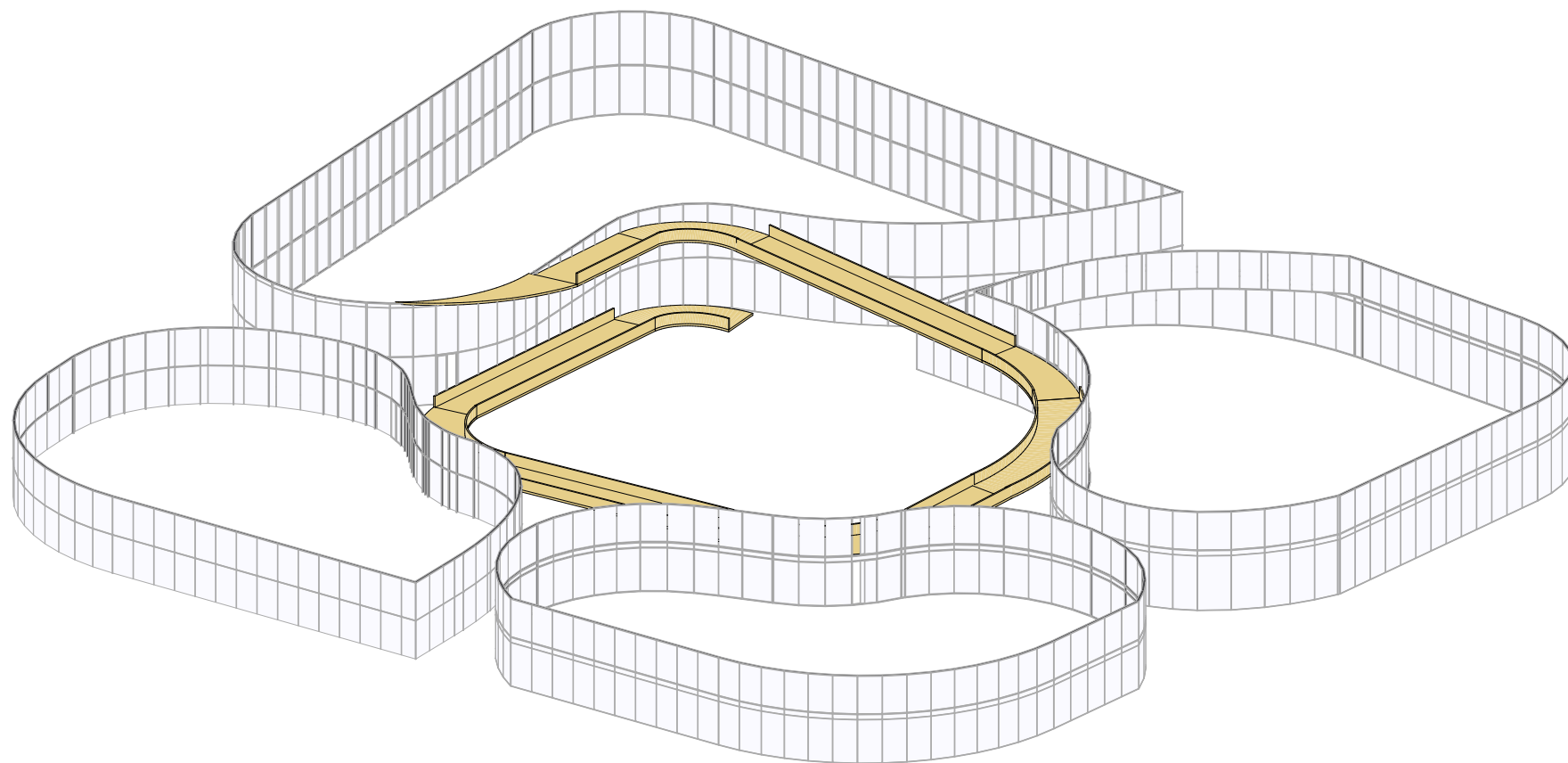


Fig. 4.7.2. Ramp variant 2



0
|

25
|

50
|

Fig. 4.7.3. The final ramp, variant 3

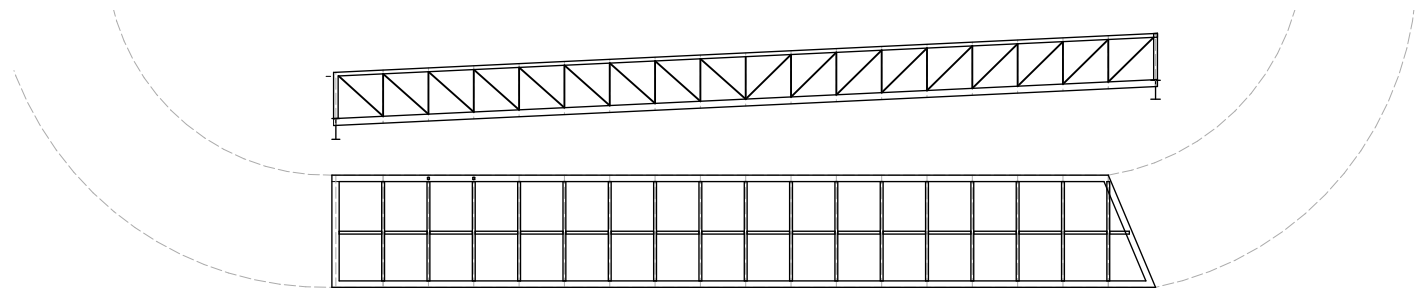


Fig. 4.8.1. Concept Drawing of Ramp, 1:200, Innovation Center, Cracow, Poland

4.8. Ramp Construction

The design of the ramp resembles a truss bridge construction. The reason for the use of this construction is the long-span possibilities and the material efficiency.

Between the buildings, the ramp's truss construction is carrying the loads and has an offset at the point of the ramp connecting to the building structure.

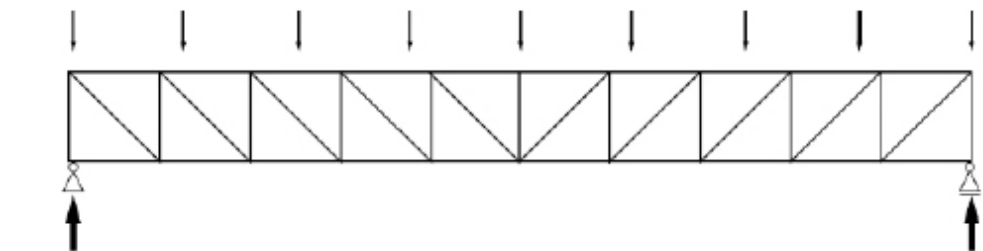


Abb: Baunetz (s), Berlin

Fig. 4.8.2. Fachwerkträger, Baunetzwissen.de



Fig. 4.8.3. Waalwijk Park Bridge, ipv Delft creative engineers



Fig. 4.8.4. Leutaschklamm Geisterklamm, Austria, trekhunt.com

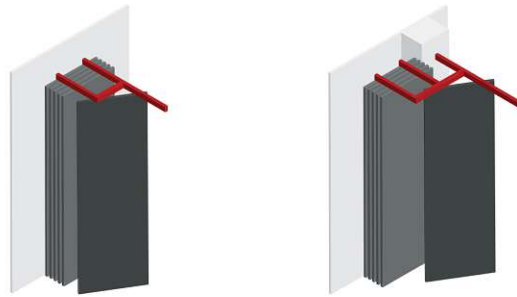


Fig. 4.9.1. Acoustic Operable Moving Walls

4.9. Flexible Coworking Offices

The interior design of this space features moveable walls, offering a high degree of flexibility. This solution allows for the space to be easily reconfigured to meet the changing needs of the users. Whether it be for individual work, group collaboration, or events, the moveable walls can be adjusted to create the desired layout and atmosphere. This versatility enhances the functionality of the space and maximizes its potential for productivity and creativity. The use of moveable walls also allows for more efficient use of space, reducing the need for additional area and creating a more sustainable work environment. The walls can be folded back perpendicularly via a ceiling-mounted railing system.





Fig. 4.9.1. Moving Walls, 0Innovation Center Krakow



Fig. 4.9.2.. Terratinta Ceramiche / Enrico Bergamini

4.10. Informal Coworking

To facilitate effective collaboration, open spaces in the buildings are designed to encourage exchange among co-workers.

Acoustic roof ceiling panels are mounted above the collaborative areas to maintain reduce unwanted noise.



Fig. 4.10.1. Flexible working stations



Fig. 4.10.1. Flexible working stations

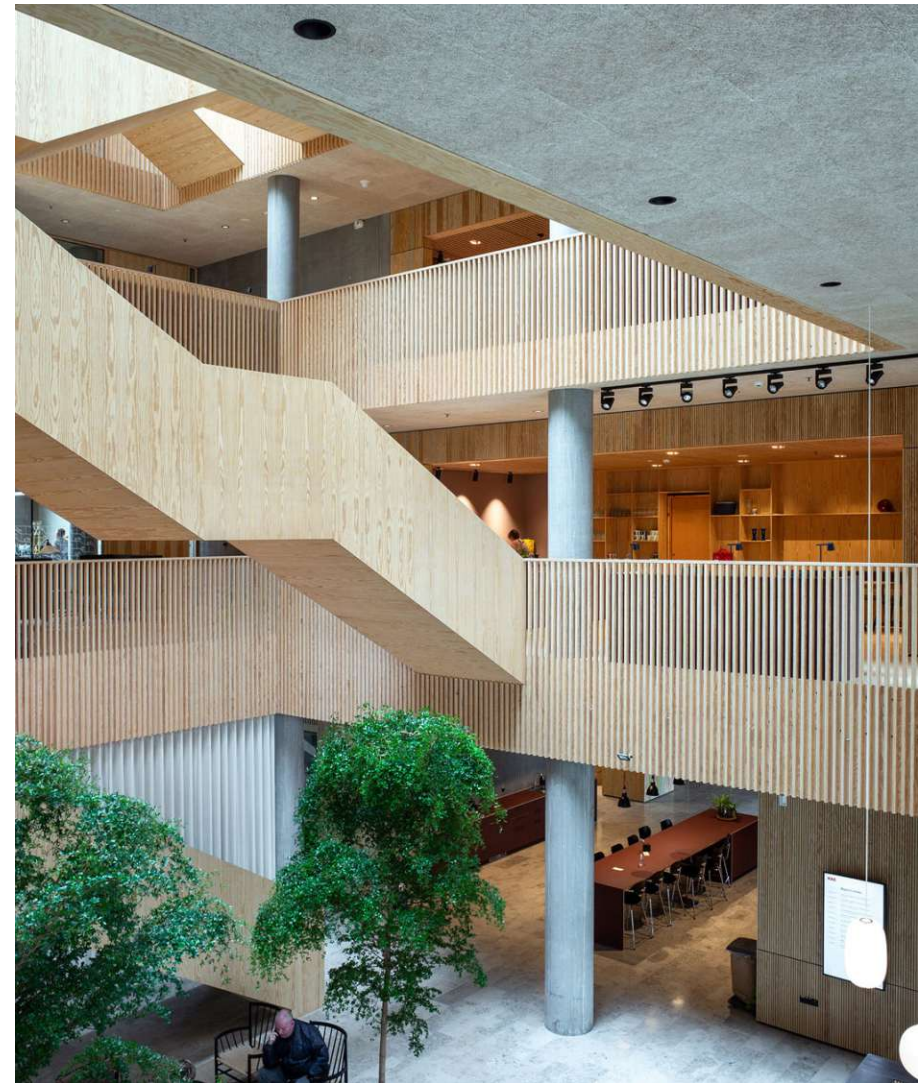


Fig. 4.10.2. Accoustic ceiling tiles

4.11. Interior circulation

I wanted to make use of all the space within the building including the circulation areas. These are designed in such a way to allow for informal exchange and socializing too. In this case, I designed an open public staircase in the main building where co-workers can sit and have short work breaks.

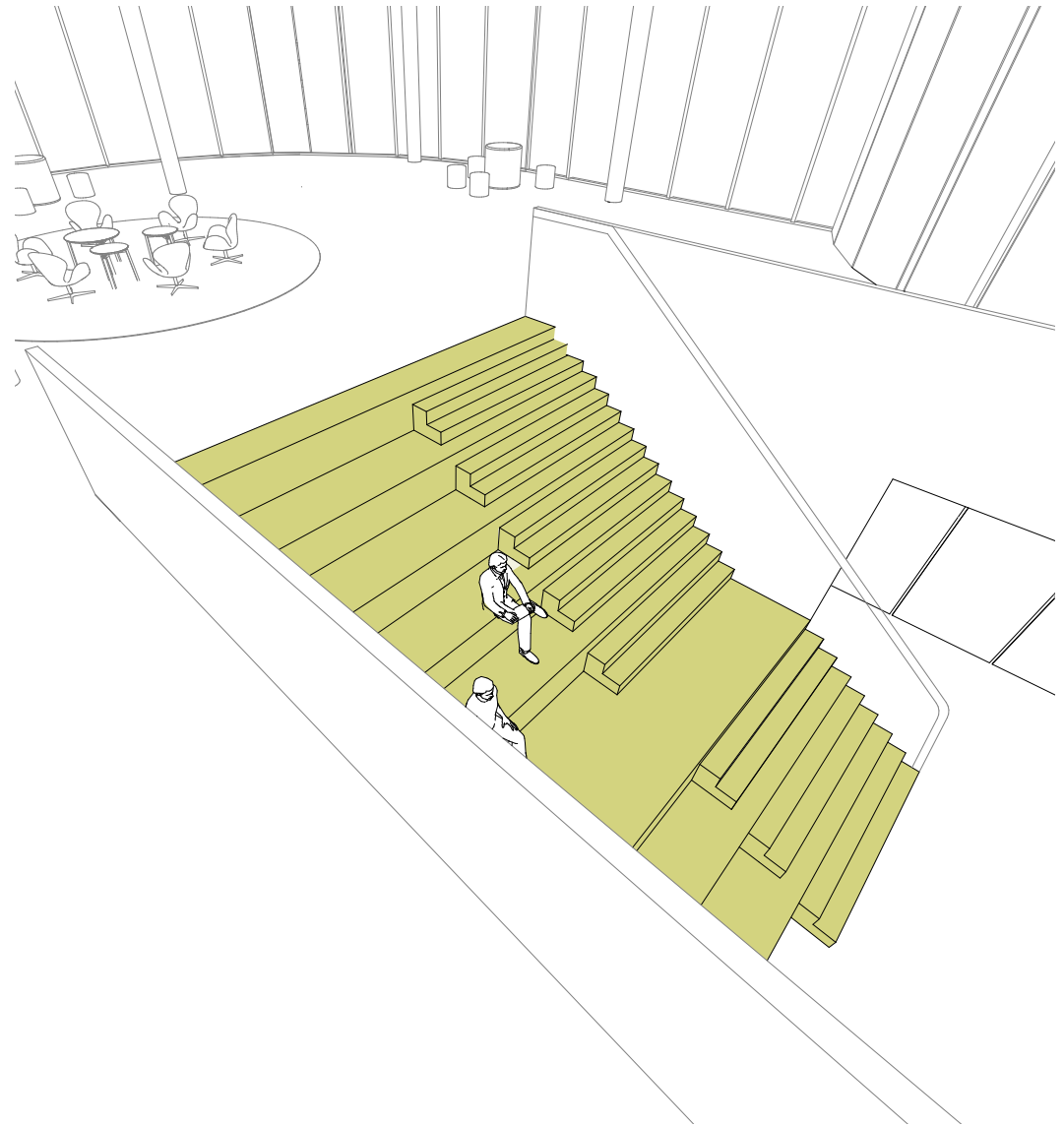


Fig. 4.11.1. Interior Circulation

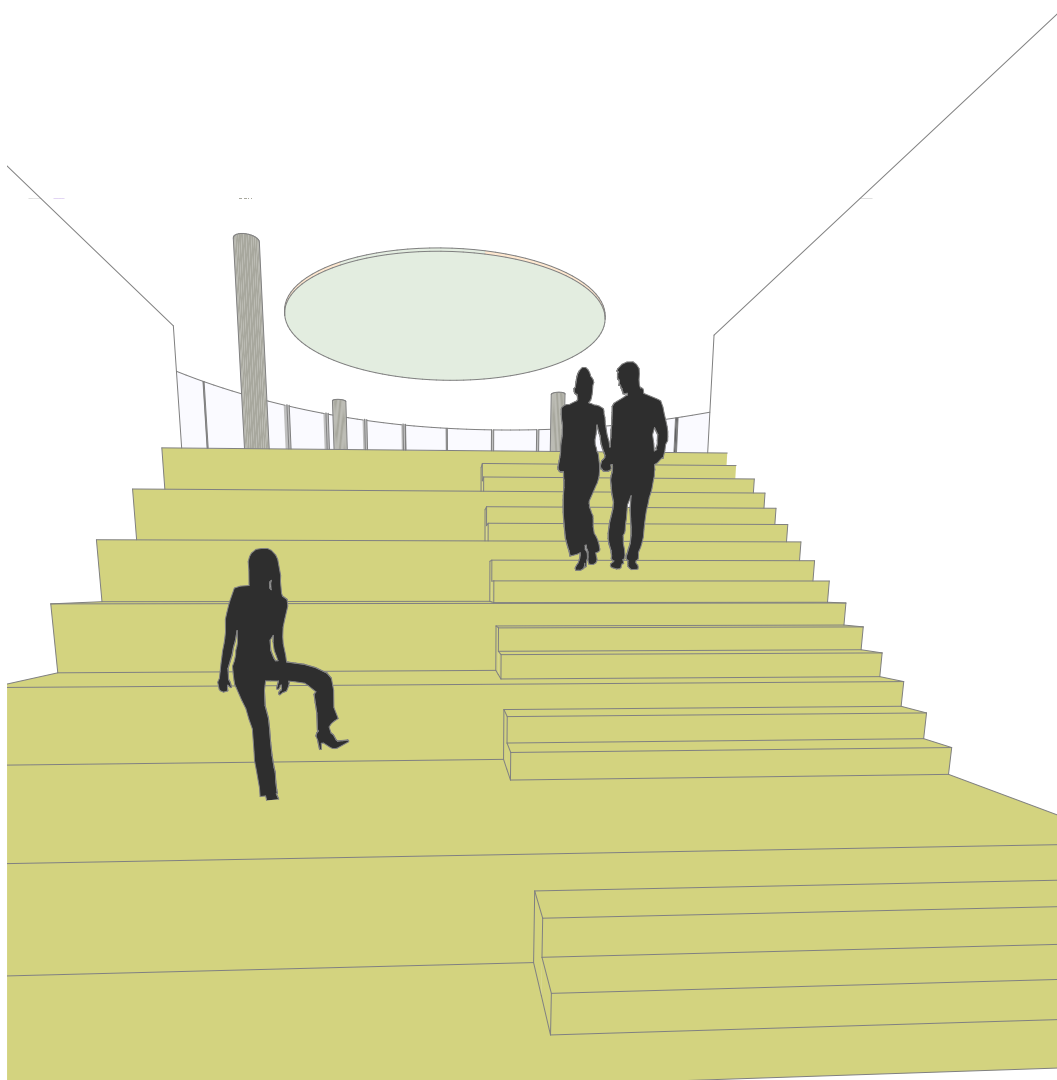


Fig. 4.11.1. Interior Circulation

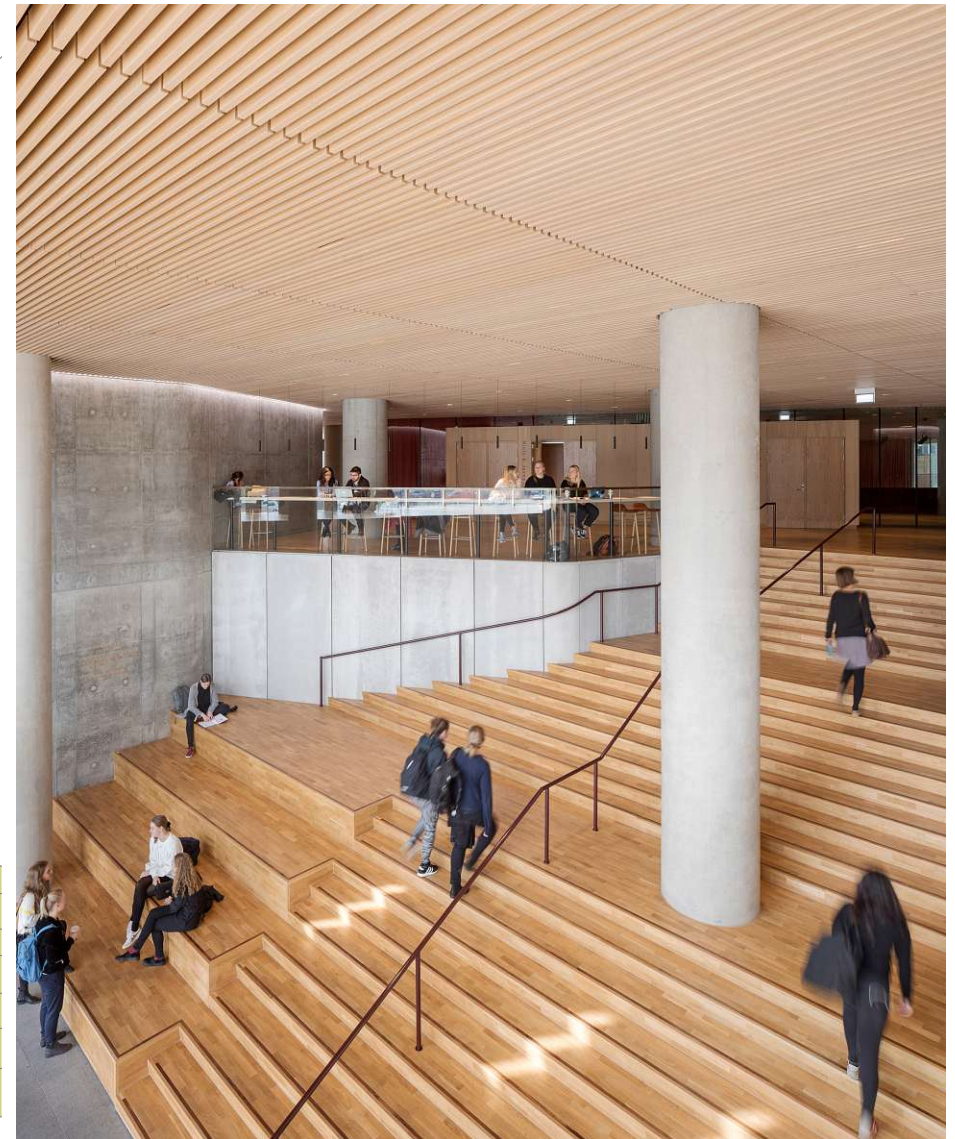
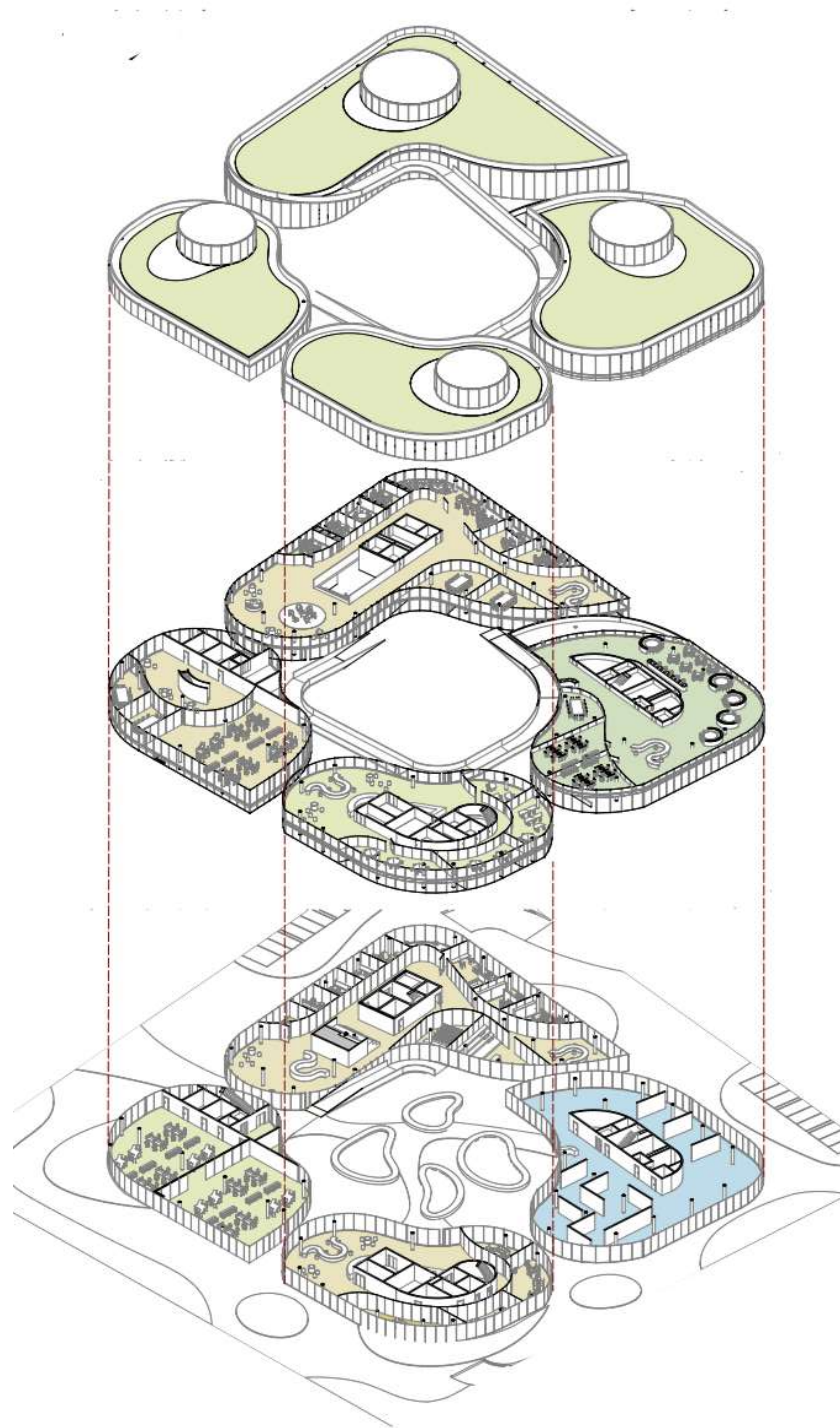


Fig. 4.11.2. The Maersk tower - C.F. Moller Architects, Foto : Adam Moerk

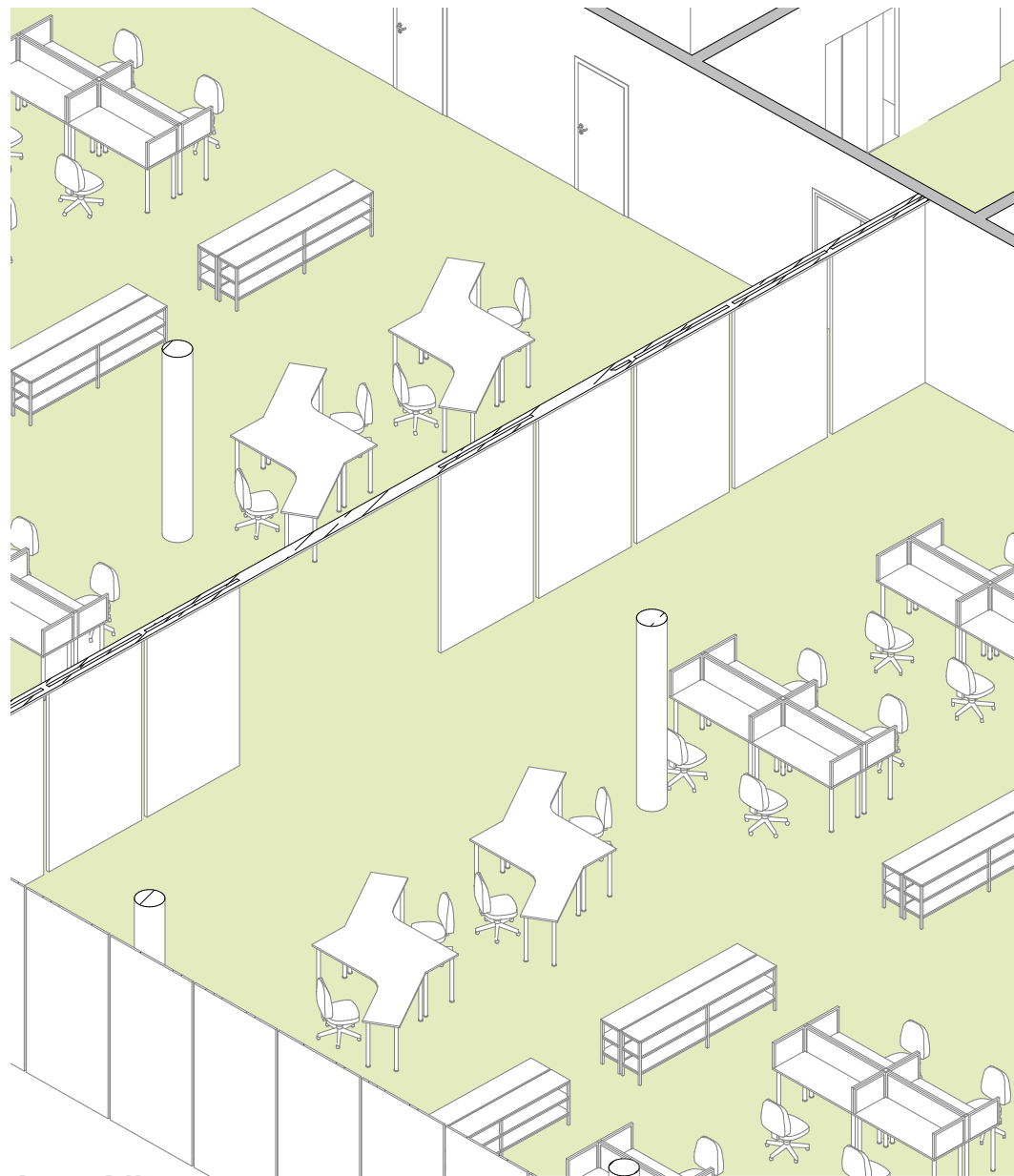
4.12. Program



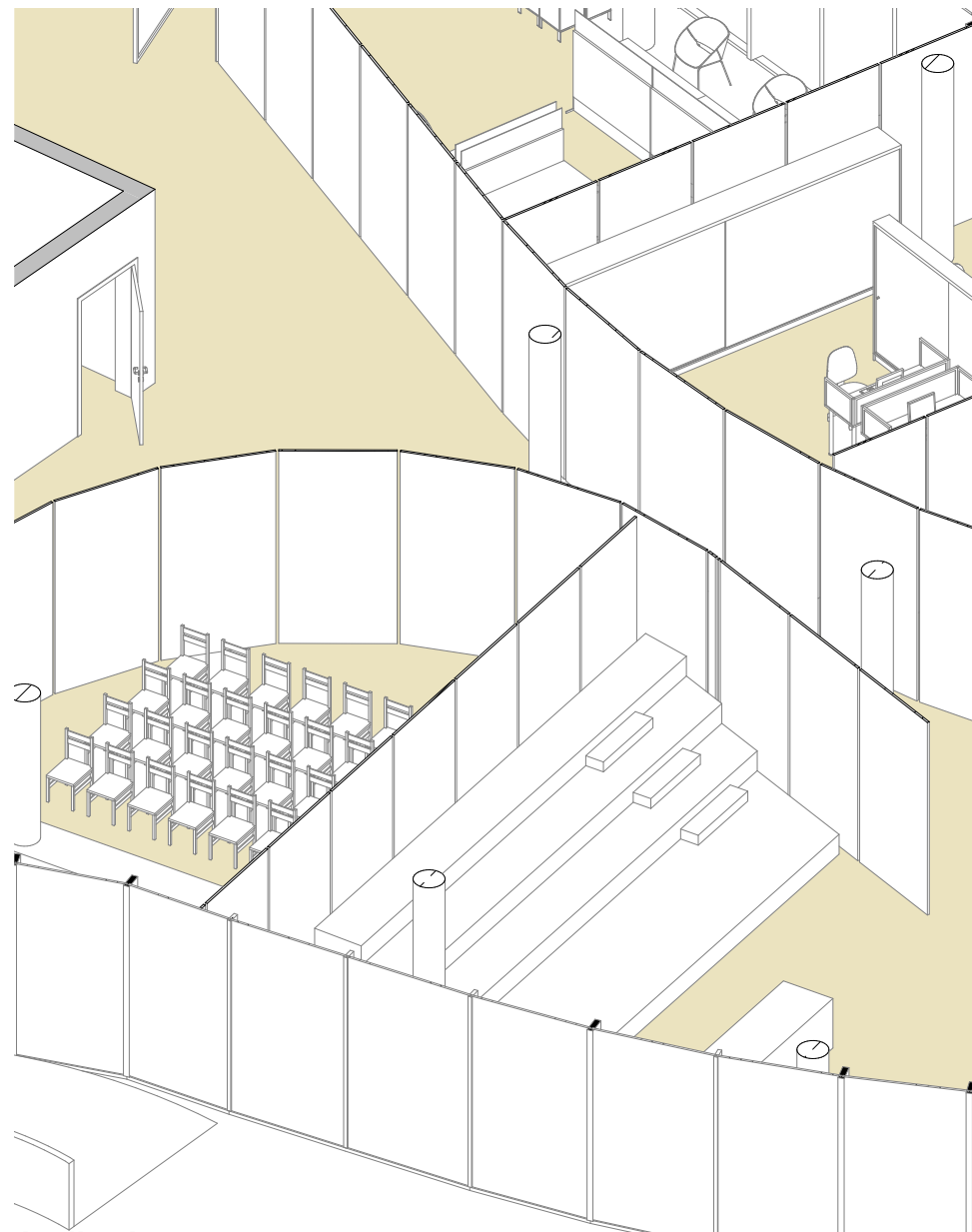
0
|

25
|

50
|



Open Office



Auditorium

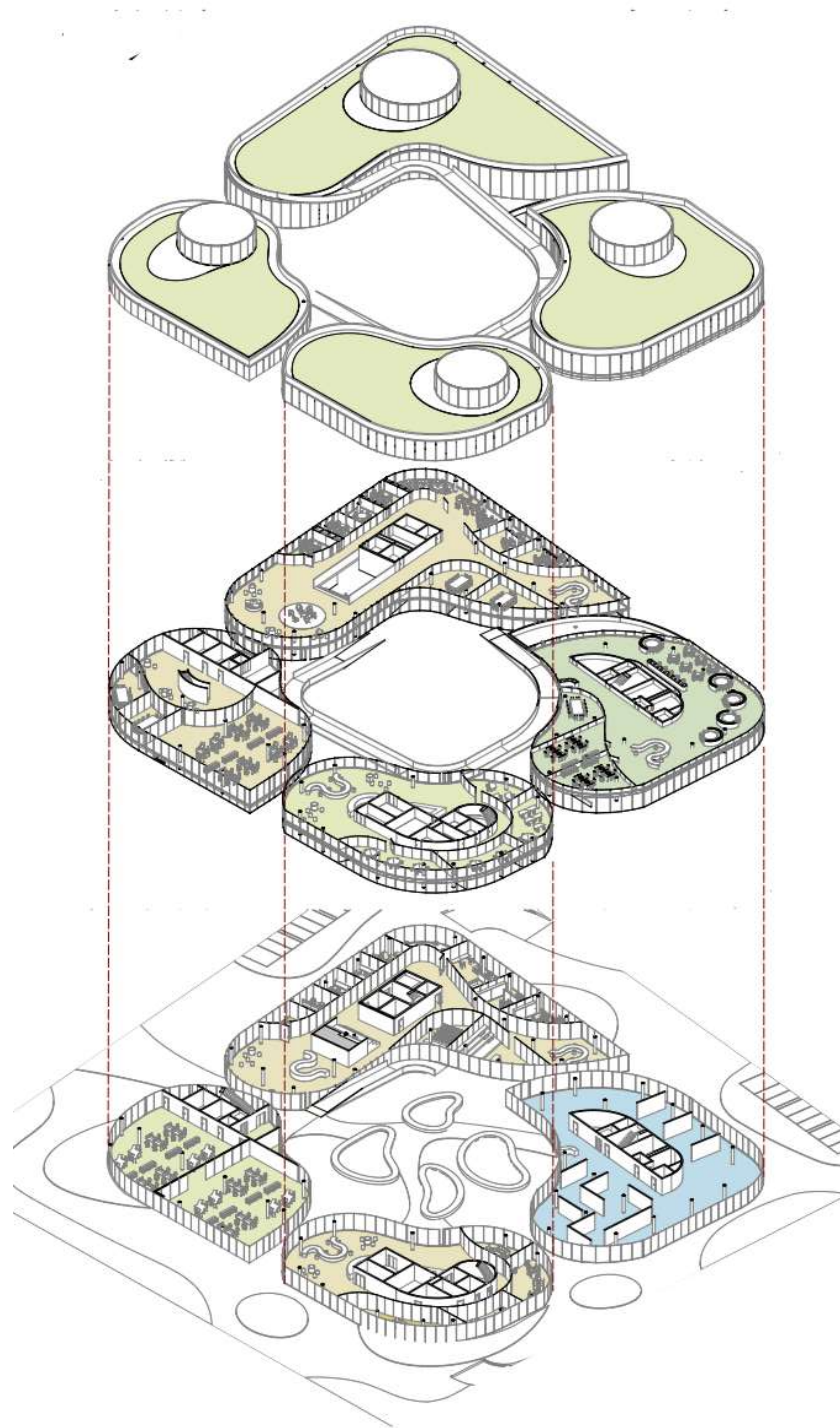
Fig. 4.12. The program

0
|

5
|

10
|

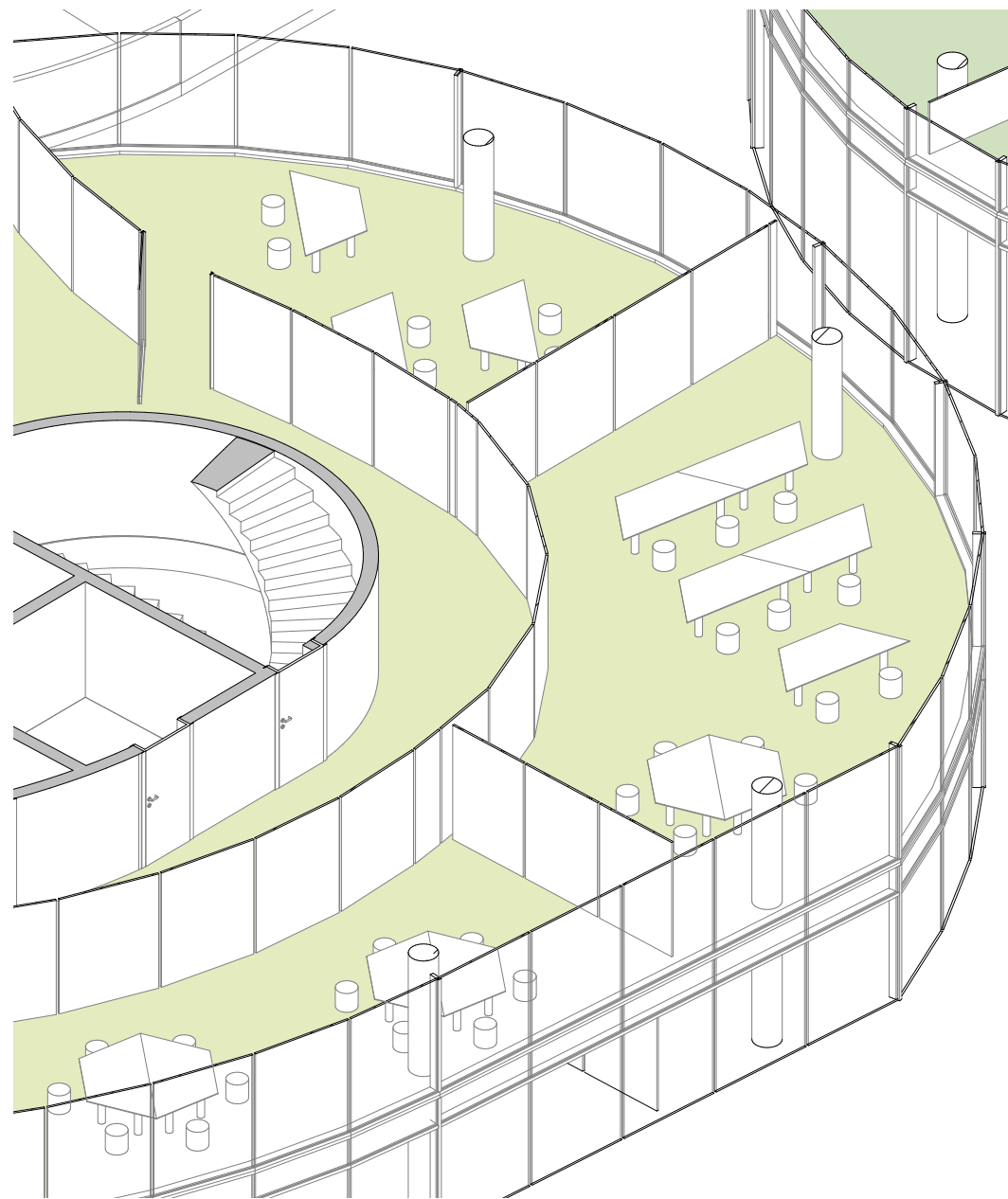
4.12. Program



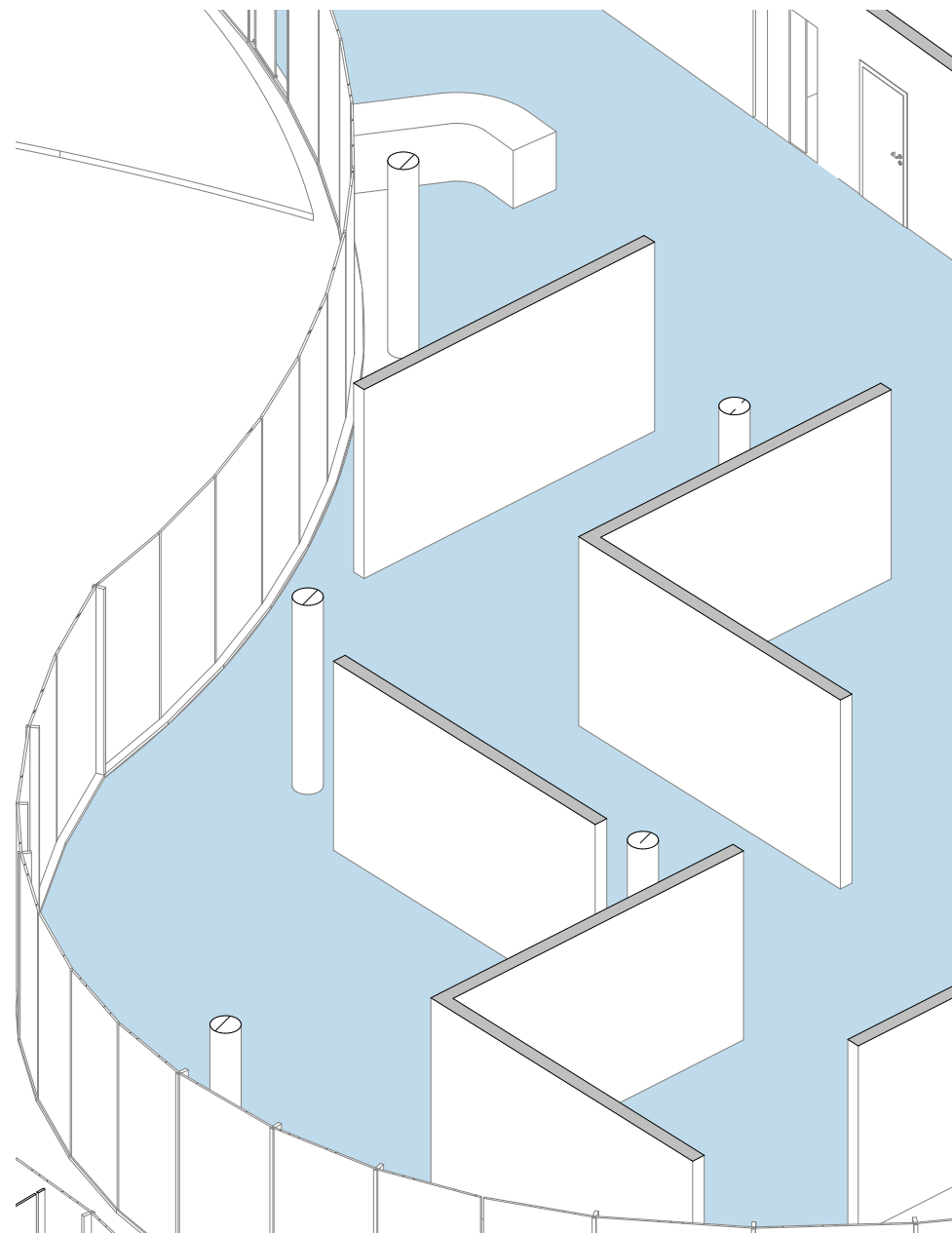
0
|

25
|

50
|



Kindergarten



Exhibition Space

Fig. 4.12. The program

4.13. Sustainability

The green rooftop terraces in this co-working space are not just additional office space, but a crucial aspect of the project's sustainability approach. Green roofs bring ecological benefits such as improved biodiversity and cooling, acting as insulation and reducing the building's temperature. This concept also benefits the surrounding urban area by reducing urban overheating. The building uses energy-saving technologies, such as an extensive green roof and photovoltaic facade panels. In addition, rainwater collectors reduce water consumption.

Building technology

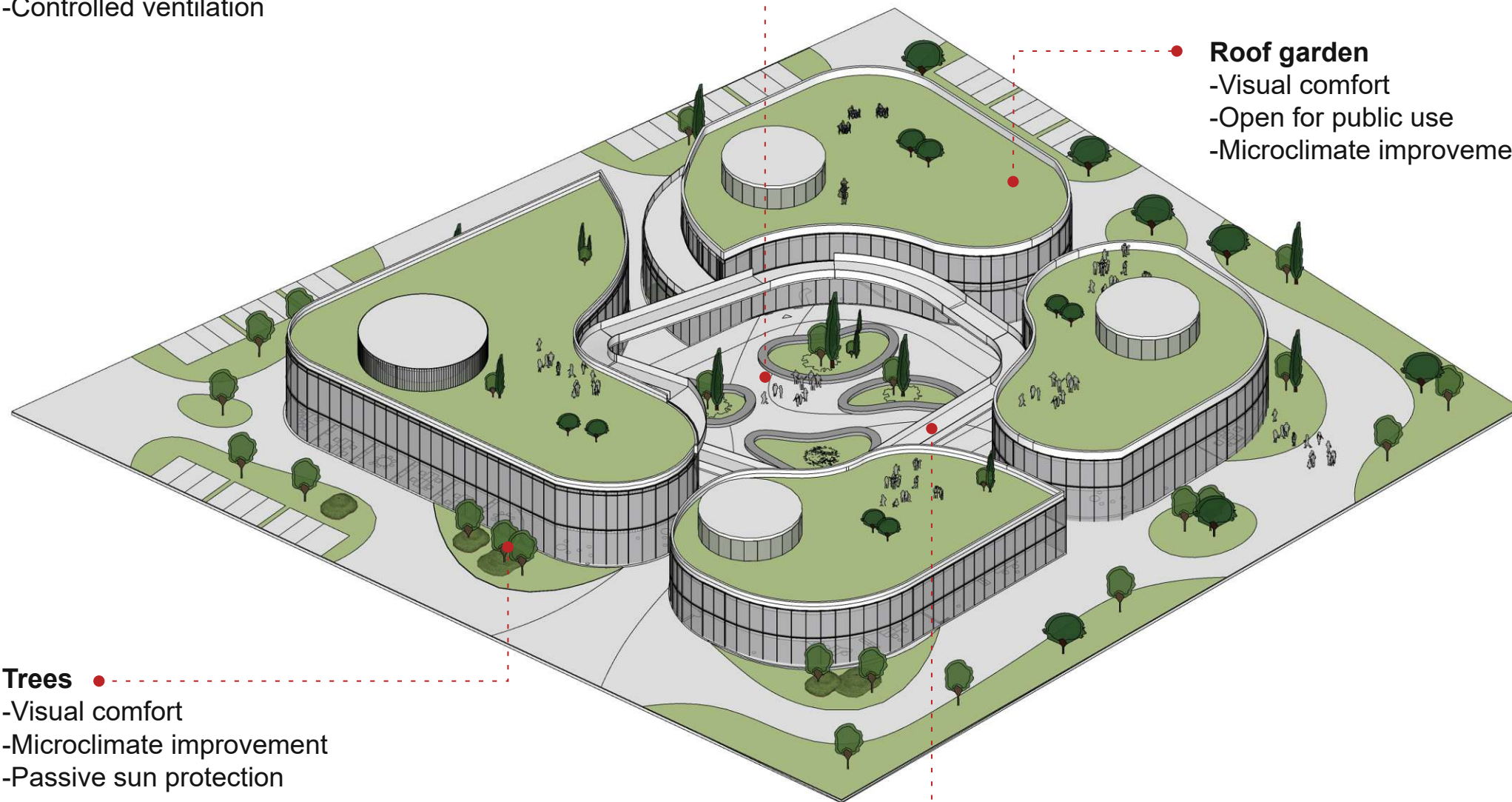
- Rainwater collector
- Geothermal pump for heating and cooling
- Solar energy collectors
- Controlled ventilation

Courtyard

- Microclimate improvement
- Daylight improvement
- Visual comfort

Roof garden

- Visual comfort
- Open for public use
- Microclimate improvement



Trees

- Visual comfort
- Microclimate improvement
- Passive sun protection

Ramp

- Bike friendly
- Alternative access points for buildings
- Connection for public areas

Fig. 4.13. Sustainability

0

25

50

4.14. Photovoltaic Facade

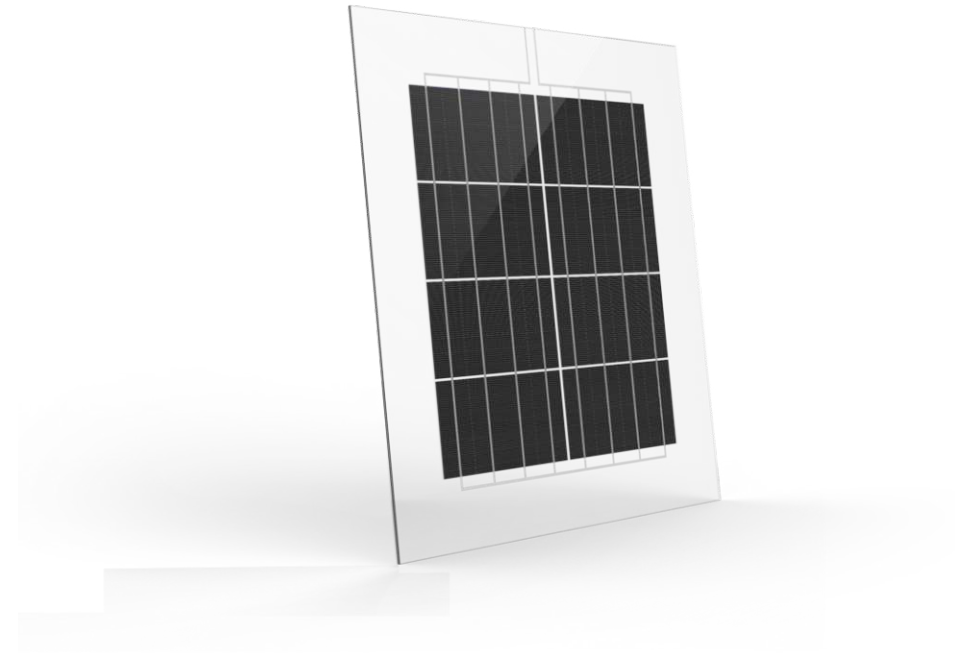


Fig. 4.14.1. Photovoltaic cells on facade module

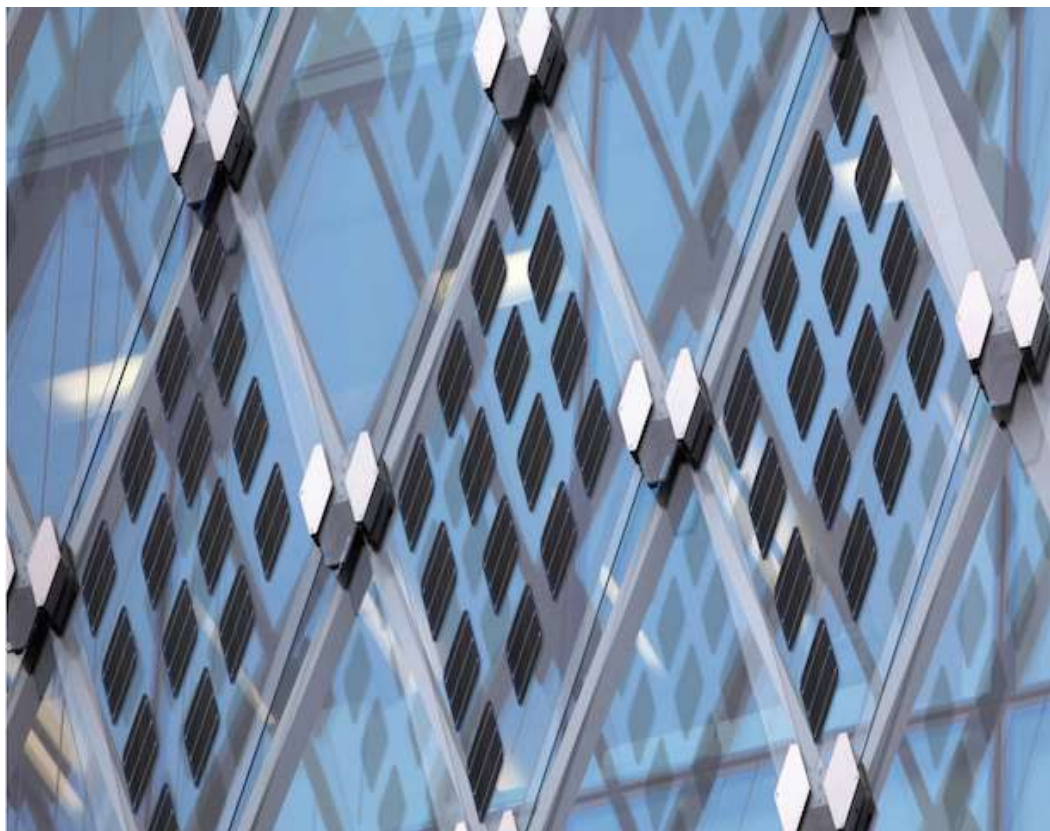


Fig. 4.14.2 Reference photovoltaic cells facade, loci-zonnepanelendak.nl

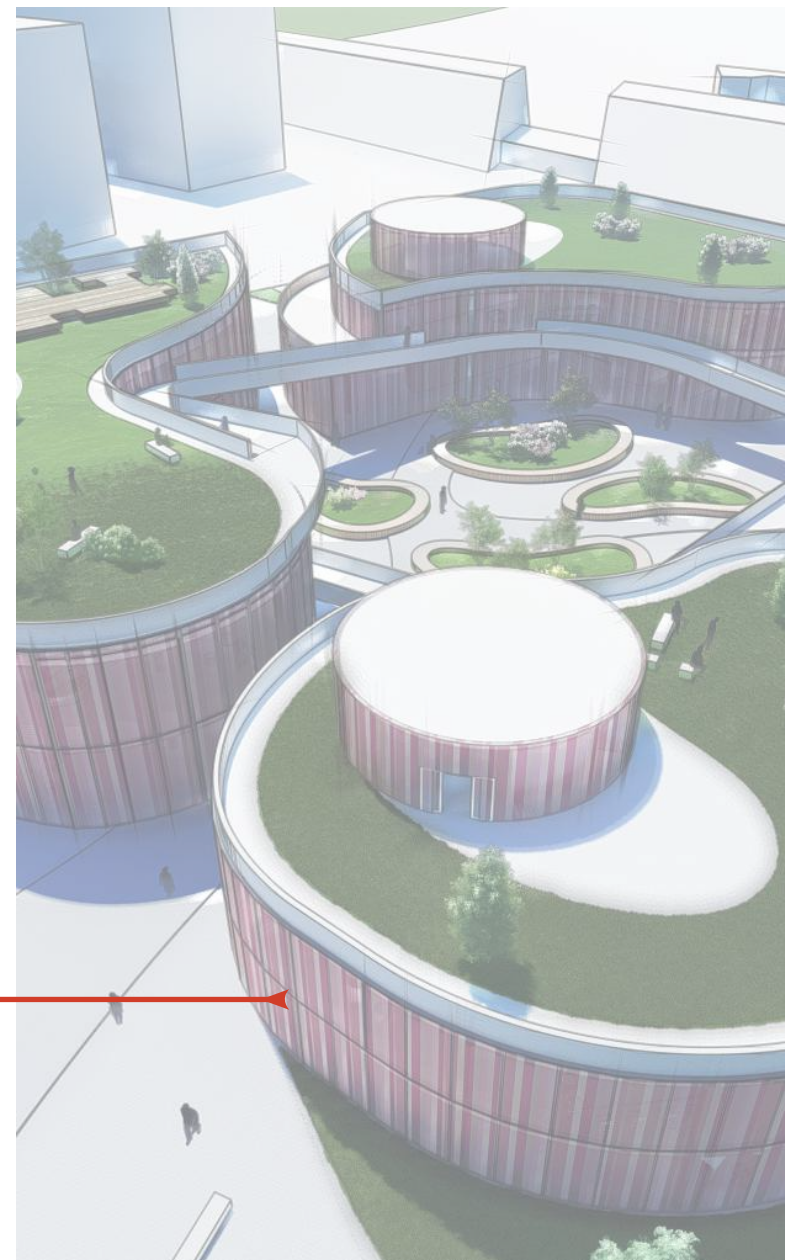


Fig. 4.14.3. Render of facade with photovoltaic cells



Fig. 5.1.. The site plan

5. Results

5.1 Site Plan

5.2 Plan Overview

Underground Floor

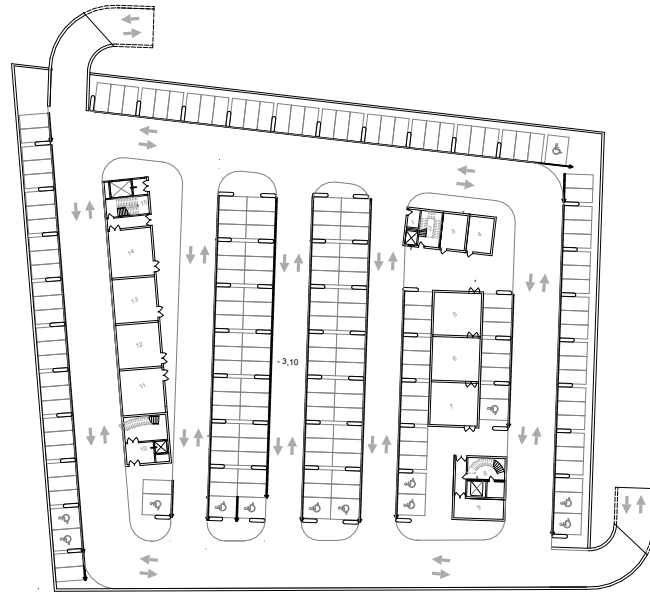


Fig. 5.2.1. Floor plans: Underground floor, 1:1250

Ground Floor



Fig. 5.2.2. Floor plans: Ground floor, 1:1250

First Floor

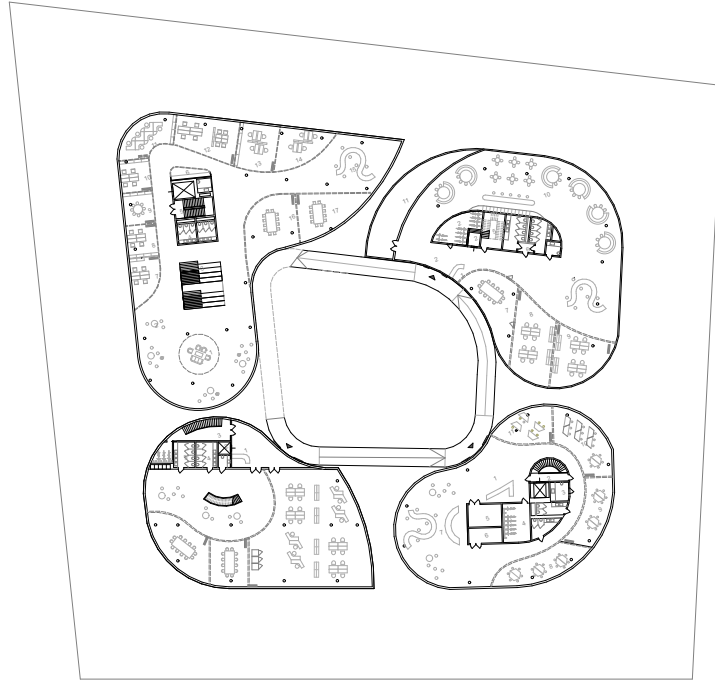
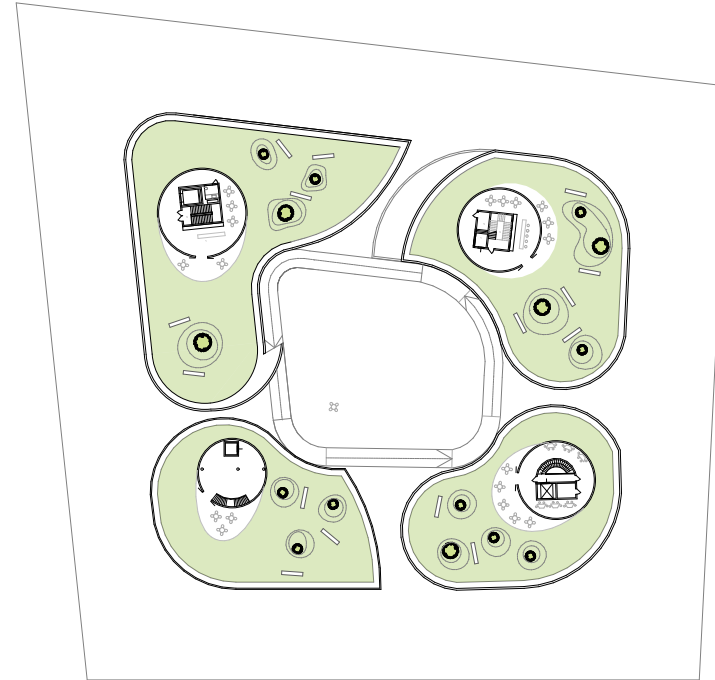


Fig. 5.2.3. Floor plans: First floor, 1:1250

Second Floor



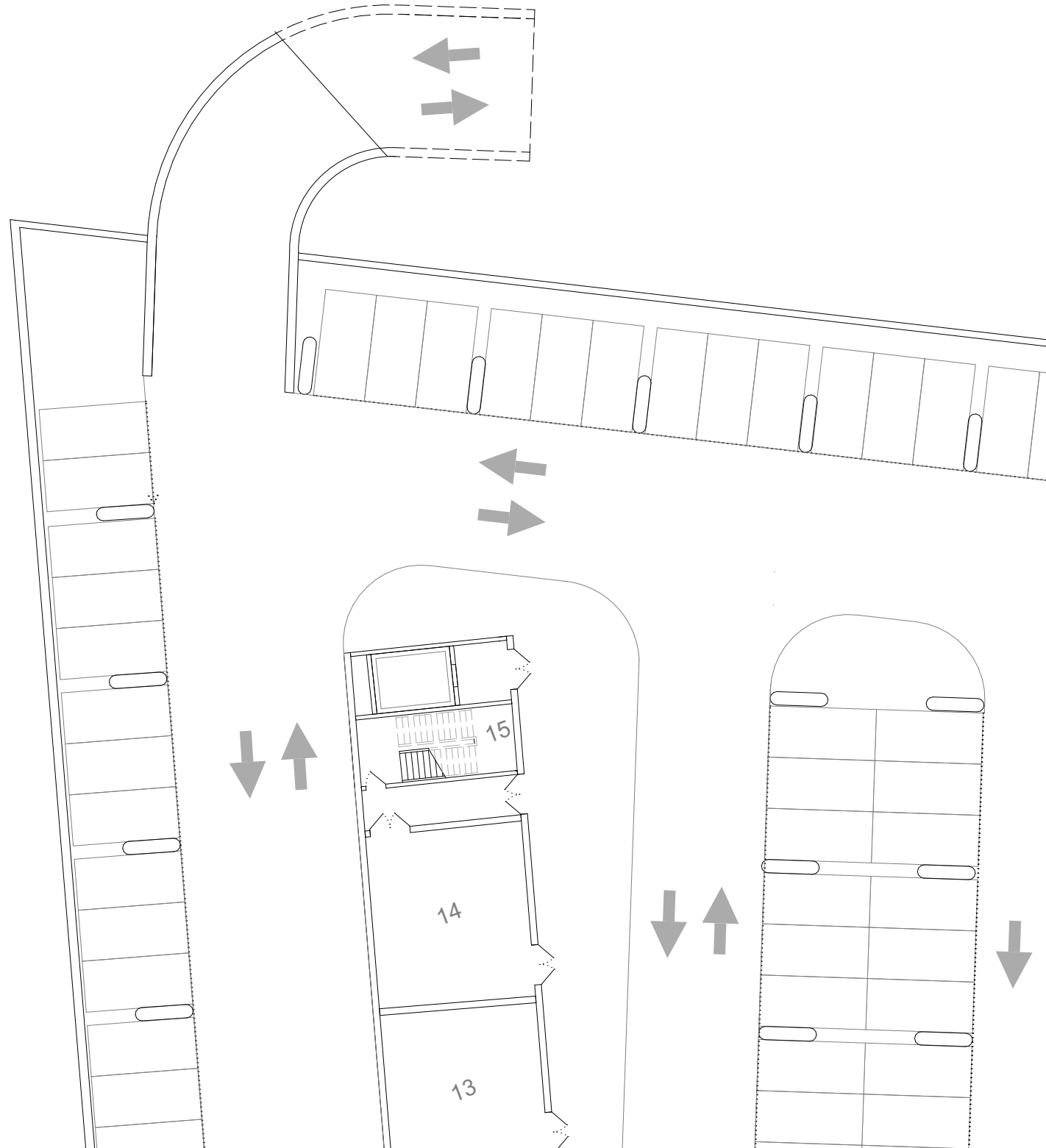
0 20 40

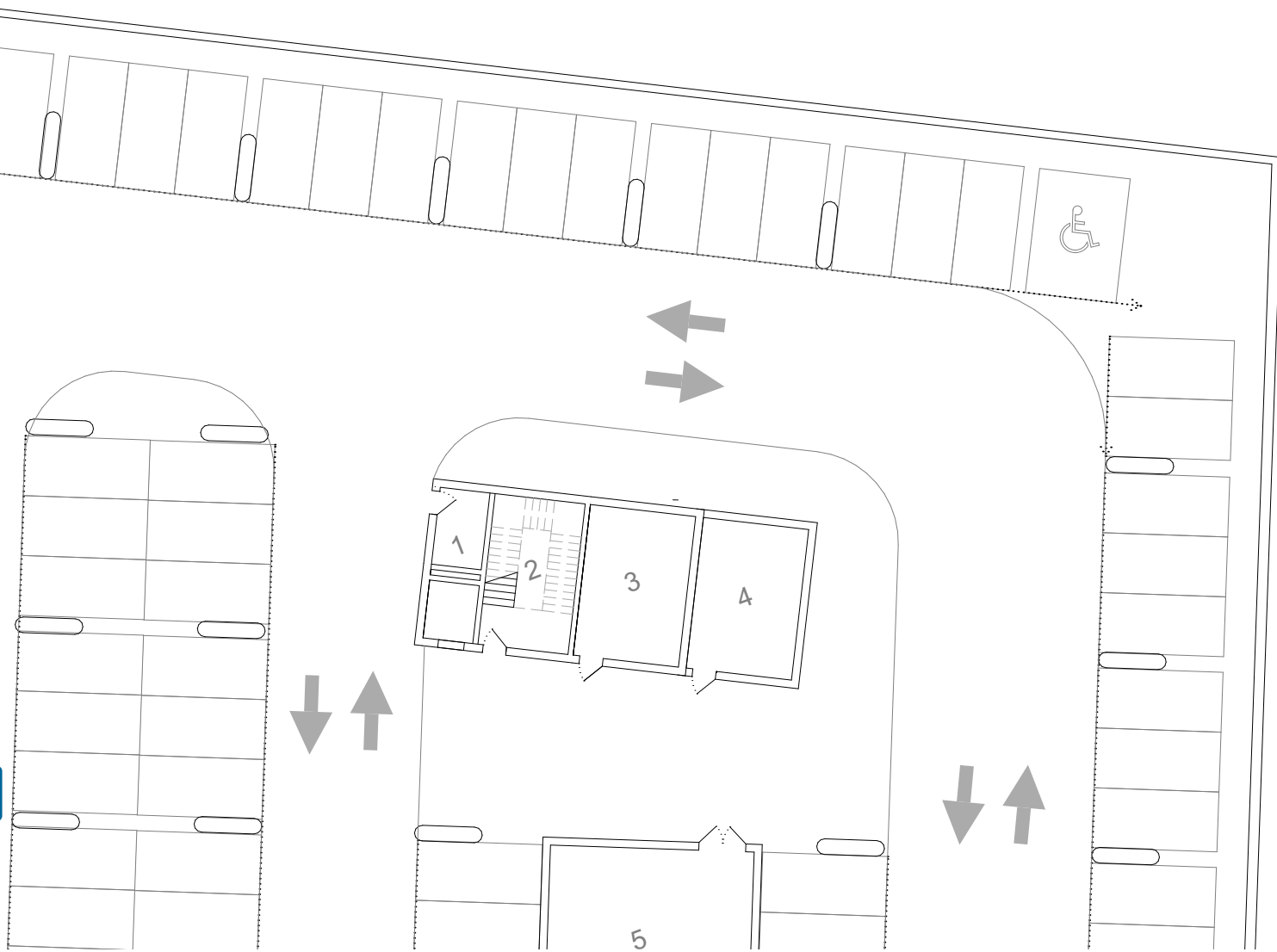


Fig. 5.2.4. Floor plans: Second floor, 1:1250

5.3. Underground Floor

0 5 10





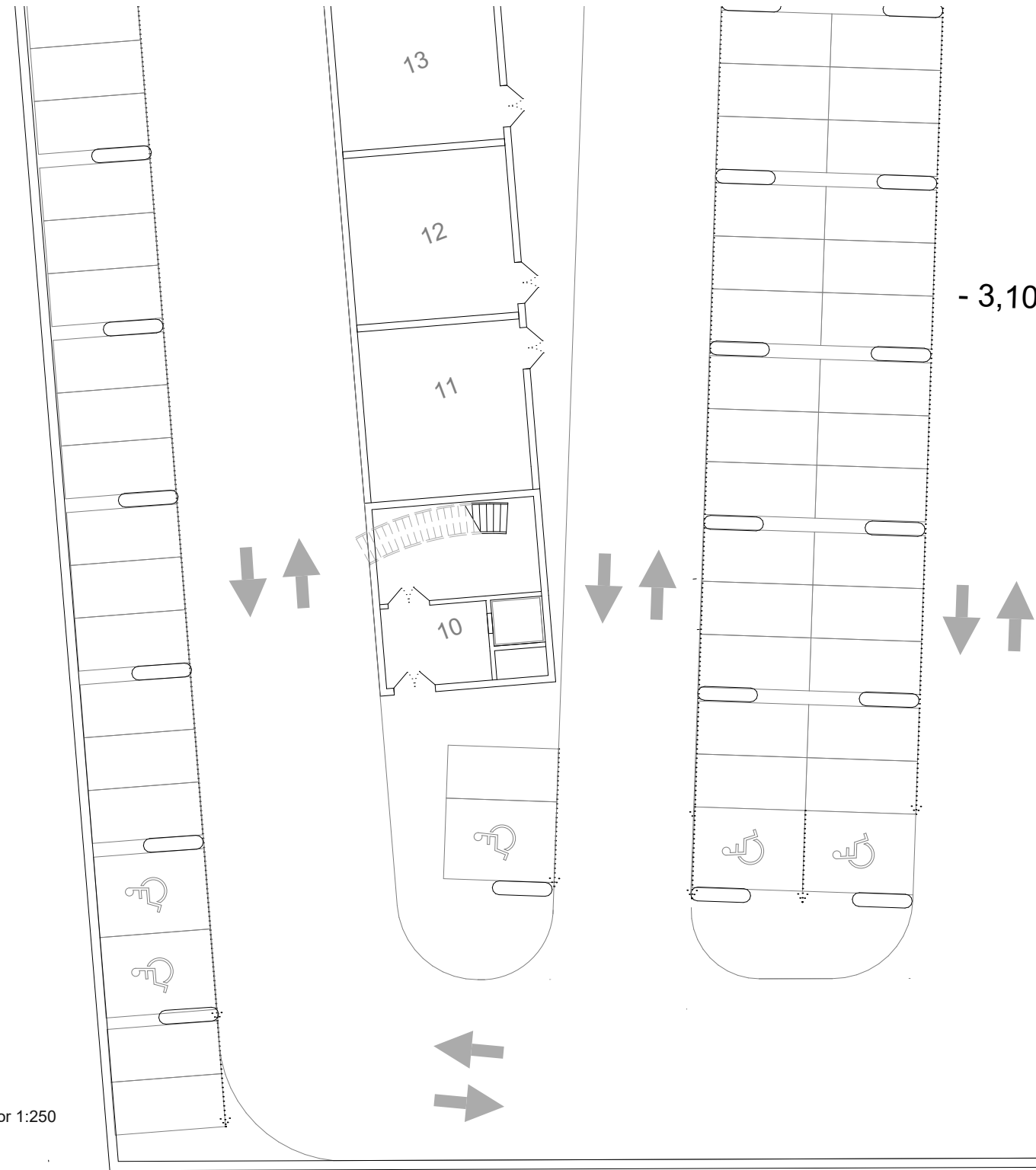
Legend:

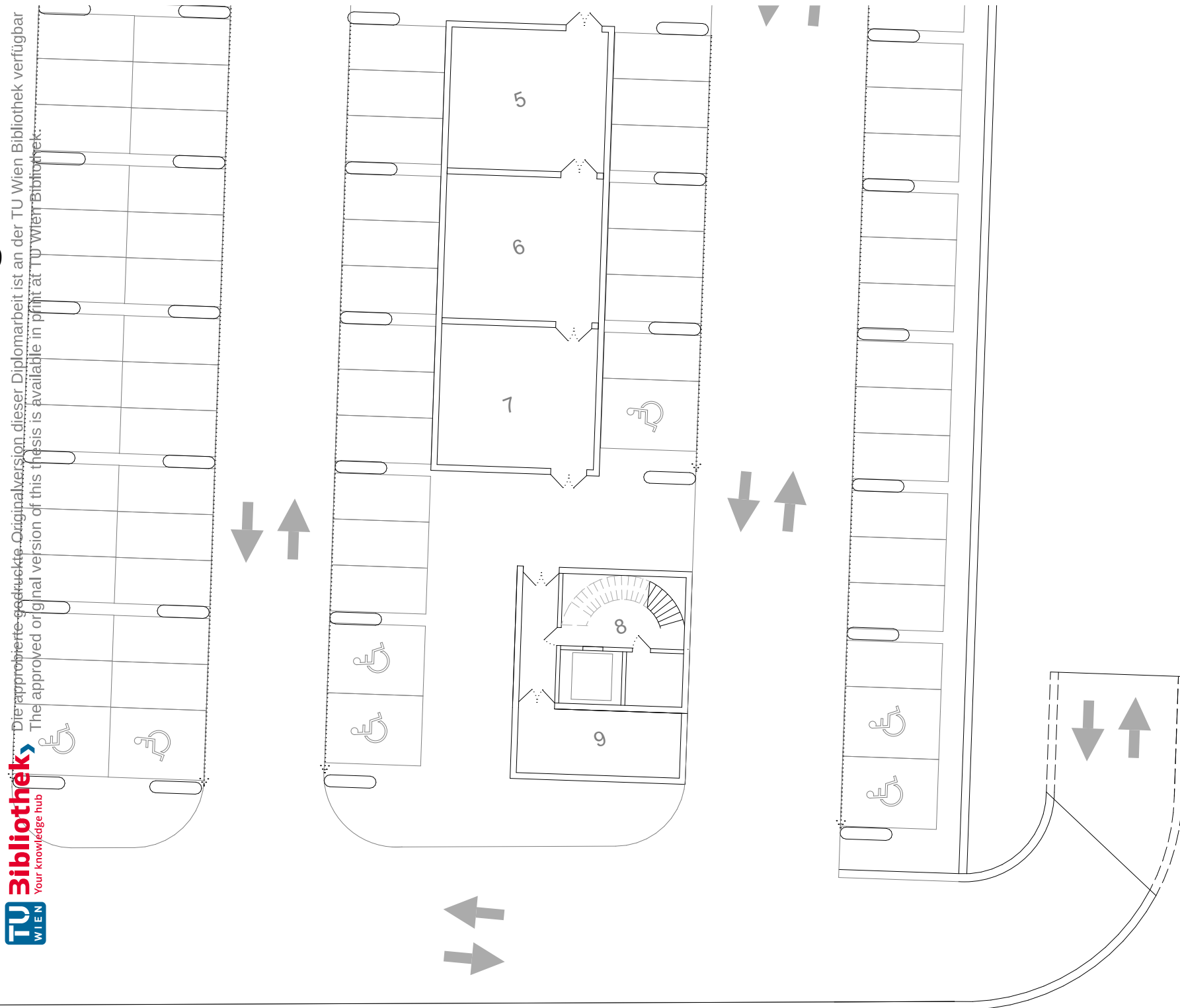
1. Storage	5.7 m ²
2. Staircase	19.9 m ²
3. Technical room	24.0 m ²
4. Technical room	24.0 m ²
5. Storage	55.0 m ²
6. Storage	56.0 m ²
7. Storage	54 m ²
8. Staircase	18.9 m ²
9. Storage	26.6 m ²
10. Entrance	16.0 m ²
11. Storage	51.0 m ²
12. Storage	51.0 m ²
13. Storage	51.0 m ²
14. Storage	51.0 m ²
15. Staircase	18.0 m ²
Parking slots	163

5.3. Underground Floor

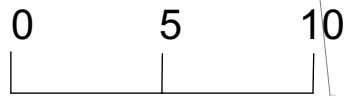


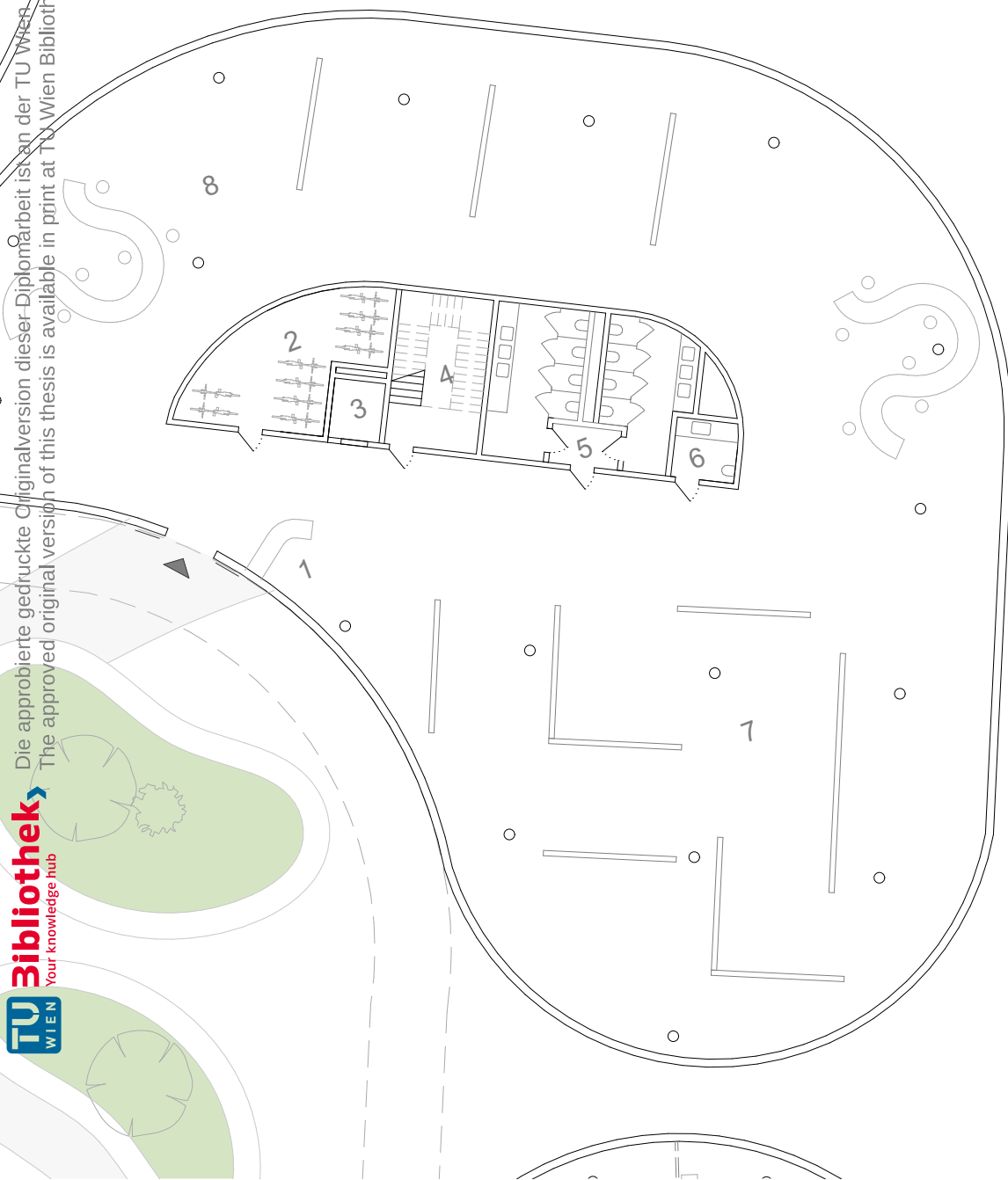
Fig. 5.3. Floor plans: Underground floor 1:250





5.3. Ground floor





Legend:

Building A - Coworking

1. Info point	14.9 m2
2. Storage room	18.9 m2
3. Open Stairs	48.1 m2
4. WC	18.0 m2
5. Staircase	18.0 m2
6. Meeting room 1	24.3 m2
7. Meeting room 2	26.0 m2
8. Meeting room 3	26.0 m2
9. Meeting room 4	26.0 m2
10. Meeting room 5	26.0m2
11. Conference	47.6 m2
12. Office space 1	67.7 m2
13. Office space 2	49.8 m2
14. Office space 3	47.1 m2
15. Break Out Zone	97.7 m2
16. Auditorium	93.0 m2
17. Auditorium	72.9 m2
18. Lounge	13.0 m2

Building B - Exhibition Space

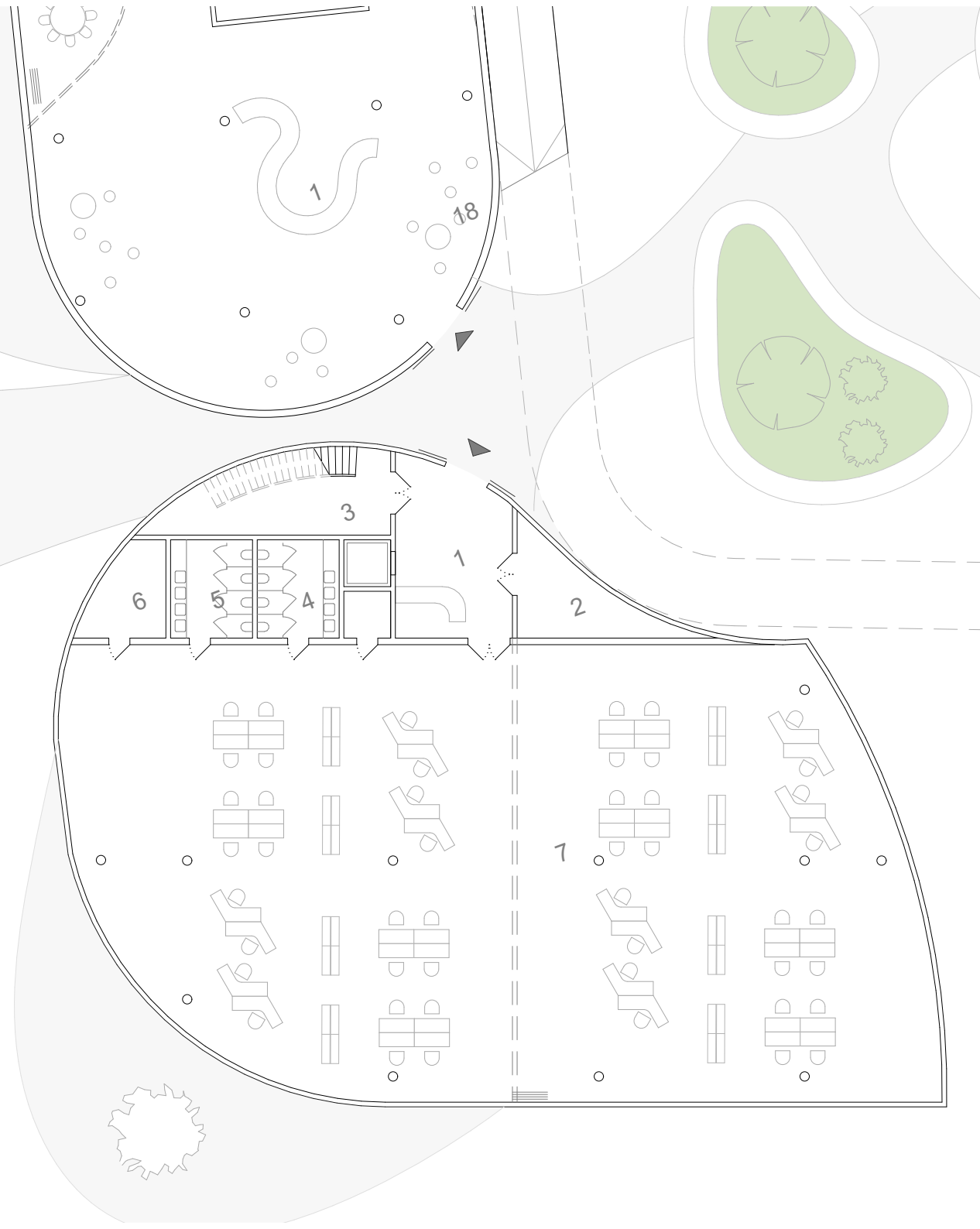
1. Info point	-
2. Storage	28.5 m2
3. Elevator	4.5 m2
4. Staircase	19.9 m2
5. WC	13.0 m2
6. WC	5.2 m2
/. Exhibition space	933.0 m2
8. Reading area	14.0 m2



5.3. Ground floor



Fig. 5.3.2. Floor plans: Ground floor 1:250





Legend:

Building C - Kindergarten

1. Foyer	-
2. Staircase	19.8m ²
3. WC	25 m ²
4. Bicycle room	28.6 m ²
5. Storage	13.7 m ²
6. Storage	20.3 m ²
7. Open Space	185.2m ²
8. Office room 1	52.9 m ²
9. Office room 2	43.7 m ²
10. Office room 3	76.0 m ²
11. Office room 4	40.9 m ²

Building D - Open Offices

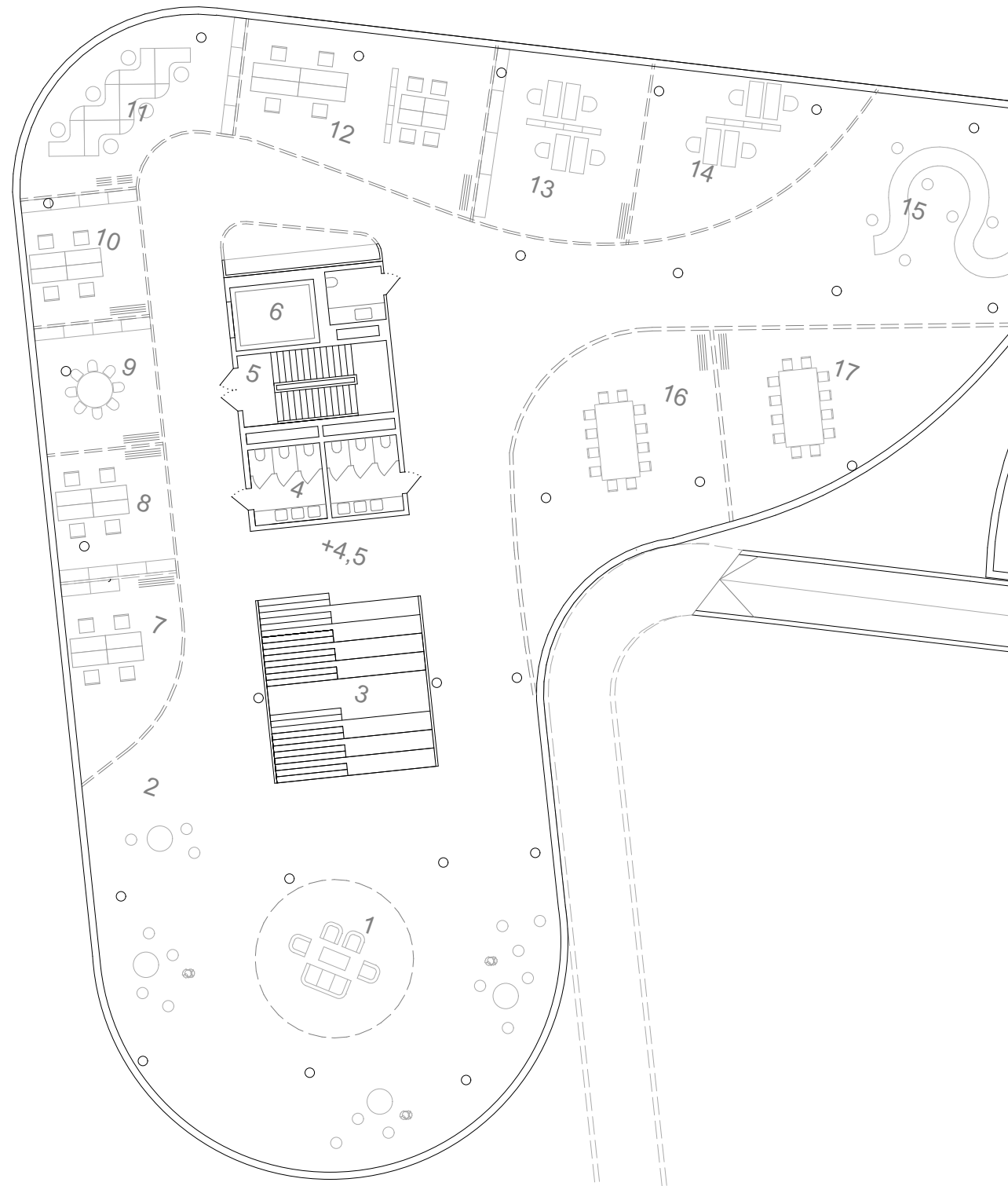
1. Info	35.3 m ²
2. Wardrobe	18.0m ²
3. Staircase	31.0 m ²
4. WC	14.0 m ²
5. WC	14.0 m ²
6. Bicycle room	12.3 m ²
7. Meeting room 1	319.0 m ²
8. Meeting room 2	330.9 m ²



5.3. First floor



Fig. 5.3.3. Floor plans: First floor, 1:250

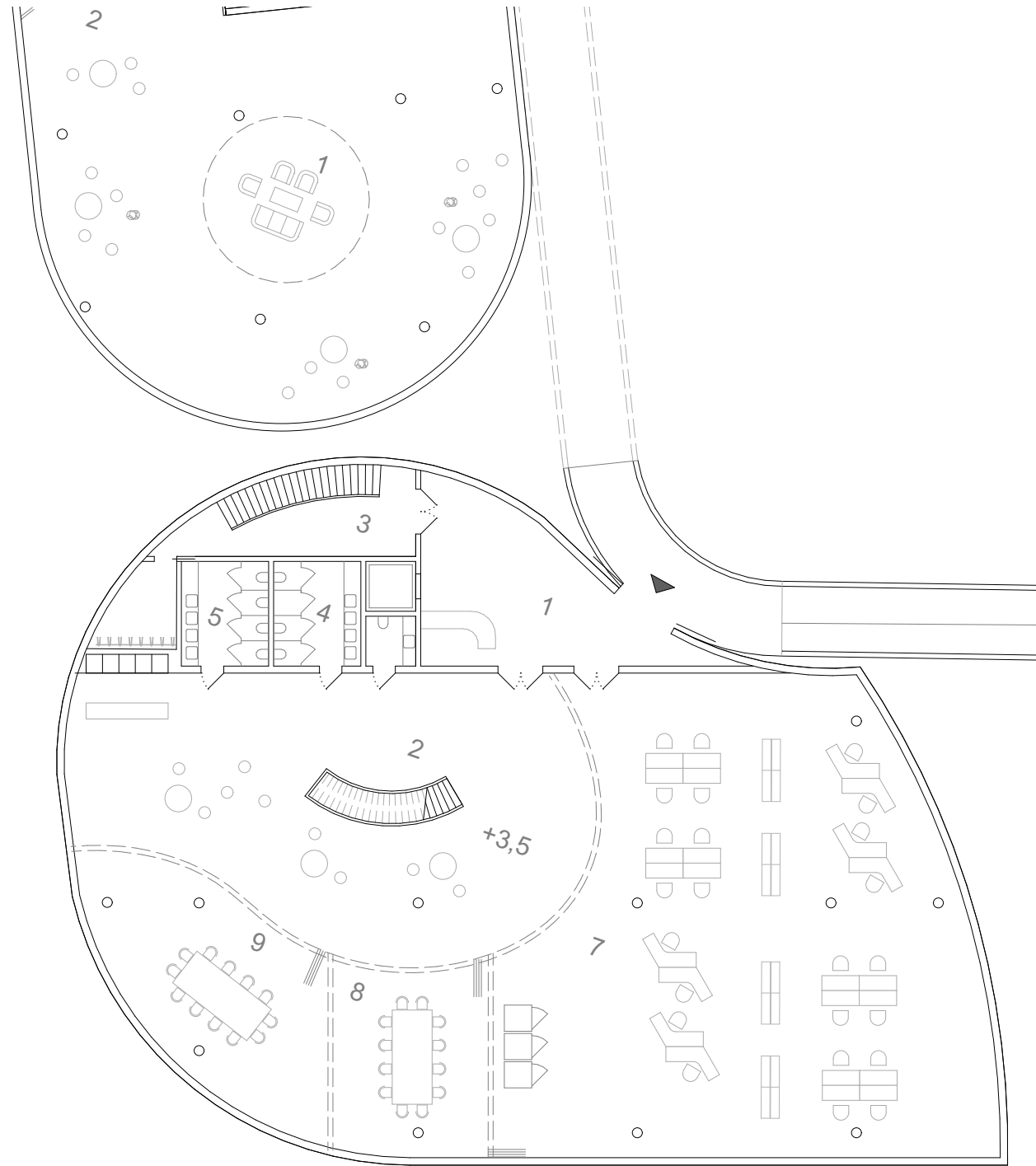




5.3. First floor



Fig. 5.3.3. Floor plans: First floor, 1:250





Legend:

Building C - Kindergarten

1. Foyer	-
2. Staircase	19.8m ²
3. WC	25 m ²
4. Bicycle room	28.6 m ²
5. Storage	13.7 m ²
6. Storage	20.3 m ²
7. Assembly area	185.2m ²
8. Class room 1	52.9 m ²
9. Class room 2	43.7 m ²
10. Class room 3	76.0 m ²
11. Class room 4	40.9 m ²

Building D - Open Offices

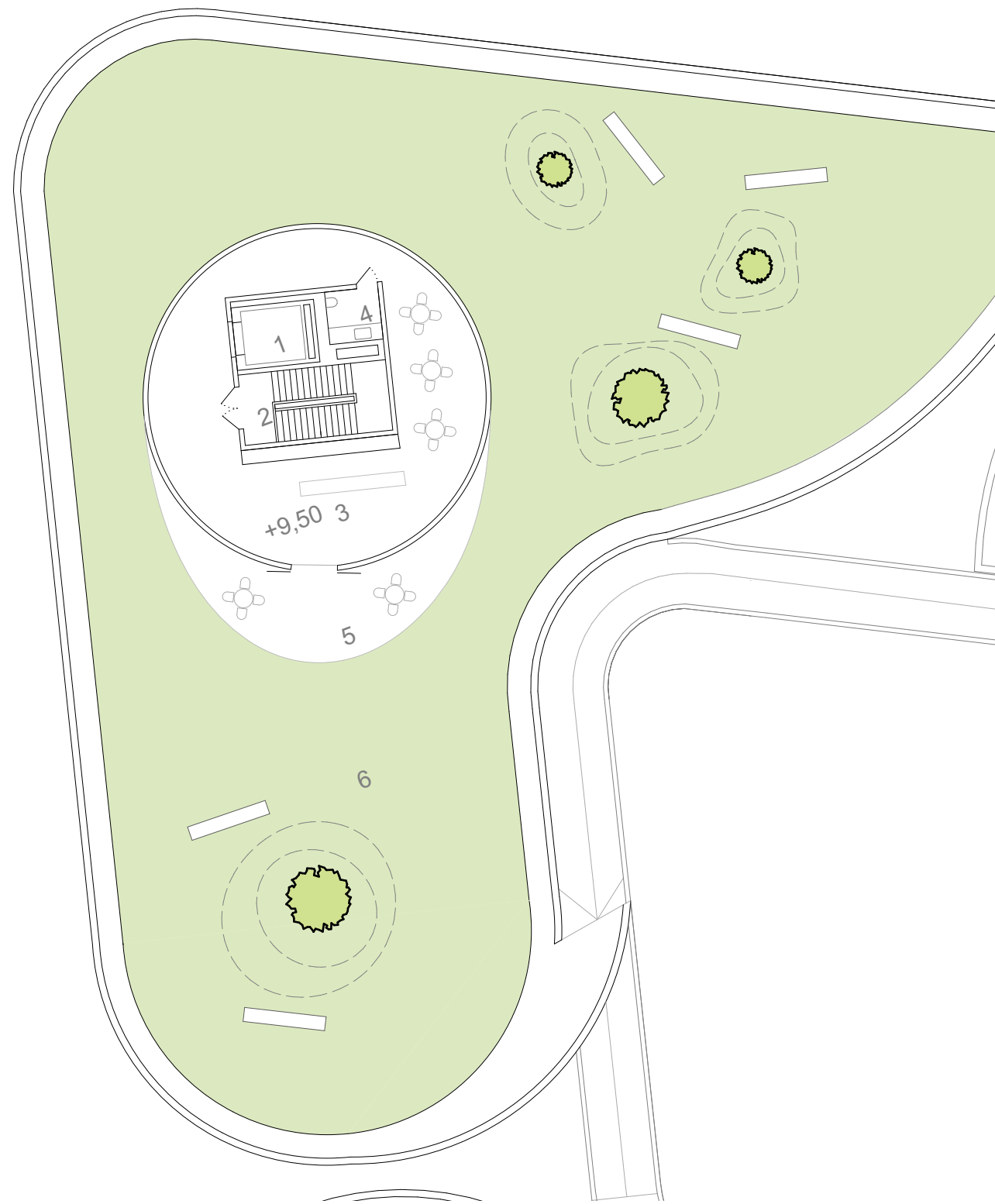
1. Info	35.3 m ²
2. Break out	194.0 m ²
3. Staircase	31.0 m ²
4. WC	14.0 m ²
5. WC	14.0 m ²
6. Storage	7.0 m ²
7. Coworking L	319.0 m ²
8. Meeting room M	44.4 m ²
9. Meeting room L	70.0 m ²

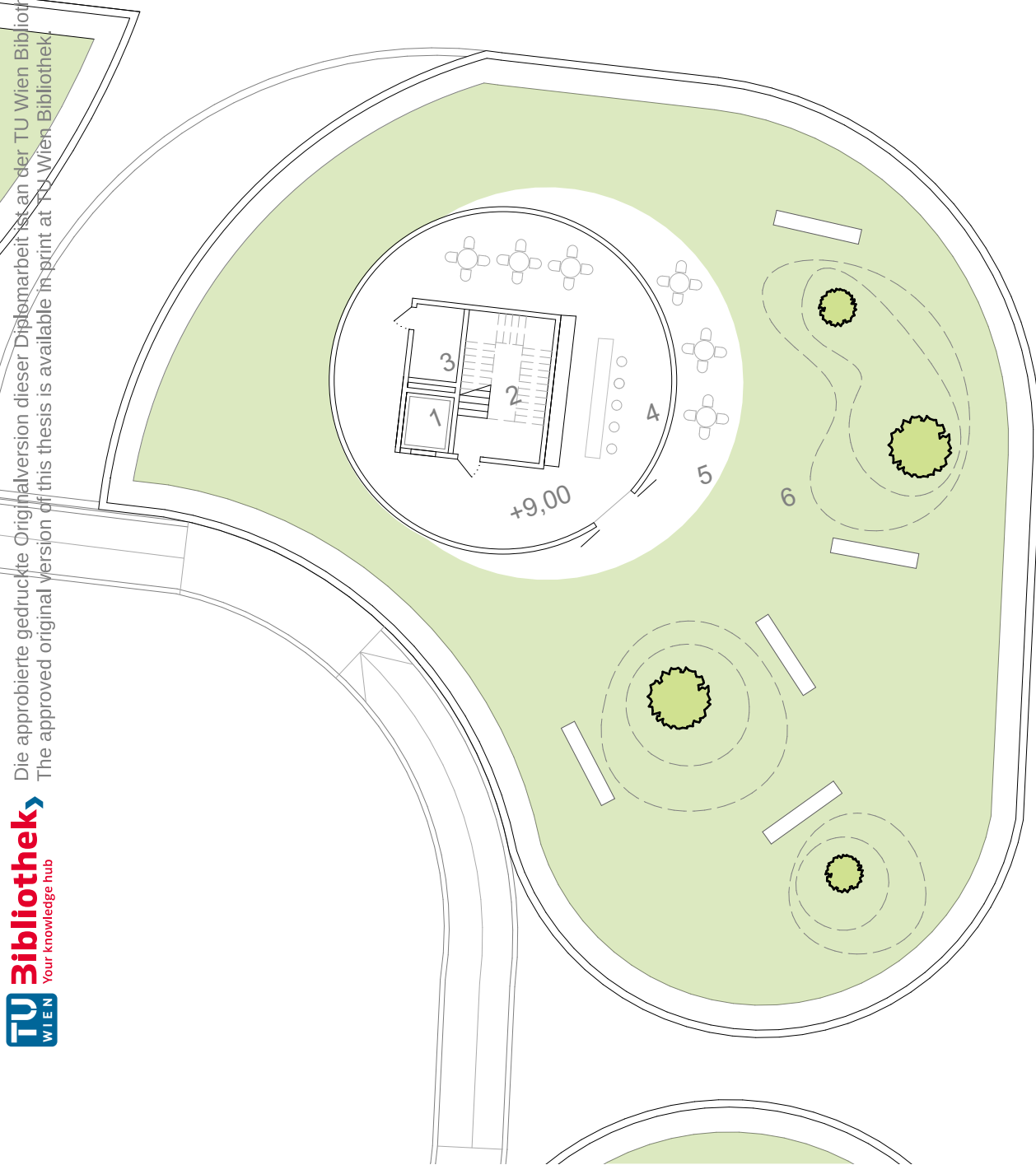


5.3. Second floor



Fig. 5.3.4. Floor plans: Roof, 1:250





Legend:

Building A - Open Garden

1. Lift	6.0 m ²
2. Staircase	18.0 m ²
3. Cafe	119.0 m ²
4. WC	5.0 m ²
5. Terrace	47.0 m ²
6. Public garden	800 m ²

Building B - Restaurant Garden

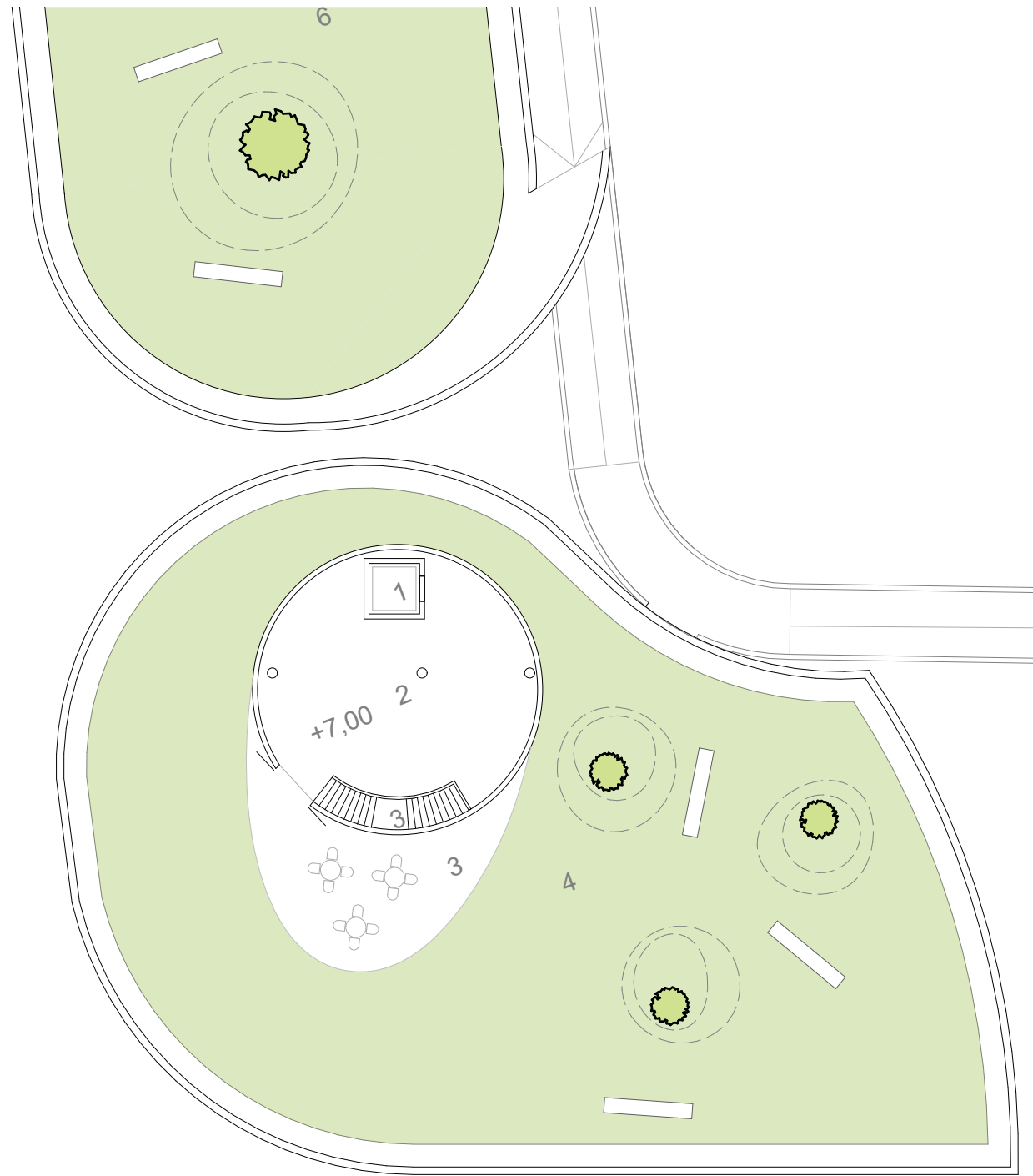
1. Lift	4.5 m ²
2. Staircase	19.9 m ²
3. Storage	5.7 m ²
4. Cafe	108.0 m ²
5. Terrace	51 m ²
5. Garden	645.0 m ²

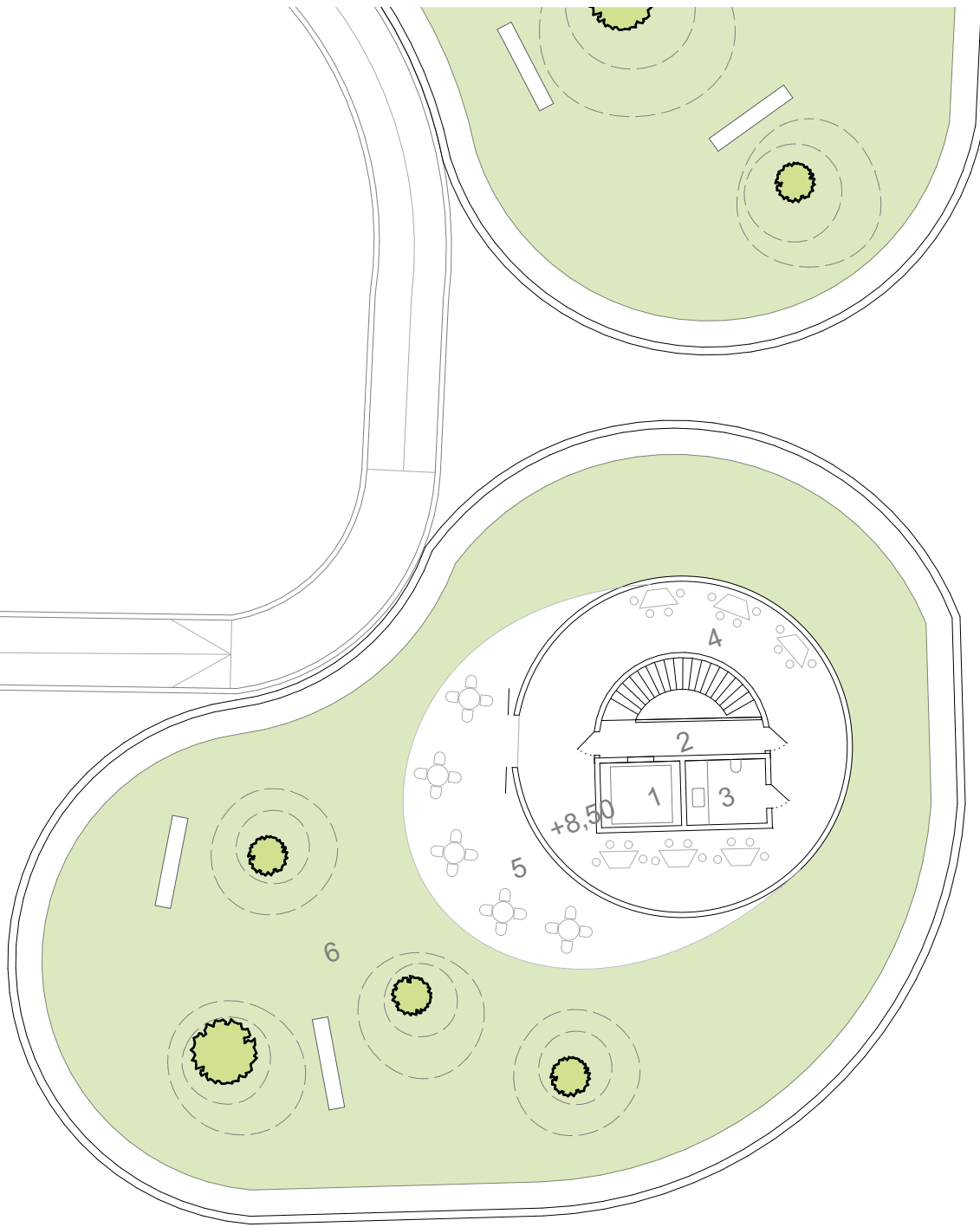


5.3. Second floor



Fig. 5.3.4. Floor plans: Roof, 1:250





Legend:

Building C - Children's playground

1. Lift	5 m2
2. Stairs	19.0 m2
3. WC	7.5 m2
4. Lobby	84.0 m2
5. Terrace	65.2 m2
6. Garden for kids	483 m2

Building D - Open Garden

1. Lift	4.0 m2
2. Lounge	89.2 m2
3. Stairs	7.5 m2
4. Terrace	50.8 m2
5. Garden	456.0 m2



5.4. Section A

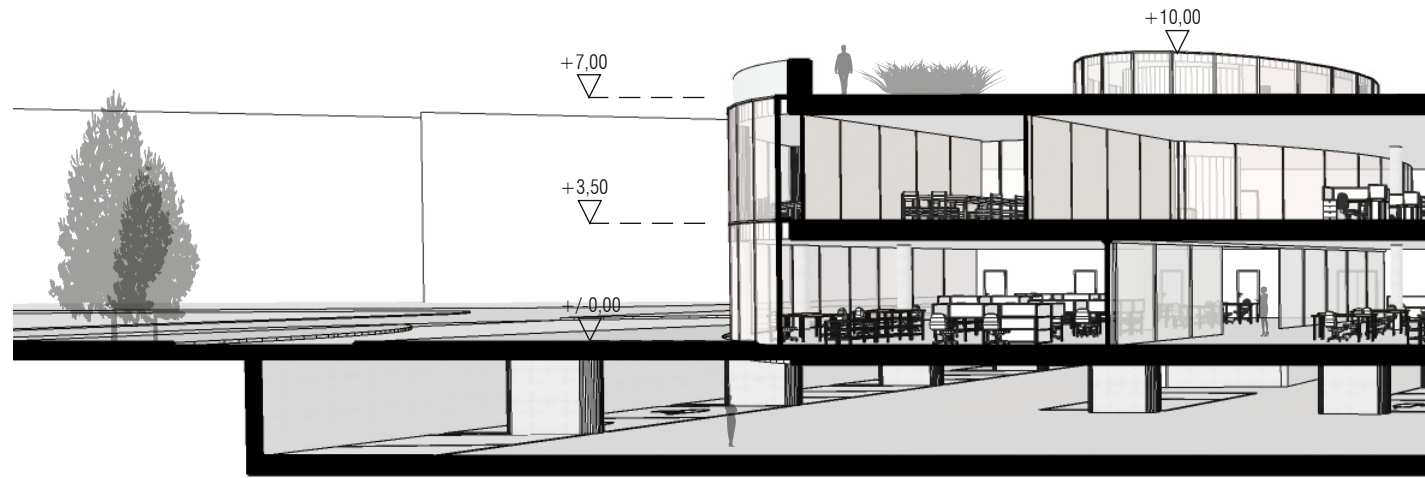
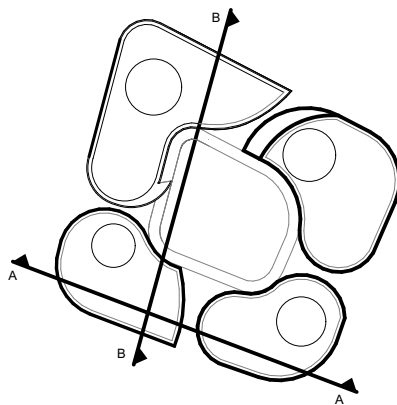


Fig. 5.4.1. Section A



5.4. Section B

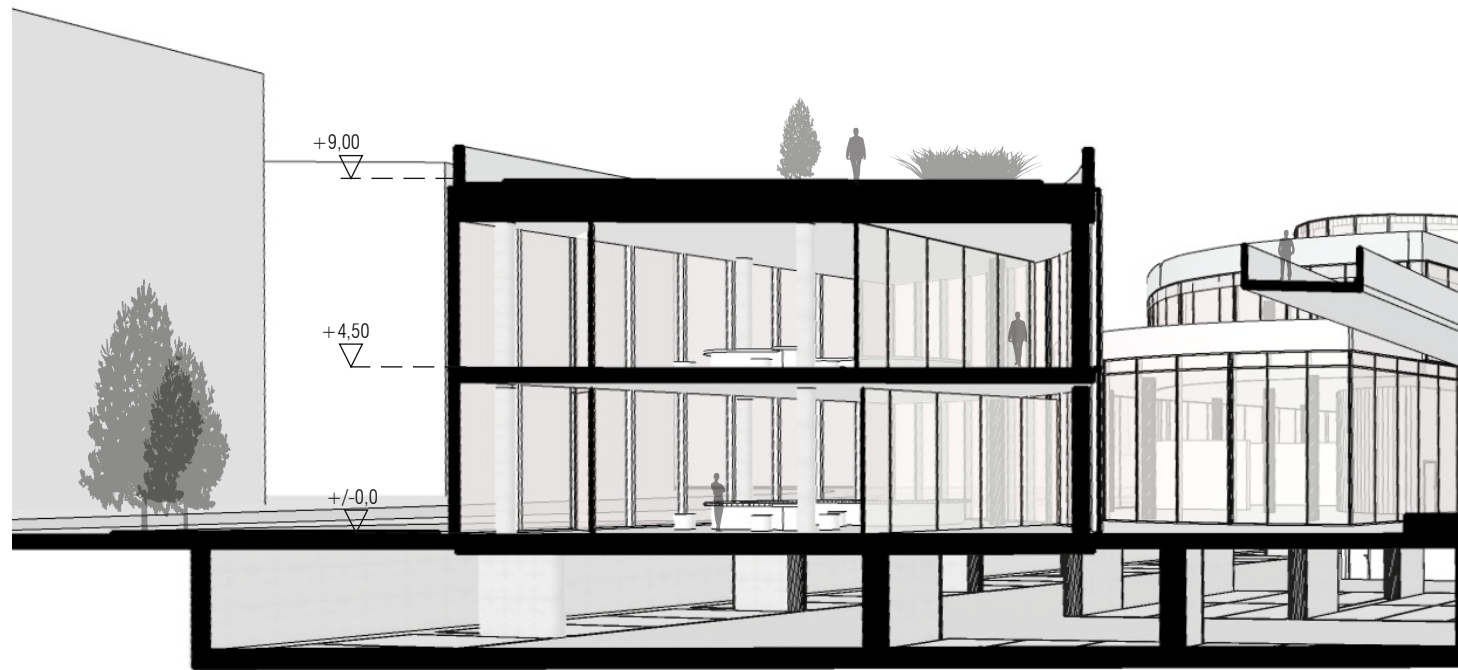
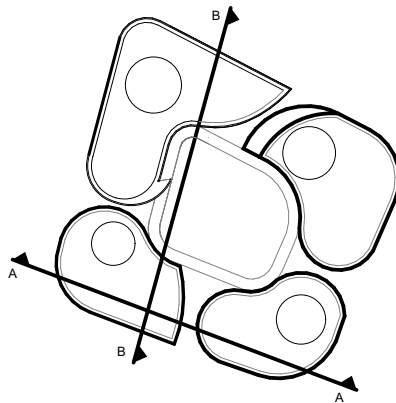


Fig. 5.4.2. Section B



5.5. Elevation South

Fig. 5.5. Elevation South

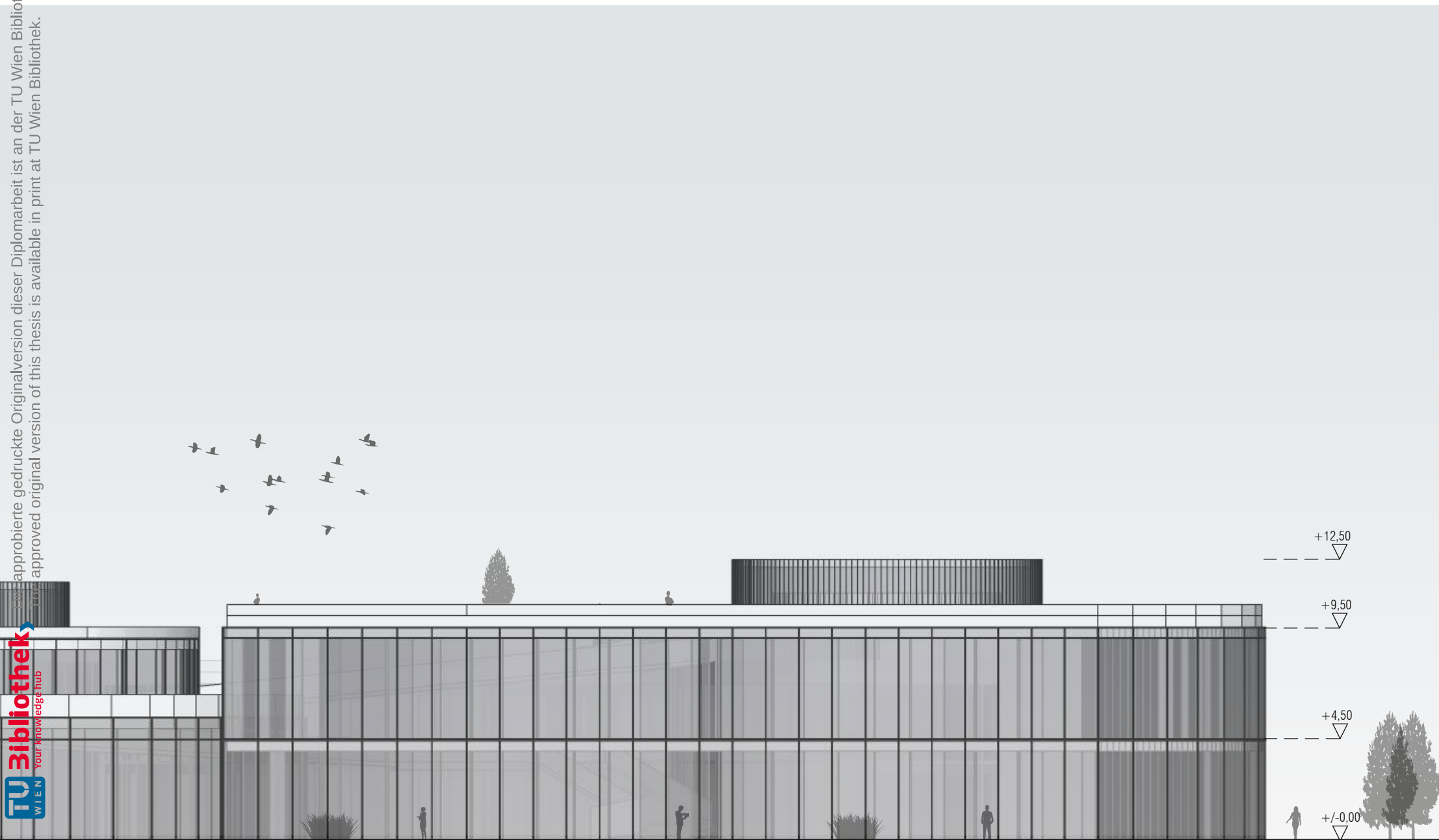




5.6. Elevation North

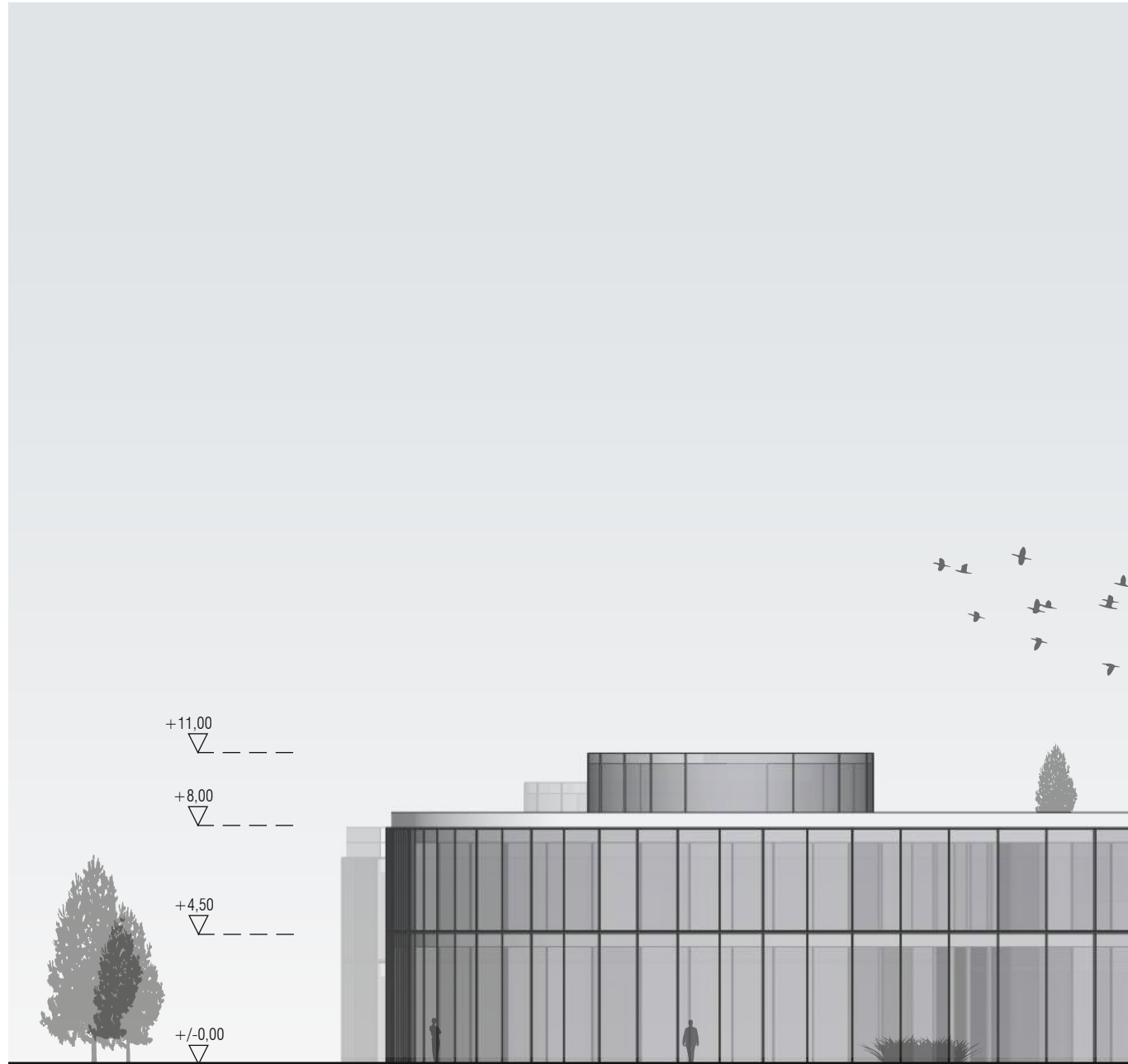


Fig. 5.6. Elevation North



5.7. Elevation East

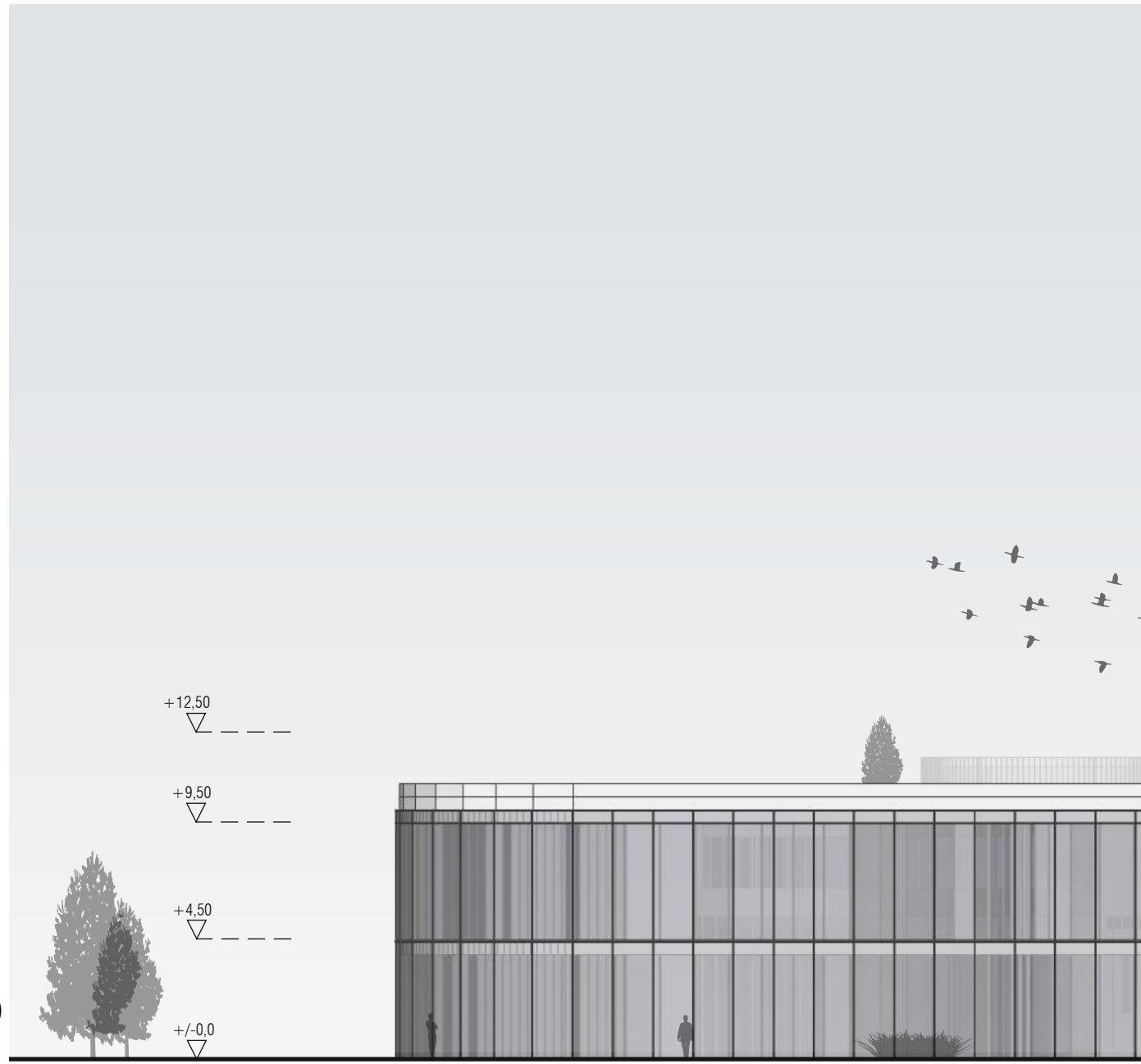
Fig. 5.7. Elevation East





5.8. Elevation West

Fig. 5.8. Elevation West





5.9. Facade section

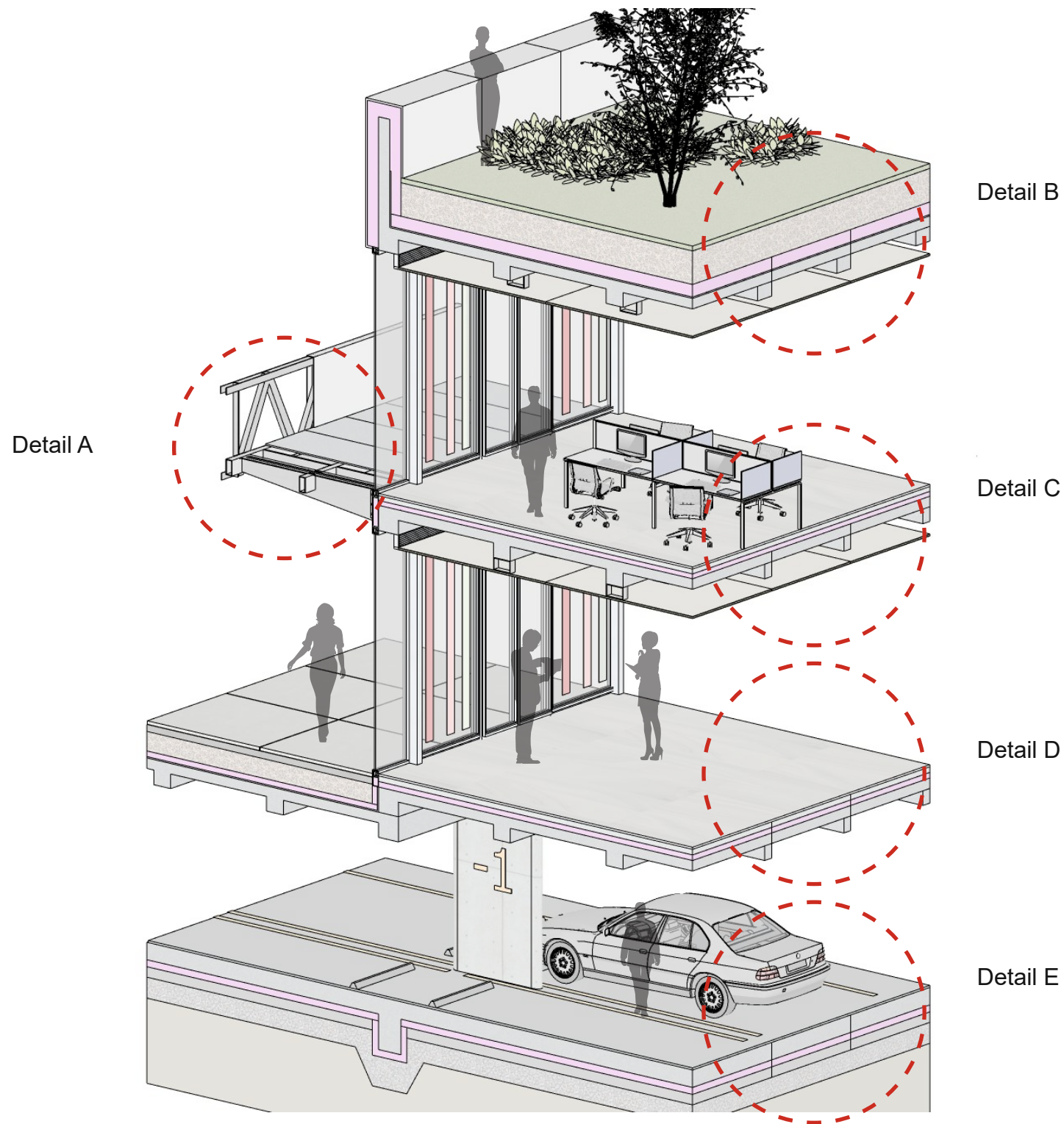


Fig. 5.9. Fassade section

5.10. Detail A

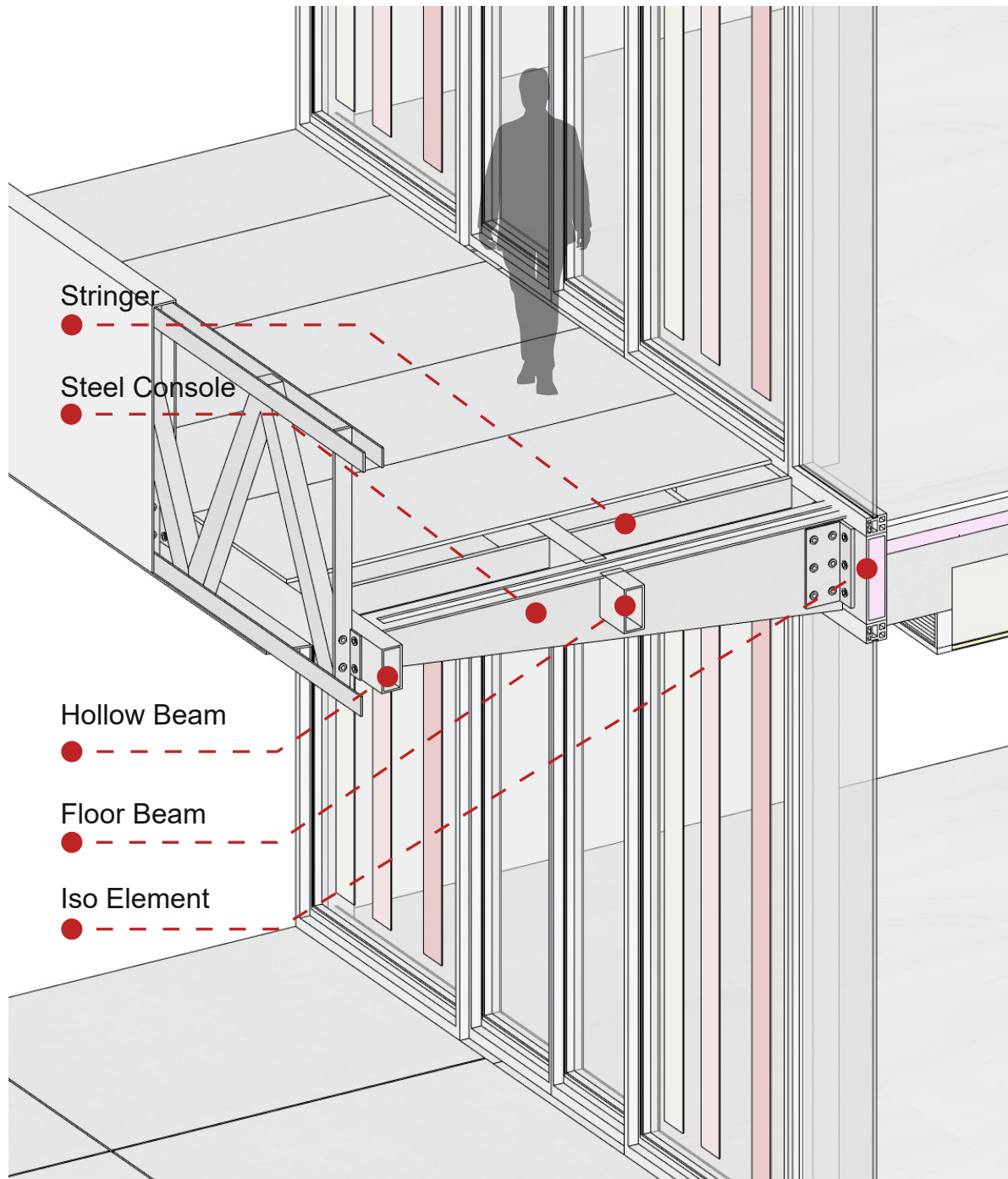


Fig. 5.10. Fassade detail A

5.11. Detail B

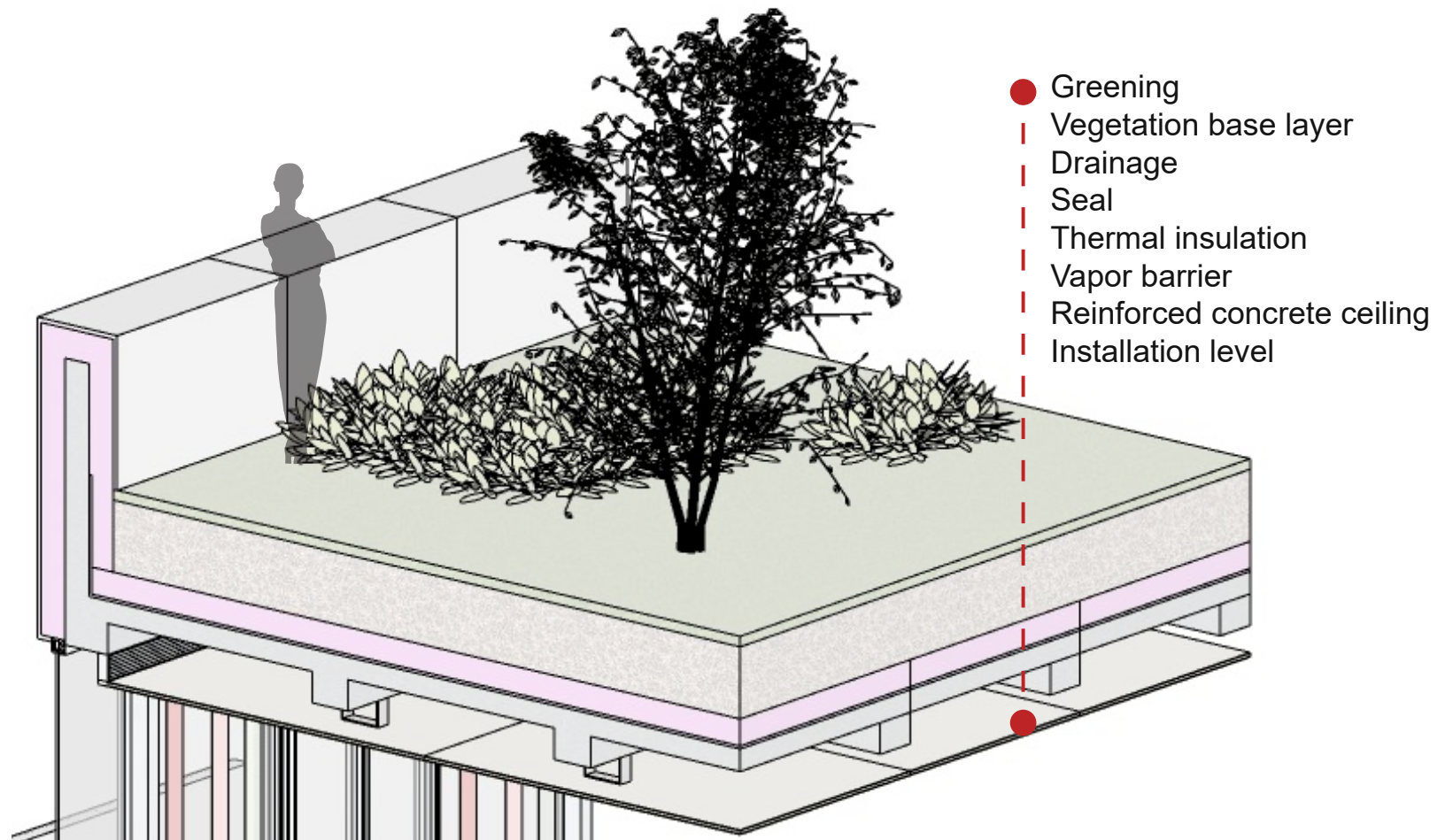


Fig. 5.11. Fasade detail B

5.12. Detail C

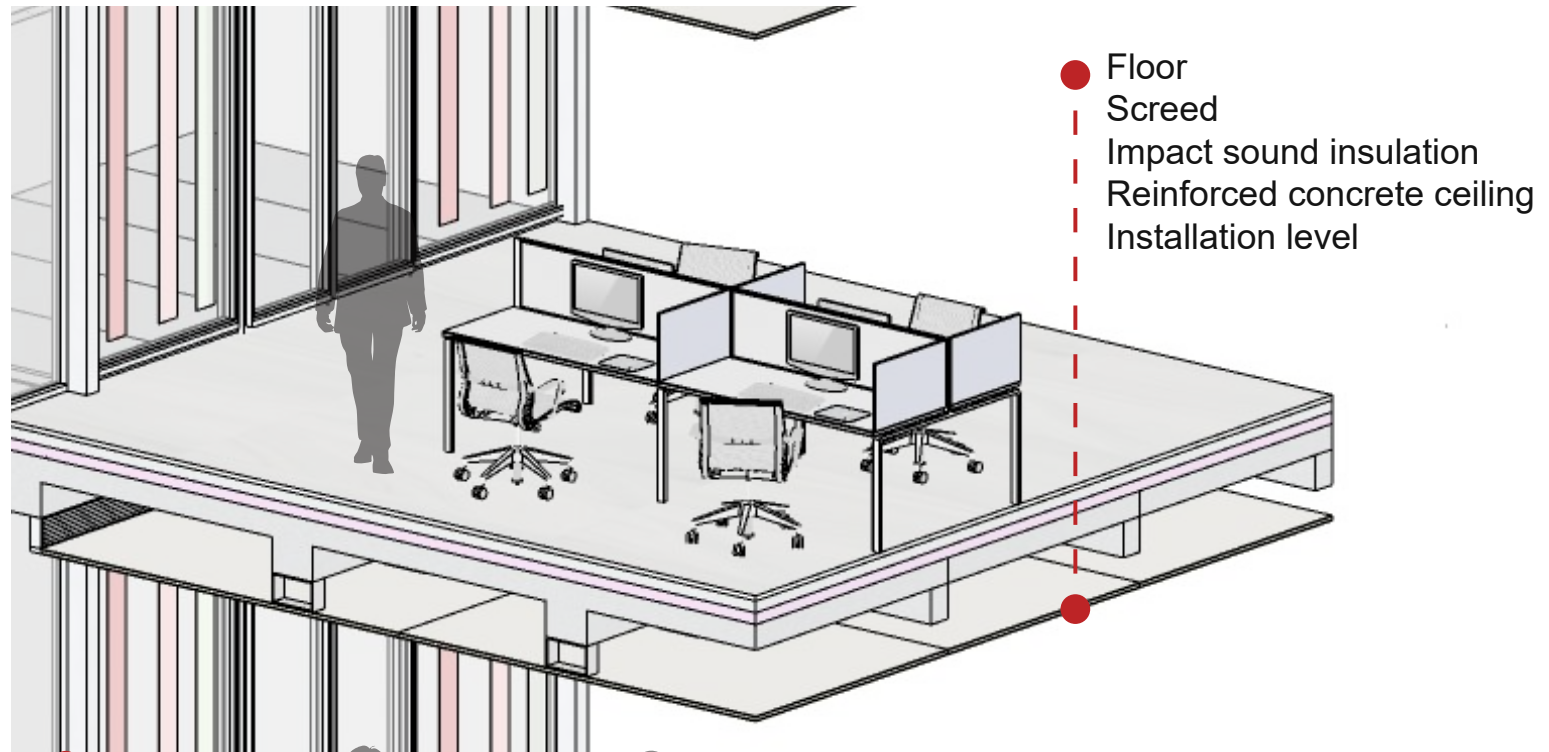
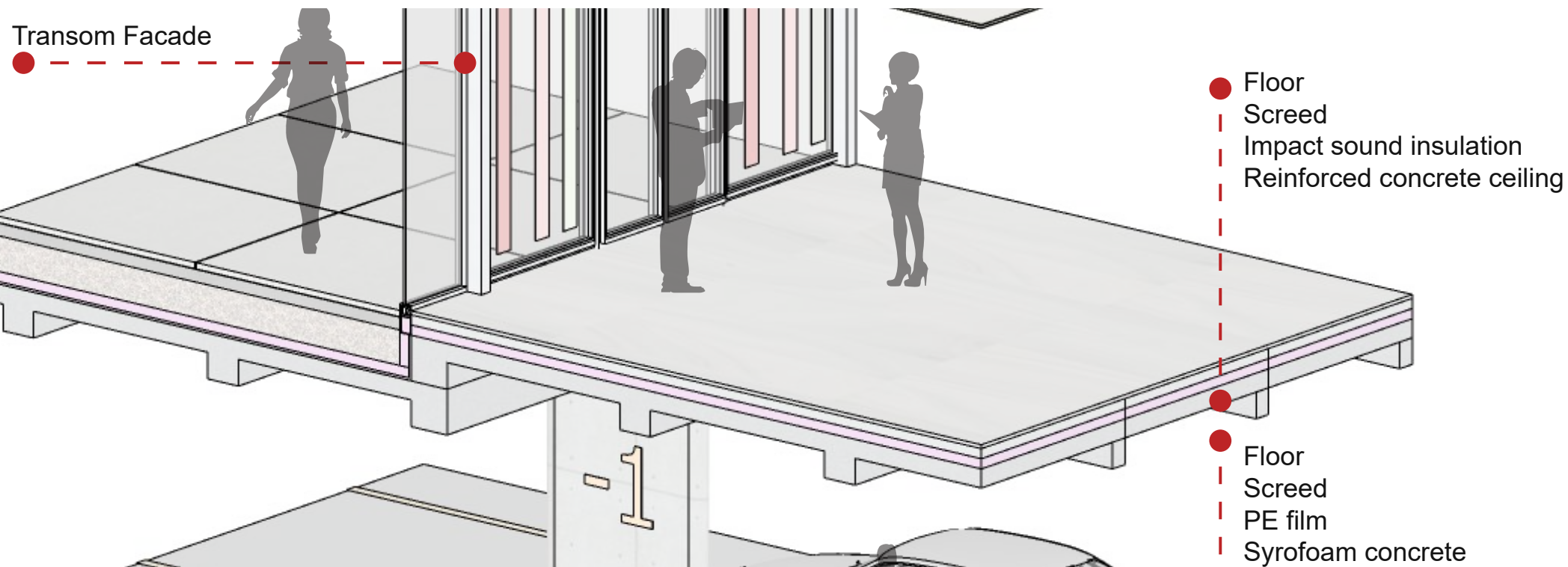


Fig. 5.12. Fasade detail C



5.13. Detail D

Fig. 5.13. Fasade detail D

5.14. Detail E

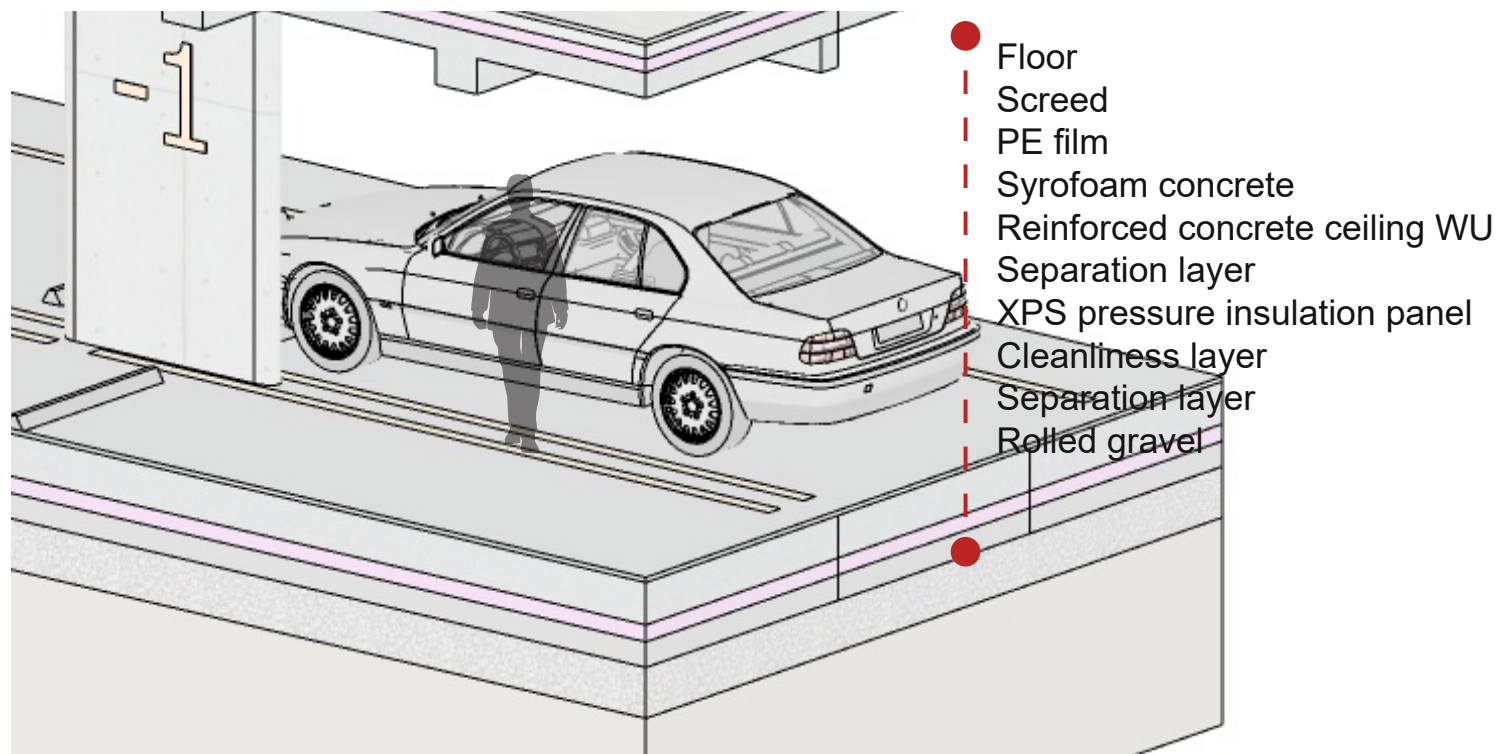


Fig. 5.13. Fasade detail E

6. Perspectives



Fig. 6.1. Roof view

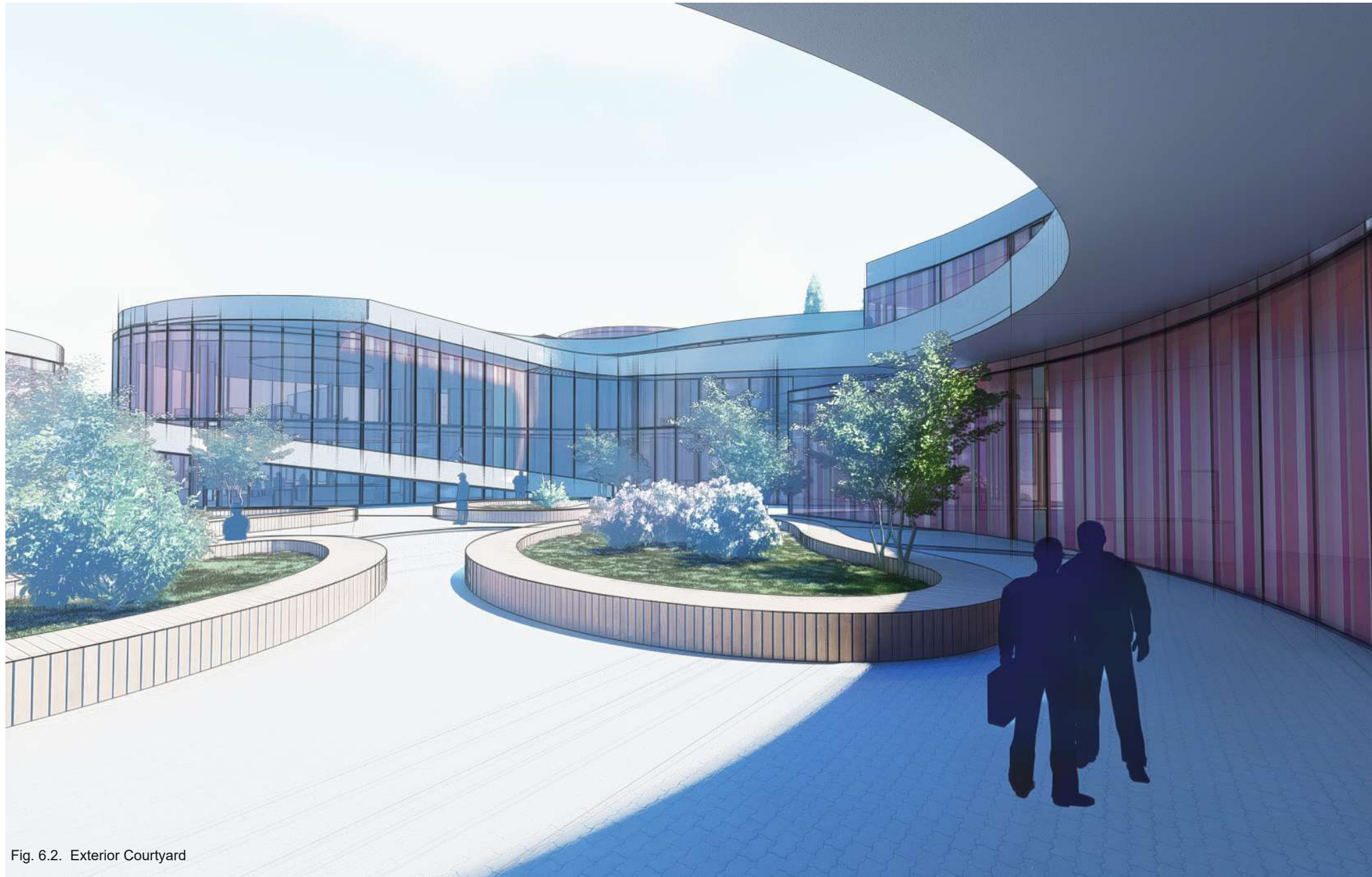


Fig. 6.2. Exterior Courtyard

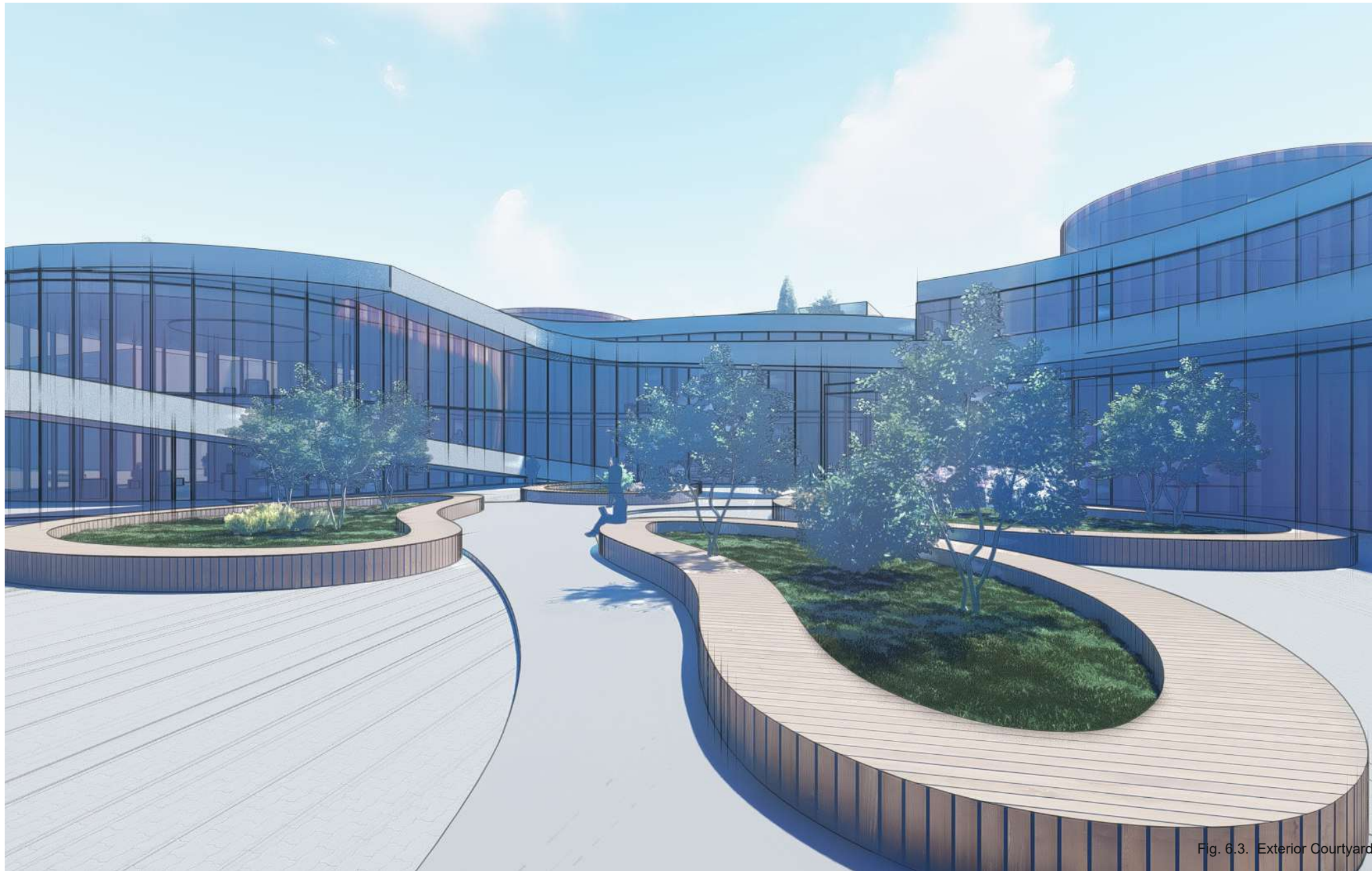


Fig. 6.3. Exterior Courtyard



Fig. 6.4. Rooftop Garden, Building A

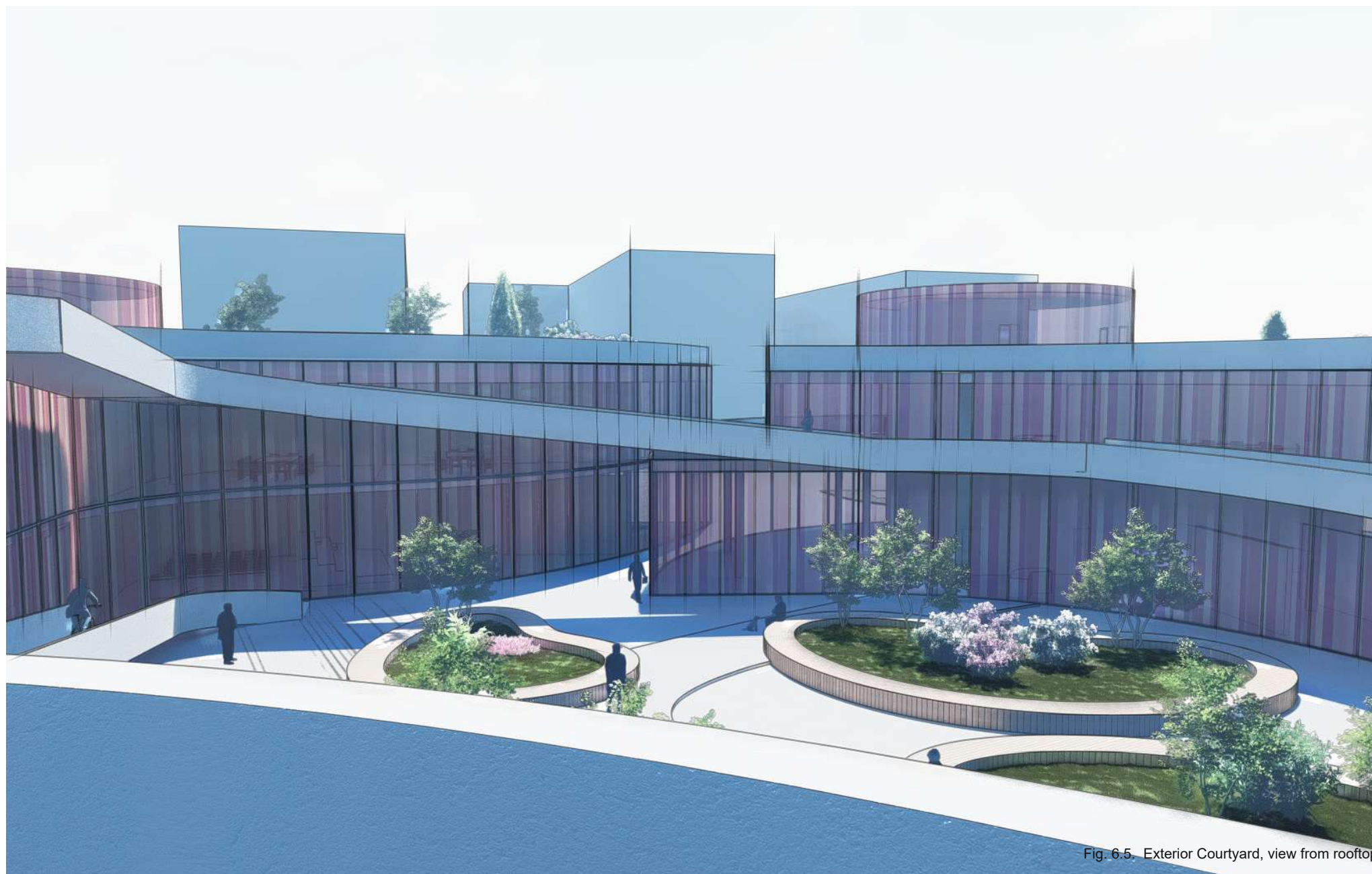


Fig. 6.5. Exterior Courtyard, view from rooftop



Fig. 6.6. Entrance Hall, Building A, Ground floor



Fig. 6.7. Common space, Building A, First floor



Fig. 6.8. Staircase open, Building A, Ground floor



Fig. 6.9. Kinder garten, Building C, First floor



Fig. 6.10. Flexible office spaces, Building A, Ground

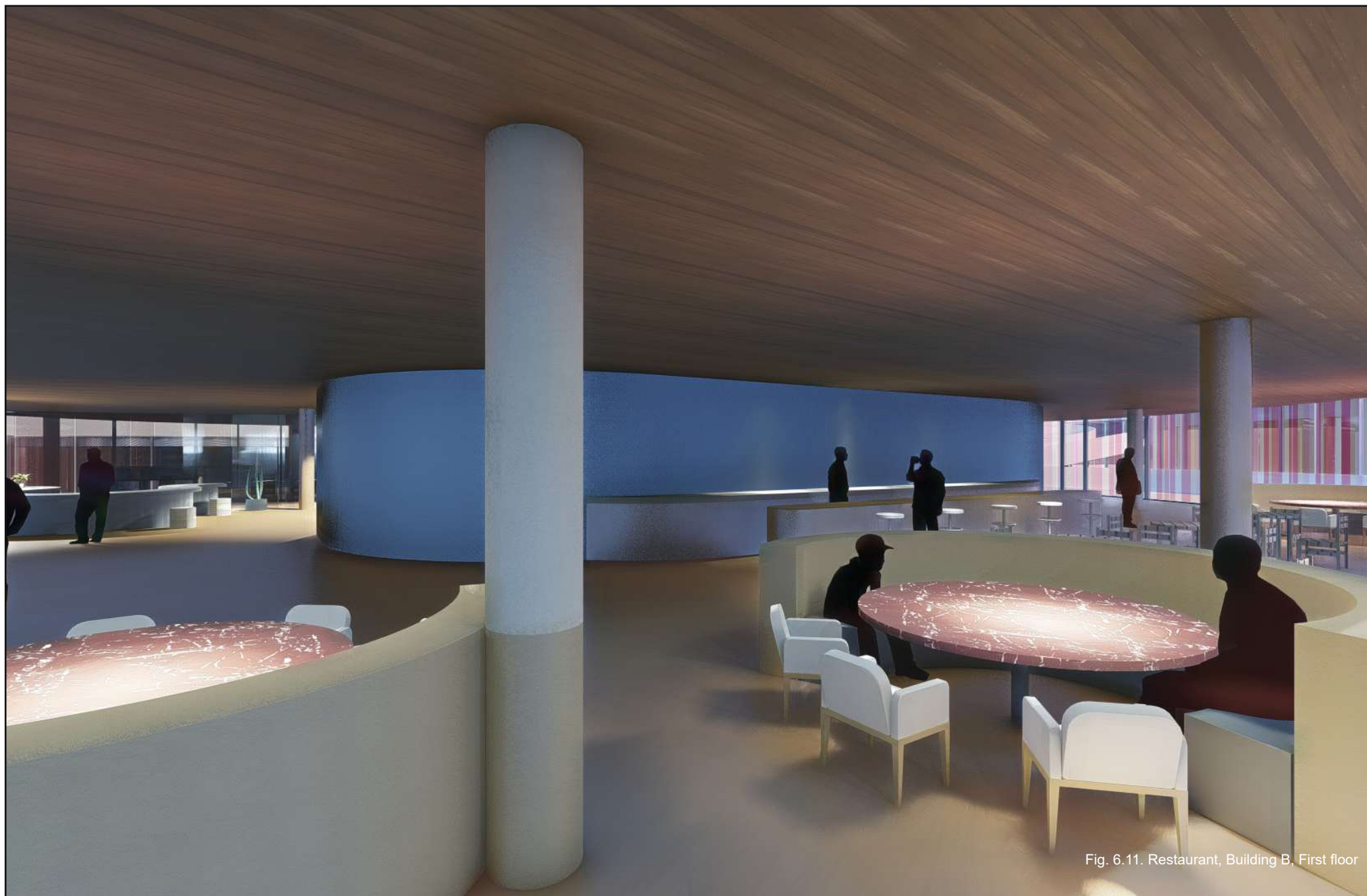
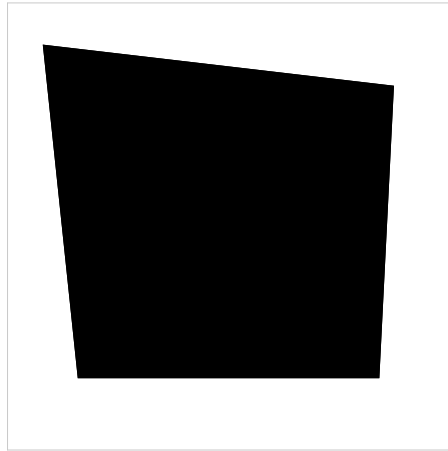


Fig. 6.11. Restaurant, Building B, First floor

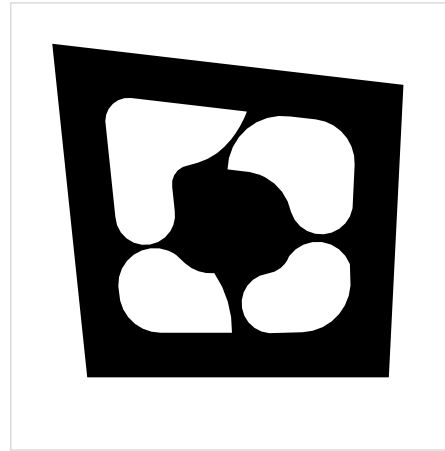
7. Valuation

Ground floor

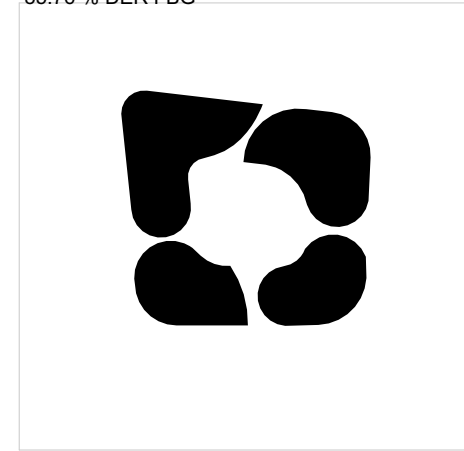
PARZELLE
FBG: 11,475.39 m²



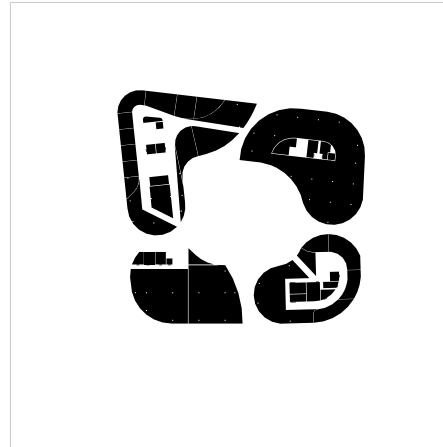
FREIFLÄCHE
FF: 7,371.05 m²
64.23 % DER FBG



BRUTTO-GRUNDFLÄCHE
BGF: 4,104.34 m²
35.76 % DER FBG



NUTZFLÄCHE
NF: 3,158.58 m²
76.95 % DER BGF



VERKEHRSFLÄCHE
VF: 745.54 m²
18.16 % DER BGF

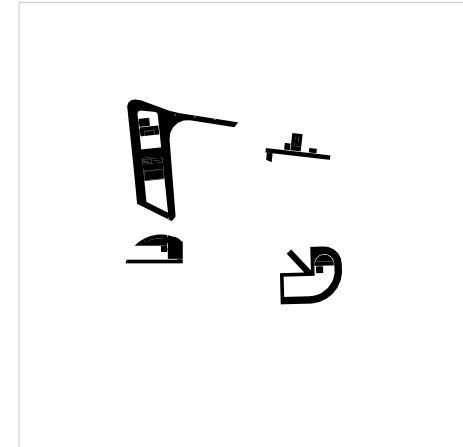
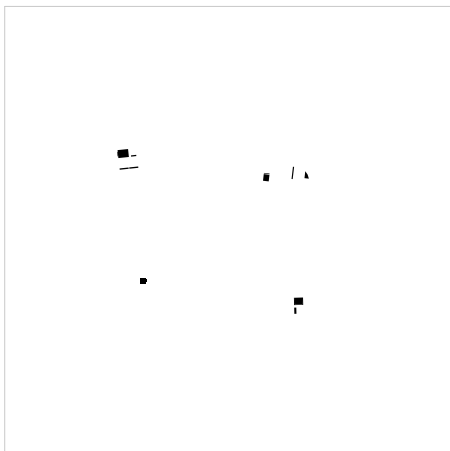


Fig. 7.0. Valuation

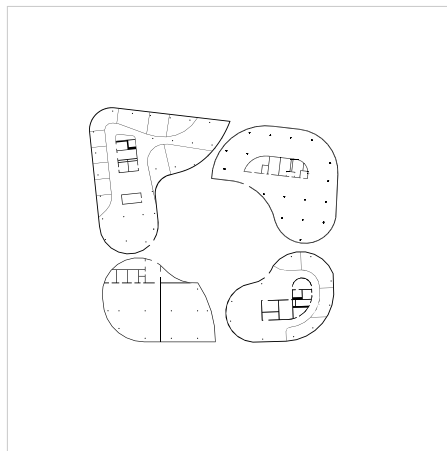
TECHNISCHE FUNKTIONSFLÄCHE

TF: 32.51 m²
0.85 % DER BGF



KONSTRUKTIONSFLÄCHE

KF: 165.31 m²
4.02 % DER BGF



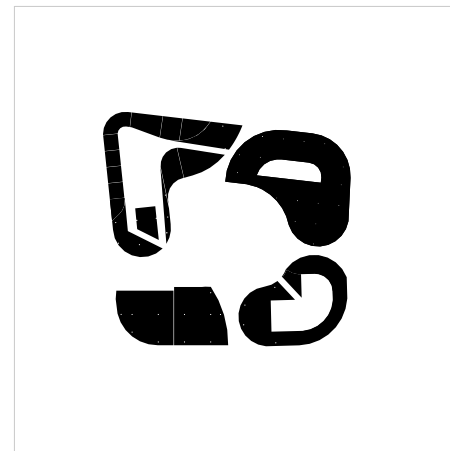
NEBENNUTZFLÄCHE

NNF: 281.00 m²
8.89 % DER NF



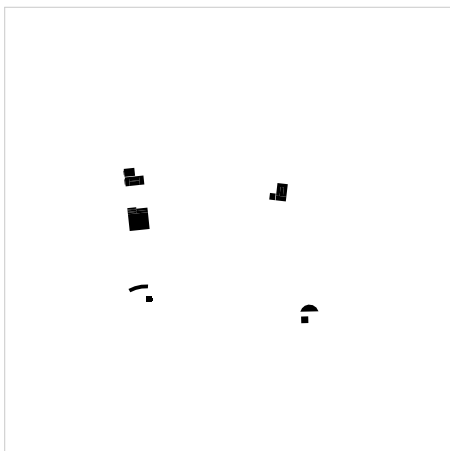
HAUPTNUTZFLÄCHE

HNF: 2877.58 m²
91.10 % DER NF



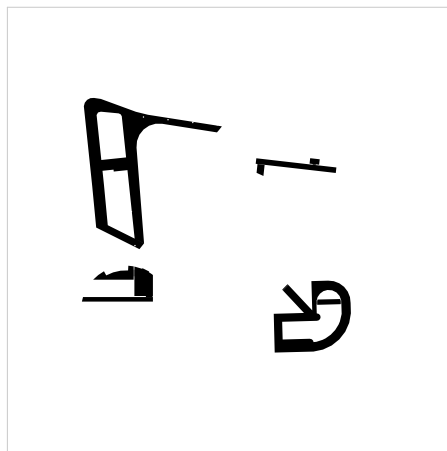
VERKEHRSFLÄCHE vertikal

VFv: 132.00 m²
17.70 % DER VF



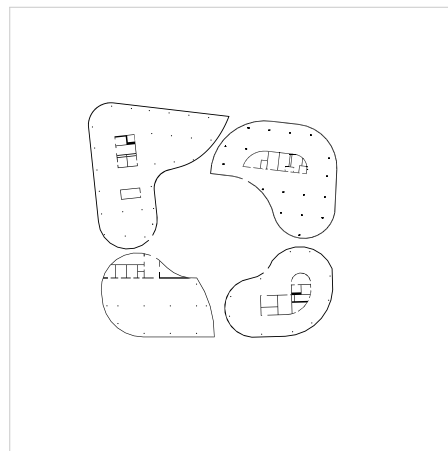
VERKEHRSFLÄCHE horizontal

VFh: 613.54 m²
82.29 % DER VF



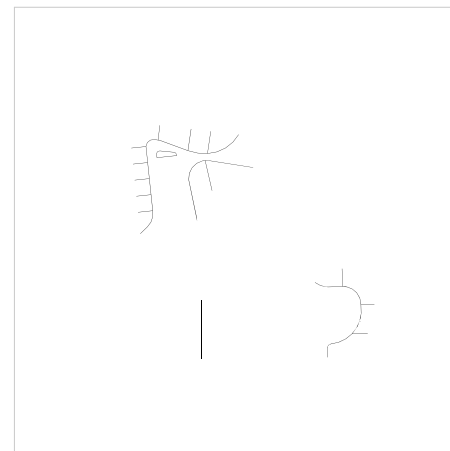
KONSTRUKTIONSFLÄCHE tragend

KFT: 138.53 m²
83.80 % DER KF



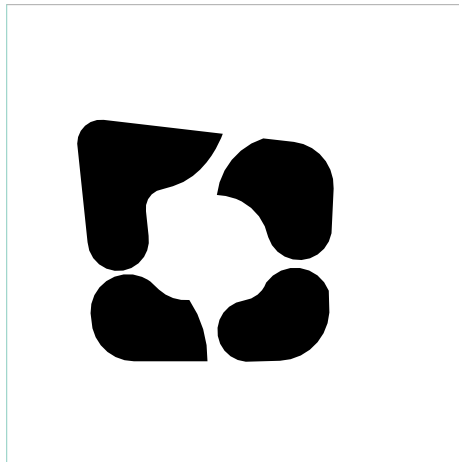
KONSTRUKTIONSFLÄCHE nicht tragend

KFN: 26.78 m²
16.19 % DER KF

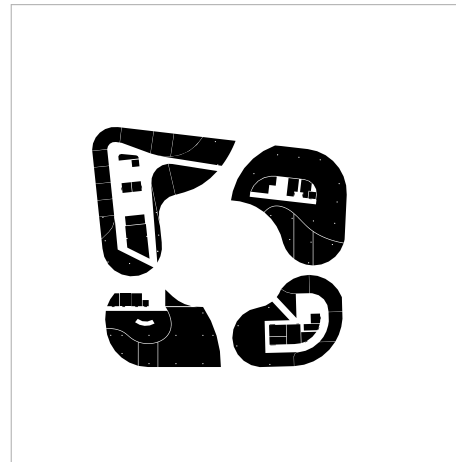


First floor

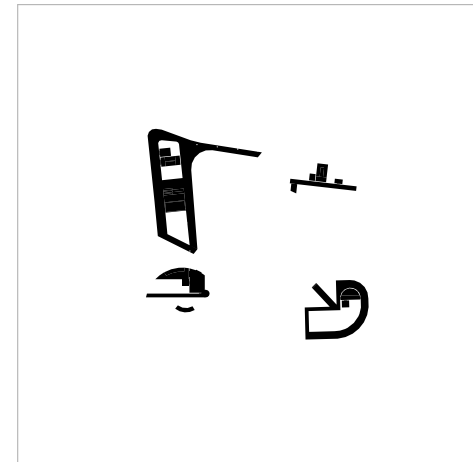
BRUTTO-GRUNDFLÄCHE
BGF: 4009,66 m²
34.94 % DER FBG



NUTZFLÄCHE
NF: 3069,18 m²
76.54 % DER BGF



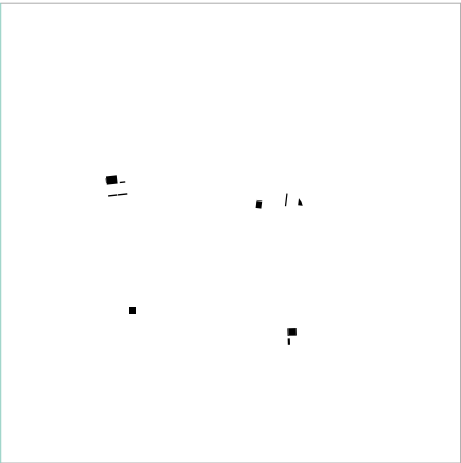
VERKEHRSFLÄCHE
VF: 737.42 m²
18.39 % DER BGF



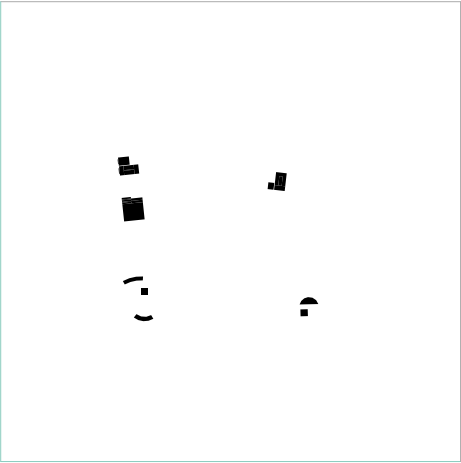
7. Valuation

Fig. 7.0. Valuation

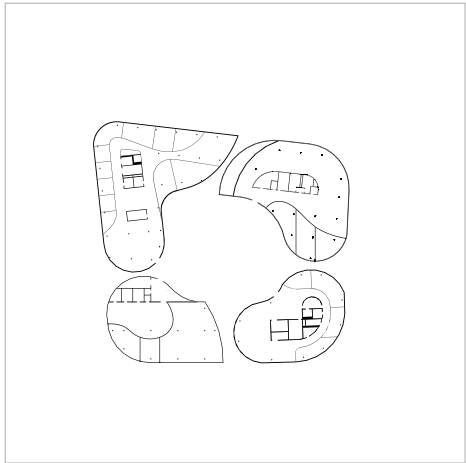
TECHNISCHE FUNKTIONSFLÄCHE
 TF: 34.90 m²
 0.87 % DER BGF



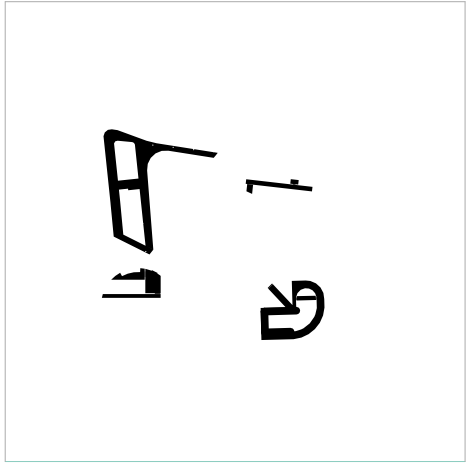
VERKEHRSFLÄCHE vertikal
 VFv: 140.00 m²
 18.98 % DER VF



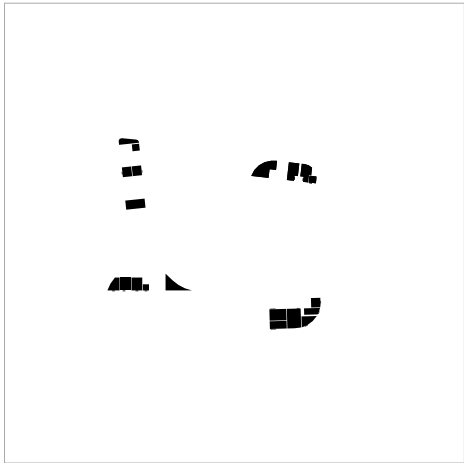
KONSTRUKTIONSFLÄCHE
 KF: 168.16 m²
 4.19 % DER BGF



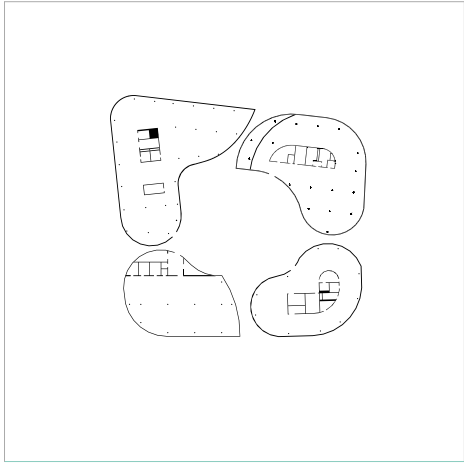
VERKEHRSFLÄCHE horizontal
 VFh: 597.42 m²
 81.01 % DER VF



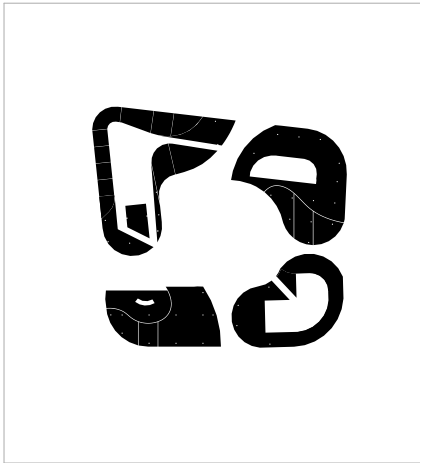
NEBENNUTZFLÄCHE
 NNF: 281.00 m²
 9.15 % DER NF



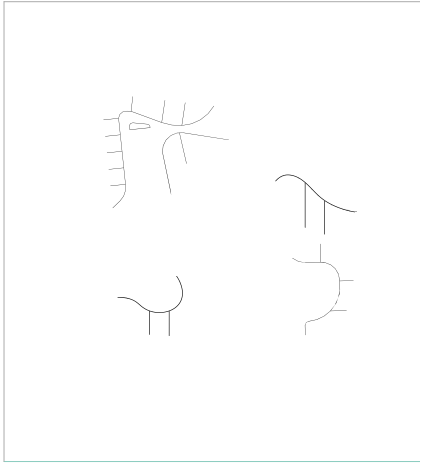
KONSTRUKTIONSFLÄCHE tragend
 KFT: 226.93 m²
 78.65 % DER KF



HAUPTNUTZFLÄCHE
 HNF: 2788.18 m²
 90.84 % DER NF

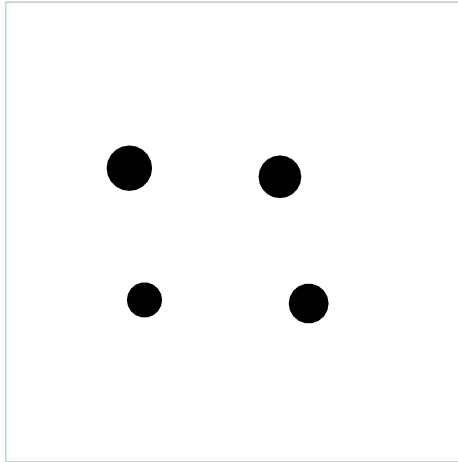


KONSTRUKTIONSFLÄCHE nicht tragend
 KFN: 36.90 m²
 21.34 % DER KF

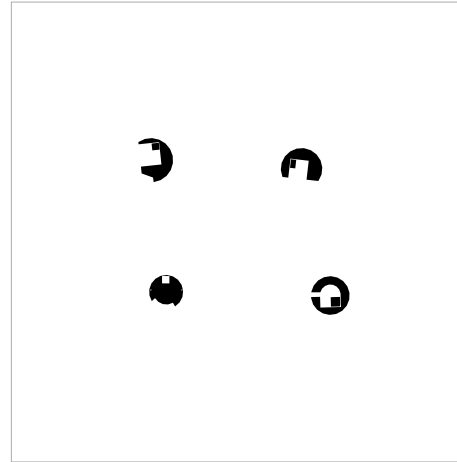


Second Floor

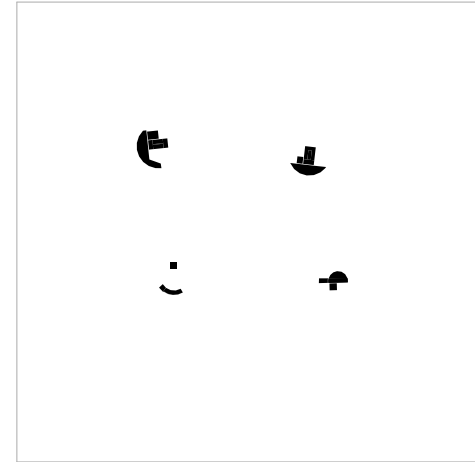
BRUTTO-GRUNDFLÄCHE
BGF: 563,26 m²
4.9 % DER FBG



NUTZFLÄCHE
NF: 326.00 m²
57.87 % DER BGF



VERKEHRSFLÄCHE
VF: 155.00 m²
27.51 % DER BGF



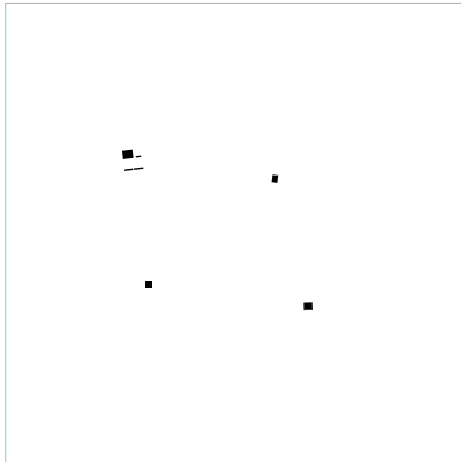
7. Valuation

Fig. 7.0. Valuation

TECHNISCHE FUNKTIONSFLÄCHE

TF: 29.00 m²

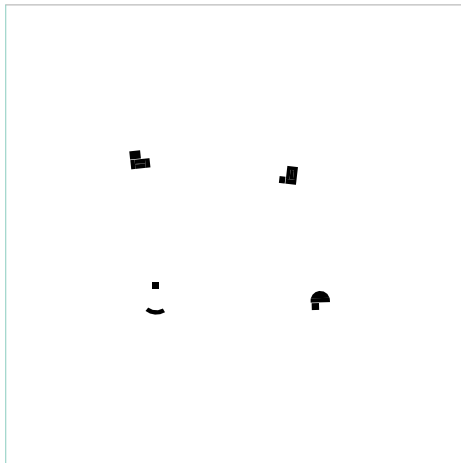
5.14 % DER BGF



VERKEHRSFLÄCHE vertikal

VFv: 90.11 m²

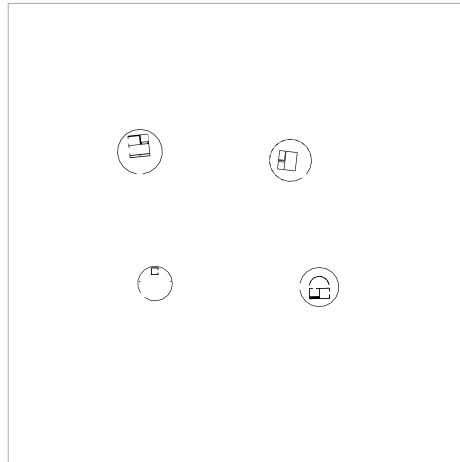
58.13 % DER VF



KONSTRUKTIONSFLÄCHE

KF: 53.26 m²

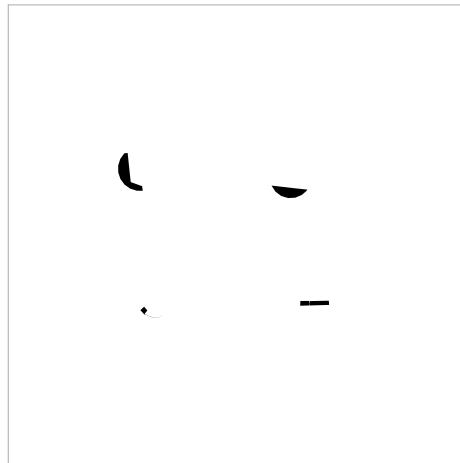
9.45 % DER BGF



VERKEHRSFLÄCHE horizontal

VFh: 64.89 m²

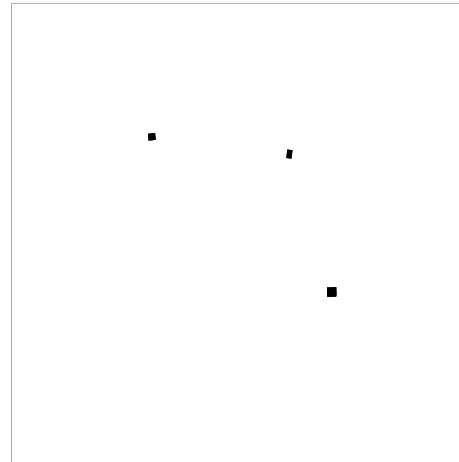
41.86 % DER VF



NEBENNUTZFLÄCHE

NNF: 20.00 m²

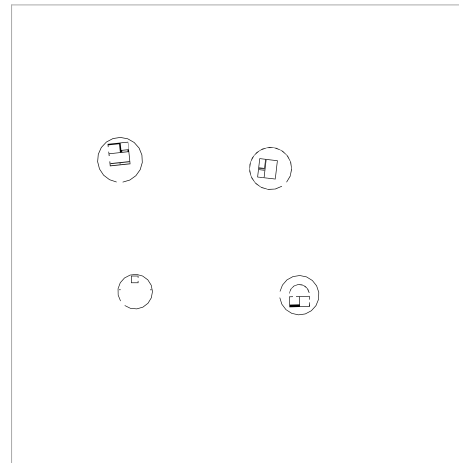
6.13 % DER NF



KONSTRUKTIONSFLÄCHE tragend

KFT: 17.37 m²

32.60 % DER KF



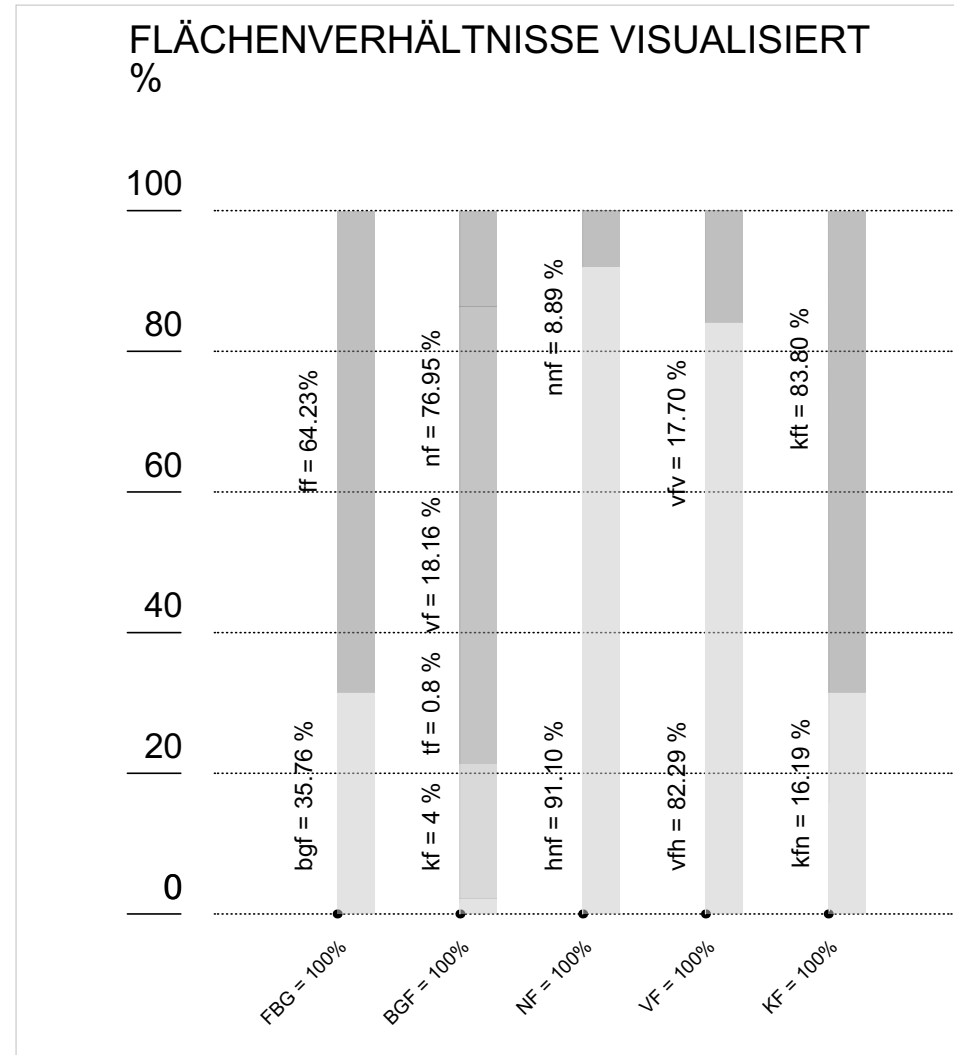
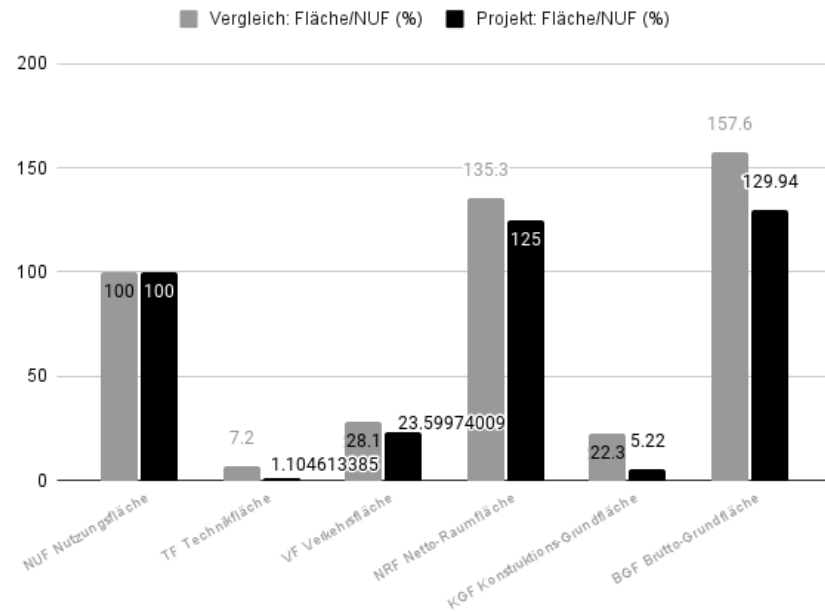
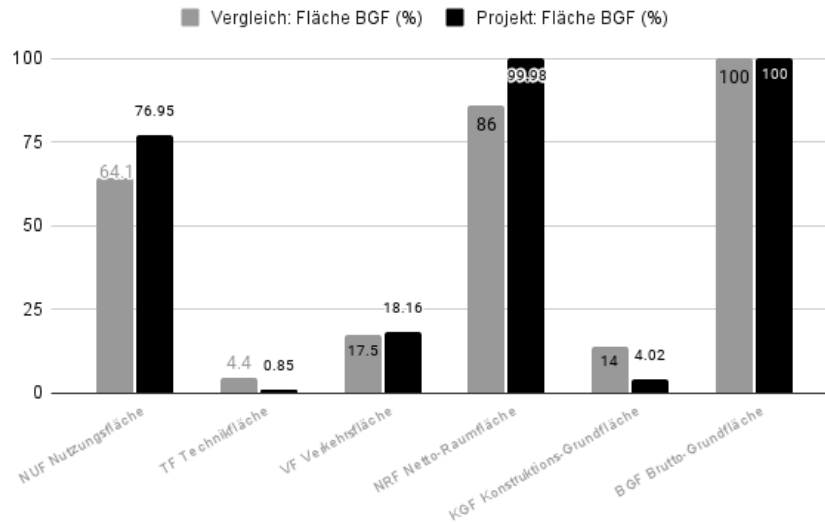


Fig. 7.1. Valuation visualisation

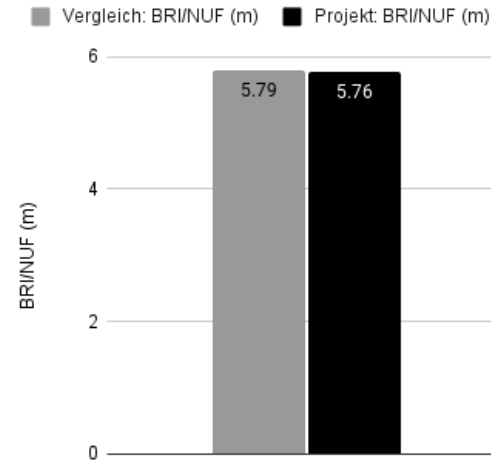
BKI: Büro- und Verwaltungsgebäude, hoher Standard: Grundflächen



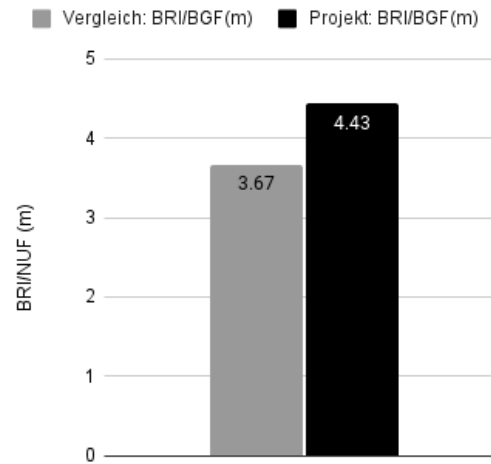
BKI: Büro- und Verwaltungsgebäude, hoher Standard: Grundflächen



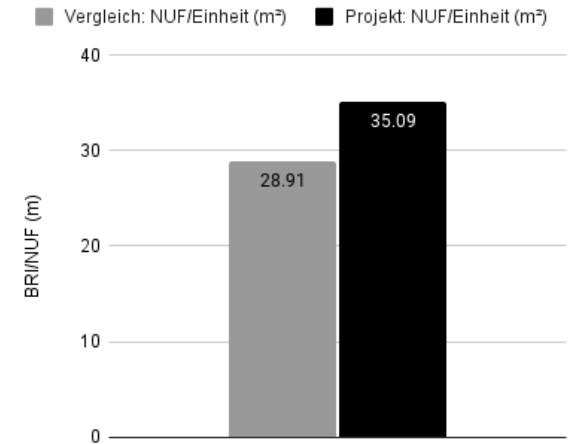
BRI Brutto-Rauminhalt



BRI Brutto-Rauminhalt



BRI Brutto-Rauminhalt: Nutzereinheit: Arbeitsplätze



BRI Brutto-Rauminhalt: Nutzereinheit: Arbeitsplätze

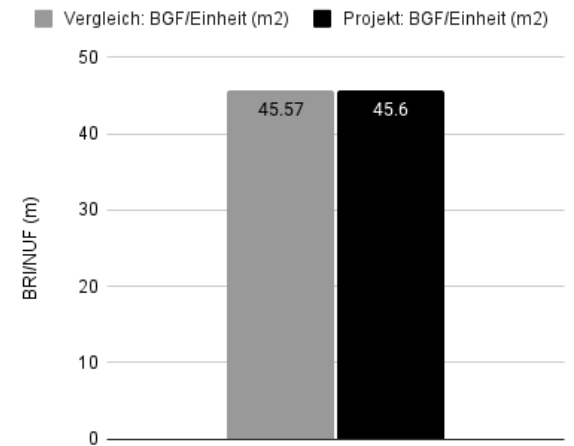
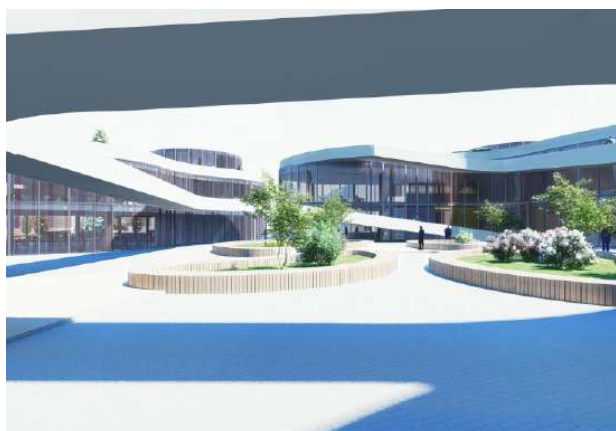
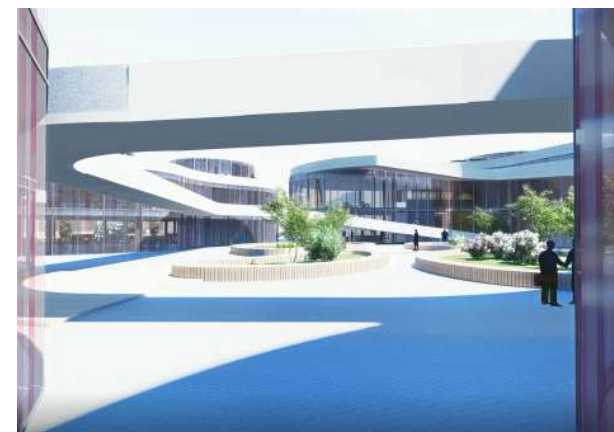


Fig. 7.2. BKI Comparison

8. 3D model



|
00:00



|
00:11

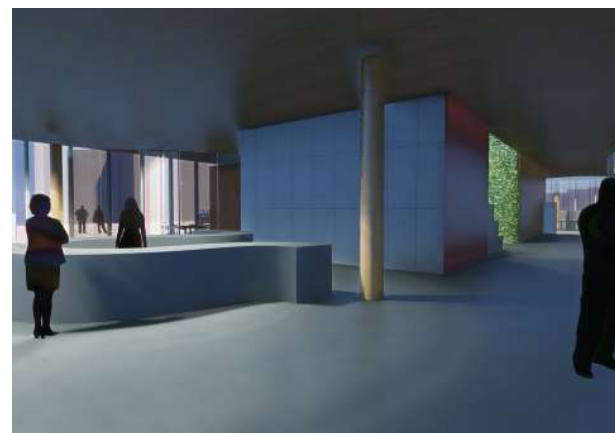




|
00:21



|
00:27





|
00:39



|
00:51





|
00:59



|
01:09





|
01:18



|
01:25





|
01:29



|
01:32





|
 01:35



|
 01:41



|
 02:05

9. Summary

As technology continues to rapidly evolve, traditional work formats become less attractive. Flexibility emerges as the a primary expection among the working population. Modern office spaces must quickly adapt to changing circumstances and consider flexibility as the new norm, providing not only an adequate working environment but also a place that fosters exchange of knowledge, networking and day-to-day social interaction.

The design must cater to the diverse needs of users, with a focus on flexible floor plans that can be easily adapted over time. By introducing flexible moving walls, the space can be configured to one's needs endlessly. It is not only suitable for working but also for other functions such childcare or event and recreational activities.

The site is located in a post-industrial district that lacks green recreational spaces. The building's design, which includes an exterior bicycle ramp, allows commuters to easily cycle to work and introduces performative architectural elements into the design. The ramp promote sustainability and provides an alternative to access the interior as well as rooftop of the building.

By restoring the area to its users and neighbourhood, the building will gain significant social and economic value. It invites visitors to experience and explore the new landscape, providing a new focal point for the community that will bring lasting benefits to all those who use it.

10. References

10.1. References:

Akp. (2017) https://ahk.pl/fileadmin/AHK_Polen/Publikationen/Investing-in-Poland-2017_wersja-elektroniczna.pdf [Accessed on 03.02.2023]

Archdaily (2023) Coworking space, <https://www.archdaily.com/tag/coworking-space> [Accessed on 03.02.2023]

Bip (2023) https://www.bip.krakow.pl/?dok_id=14330&sub_dok_id=14330 [Accessed on 03.02.2023]

Britannica (2023), <https://www.britannica.com/place/Krakow>, [last accessed 28.02.2023]

ieeenap.org (2023), https://ieeenap.org/data/broszura_2021_ang.pdf [last accessed 22.03.2023]

Coworker. (2023) <https://www.coworker.com/poland/krakow> [Accessed on 03.02.2023]

Dziennik.pl (2018) <https://podroze.dziennik.pl/polska/artykuly/573760,krakow-co-zobaczyc-atrakcje-stare-miasto-kazimierz.html> [Accessed on 03.02.2023]

Herito. (2020) <http://herito.pl/en/articles/zablocie-a-perfect-example-of-revitalisation> [Accessed on 03.02.2023]

Knoll (2020) <https://www.knoll.com/knollnewsdetail/the-thriving-workplace-crafting-a-new-narrative> [Accessed on 03.02.2023]

Ownetic. (2011) <https://ownetic.com/magazyn/2011/zablocie-rewitalizacja-historia-krakow-podgorze/> [Accessed on 03.02.2023]

Wikipedia (2023) https://en.wikipedia.org/wiki/Culture_of_krakow [Accessed on 03.02.2023]

Wikipedia (2023) [https://pl.wikipedia.org/wiki/Zabocie_\(Krakow\)](https://pl.wikipedia.org/wiki/Zabocie_(Krakow)) [Accessed on 03.02.2023]

10.2. List of figures

- Fig. 2.1.1. Crakow center- <https://www.reise-liebe.com/ostern-in-krakau-kurztrip-mit-macken/> - last accessed on 04.02.2023
- Fig. 2.1.2. Cloth Hall Square - [britannica.com/place/Krakow](https://www.britannica.com/place/Krakow)- last accessed on 04.02.2023
- Fig. 2.1.3. Okrągłak na placu Nowym- credit: Joanna Urbaniec, <https://dziennikpolski24.pl/krakow-kino-w-okraglaku-na-placu-nowym-pieniadze-z-najmu-trafia-do-spolki/ar/c3-13899846> last accessed on 04.02.2023
- Fig. 2.2.4. Wawel Castle - [britannica.com/place/Krakow](https://www.britannica.com/place/Krakow)- last accessed on 04.02.2023
- Fig. 2.2.5. Crakow Map - [free vector maps.com](https://www.free-vector-maps.com) - last accessed on 04.02.2023
- Fig. 2.2.6. Map of Cracow - <https://schwarzplan.eu/en/figure-ground-plan-site-plan-krakow/> - last accessed on 04.02.2023
- Fig. 2.2.7. Schindler's factory, https://de.wikipedia.org/wiki/Fabryka_Emalia_Oskara_Schindlera ast accessed on 04.02.2023
- Fig. 2.2.8. Zabłocie, industrial landscape, [https://pl.wikipedia.org/wiki/Zab%C5%82ocie_\(Krak%C3%B3w\)](https://pl.wikipedia.org/wiki/Zab%C5%82ocie_(Krak%C3%B3w)) - last accessed on 04.02.2023
- Fig. 2.3.1. Bicycle map between center of Cracow and Zabłocie - Google Maps - last accessed on 04.02.2023
- Fig. 2.3.2. Zablocie district borders, map 1;10000 - <https://schwarzplan.eu/en/figure-ground-plan-site-plan-krakow/> - last accessed on 04.02.2023
- Fig. 2.3.3. One of the major beltway roads in Cracow Verschmutzung - Google Maps - last accessed on 04.02.2023
- Fig. 2.3.4. Street view of Zablocie - Google Maps - last accessed on 04.02.2023
- Fig. 2.3.5. Street view of Zablocie - Google Maps - last accessed on 04.02.2023
- Fig. 2.4.1. Schwarzplan – district of Zablocie - <https://schwarzplan.eu/en/figure-ground-plan-site-plan-krakow/> - last accessed on 04.02.2023
- Fig. 2.4.2. Schindlers factory museum - google images - last accessed on 04.02.2023
- Fig. 2.4.3. Center for Glass and Ceramics - google images - last accessed on 04.02.2023
- Fig. 2.4.4. MOCAR Museum of Contemporary Art - google images - last accessed on 04.02.2023
- Fig. 2.4.5. Butterfly garden - google images - last accessed on 04.02.2023
- Fig. 2.4.6. Park Stacja Wisla - google images - last accessed on 04.02.2023
- Fig. 2.4.7. Loftmill - Co-working space - google images - last accessed on 04.02.2023
- Fig. 2.4.8. Diamante Plaza - Co-working space - google images - last accessed on 04.02.2023
- Fig. 2.5.1. Schwarzplan - district of Zablocie - Michelle Schreuder - Photoshop - 04.02.2023
- Fig. 3.1.1. Needs matrix - Michelle Schreuder - Photoshop - 04.02.2023a
- Fig. 4.1.1. Form studies: shape 1 - Michelle Schreuder - Sketchup - 05.02.2023
- Fig. 4.1.2. Form studies: shape 2 - Michelle Schreuder - Sketchup - 05.02.2023
- Fig. 4.1.3. Form studies: shape 3 - Michelle Schreuder - Sketchup - 05.02.2023
- Fig. 4.1.4. Form studies: shape 4 - Michelle Schreuder - Sketchup - 05.02.2023
- Fig. 4.2. Form studies: final shape - Michelle Schreuder - Sketchup - 05.02.2023
- Fig. 4.3. Form studies: entrance - Michelle Schreuder - Sketchup - 05.02.2023
- Fig. 4.4. Form studies: vertical circulation - Michelle Schreuder - Sketchup - 05.02.2023
- Fig. 4.5.1. Construction Variant 1 - Archicad - 28.02.2023
- Fig. 4.5.2. Construction Variant 2 - Archicad - 28.02.2023
- Fig. 4.5.3. Construction Variant 3 - Archicad - 28.02.2023
- Fig. 4.6.1. Form studies: vertical circulation ramp - Michelle Schreuder - Sketchup - 05.02.2023
- Fig. 4.6.2. Camp Adventure, "Spiral Ramp", credit: Architecture office EFFEKT, - Designboom.com - last accessed on 04.02.2023
- Fig. 4.7.1. Ramp variant 1 - Michelle Schreuder - Archicad - 05.02.2023
- Fig. 4.7.2. Ramp variant 2 - Michelle Schreuder - Archicad - 05.02.2023
- Fig. 4.7.3. The final ramp variant - Michelle Schreuder - Archicad - 05.02.2023
- Fig. 4.8.1. Concept Drawing of Ramp, Innovation Center, Cracow, Poland - Archicad - 28.02.2023
- Fig. 4.8.2. Fachwerktraeger, Baunetzwissen.de - last accessed on 28.02.2023
- Fig. 4.8.3. Waalwijk Park Bridge, ipv Delft creative engineers - last accessed on 28.02.2023
- Fig. 4.8.4. Leutaschklamm Geisterklamm, Austria, trekhunt.com - last accessed on 28.02.2023
- Fig. 4.9.1. Acoustic Operable Moving Walls - <https://creatif.org.uk/solutions/adaptif/product-solo/> - last accessed on 04.02.2023

- Fig. 4.9.2. Terratinta Ceramiche / Enrico Bergamini - <https://www.archdaily.com/892607/terratinta-ceramiche-enrico-bergamini> - last accessed on 04.02.2023
- Fig. 4.10.1. Flexible working stations – Michelle Schreuder - Archicad - 05.02.2023
- Fig. 4.10.2. Accoustic ceiling tiles: <https://www.troldtekt.com/references/office-buildings-and-shops/kab-huset/>
- Fig. 4.11.1. Flexible working station - Michelle Schreuder - Archicad - 05.02.2023
- Fig. 4.11.2. The Maersk tower - C.F. Moller Architects, Foto: Adam Moerk - <https://www.archdaily.com/887270/the-maersk-tower-cf-moller-architects> - last accessed on 04.02.2023
- Fig. 4.12. The program - Michelle Schreuder - Archicad - 05.02.2023
- Fig. 4.13. Sustainability – Michelle Schreuder – Illustrator – 05.02.2023
- Fig. 4.14.1. Photovoltaic cells on facade module - metsolar.eu - last accessed on 28.02.2023
- Fig. 4.14.2. Photovoltaic cells façade - loci-zonnepanelendak.nl - last accessed on 28.02.2023
- Fig. 4.14.3. Render of facade with photovoltaic cells – Michelle Schreuder – Lumion - 03.03.2023
- Fig. 5.1. The site plan – Michelle Schreuder – Archicad – 05.02.2023
- Fig. 5.2.1. Floor plans: Underground floor, 1:1000 – Michelle Schreuder – Archicad – 05.02.2023
- Fig. 5.2.2. Floor plans: Ground floor, 1:1000 – Michelle Schreuder – Archicad – 05.02.2023
- Fig. 5.2.3. Floor plans: First floor, 1:1000 – Michelle Schreuder – Archicad – 05.02.2023
- Fig. 5.2.4. Floor plans: Second floor, 1:1000 – Michelle Schreuder – Archicad – 05.02.2023
- Fig. 5.3.1. Floor plans: Underground floor, 1:333 – Michelle Schreuder – Archicad – 05.02.2023
- Fig. 5.3.2. Floor plans: Ground floor, 1:333 – Michelle Schreuder – Archicad – 05.02.2023
- Fig. 5.3.3. Floor plans: First floor, 1:200 – Michelle Schreuder – Archicad – 05.02.2023
- Fig. 5.3.4. Floor plans: Roof, 1:200 – Michelle Schreuder – Archicad – 05.02.2023
- Fig. 5.4.1. Section A – Michelle Schreuder – Illustrator & SketchUp – 05.02.2023
- Fig. 5.4.2. Section B – Michelle Schreuder – Illustrator & SketchUp – 05.02.2023
- Fig. 5.5. Elevation South – Michelle Schreuder – Illustrator & SketchUp – 05.02.2023
- Fig. 5.6. Elevation North – Michelle Schreuder – Illustrator & SketchUp – 05.02.2023
- Fig. 5.7. Elevation East – Michelle Schreuder – Illustrator & SketchUp – 05.02.2023
- Fig. 5.8. Elevation West – Michelle Schreuder – Illustrator & SketchUp – 05.02.2023
- Fig. 5.9. Facade section – Michelle Schreuder – Illustrator & SketchUp – 05.02.2023
- Fig. 5.10. Facade detail A – Michelle Schreuder – Illustrator & SketchUp – 05.02.2023
- Fig. 5.11. Facade details B – Michelle Schreuder – Illustrator & SketchUp – 05.02.2023
- Fig. 5.12. Facade details C – Michelle Schreuder – Illustrator & SketchUp – 05.02.2023
- Fig. 5.13. Facade details D – Michelle Schreuder – Illustrator & SketchUp – 05.02.2023
- Fig. 6.1. Roof view – Michelle Schreuder - Lumion – 05.03.2023
- Fig. 6.2. Exterior Courtyard – Michelle Schreuder - Lumion – 05.03.2023
- Fig. 6.3. Exterior Courtyard – Michelle Schreuder - Lumion – 05.03.2023
- Fig. 6.4. Rooftop Garden, Building A – Michelle Schreuder - Lumion – 05.03.2023
- Fig. 6.5. Exterior Courtyard, view from rooftop – Michelle Schreuder - Lumion – 05.03.2023
- Fig. 6.6. Entrance Hall, Building A, Ground floor – Michelle Schreuder - Lumion – 05.03.2023
- Fig. 6.7. Common space, Building A, First floor – Michelle Schreuder - Lumion – 05.03.2023
- Fig. 6.8. Staircase open, Building A, Ground floor – Michelle Schreuder - Lumion – 05.03.2023
- Fig. 6.9. Kinder garten, Building C, First floor – Michelle Schreuder - Lumion – 05.03.2023
- Fig. 6.10. Flexible office spaces, Building A, Ground – Michelle Schreuder - Lumion – 05.03.2023
- Fig. 6.11. Restaurant, Building B, First floor – Michelle Schreuder - Lumion – 05.03.2023
- Fig. 7.0. Valuation – Vorlage von Manfred Berthold - Michelle Schreuder – Autocad – 05.02.2023
- Fig. 7.1. Valuation visualisation - Vorlage von Manfred Berthold - Michelle Schreuder - Autocad - 18.03.2023
- Fig. 7.2. BKI, Berthold Diplom Plannungskernwerte - 1.4. Büro- und Verwaltungsgebäude, hoher Standart - Michelle Schreuder - Excel - 18.03.2023
- Fig. 8.0. 3D Model – Michelle Schreuder - Lumion – 05.03.2023

11. CV



PERSONAL

Michelle Schreuder

13.05.1989

Eindhoven

CONTACT

Address: Vienna

E-Mail: michelle.schreuder@gmail.com

STUDIES

TU Vienna - Architecture

Academy of Fine Arts Vienna - Architecture

UAL London - Interior and Spatial Design

TECHNICAL SKILLS

Design Planning
 Detail Planning
 Surveying

ARCHITECTURE PROGRAMS

Rhino
 Sketchup
 Archicad
 Autocad
 Cinema 4d
 Lumion
 Revit

GRAPHIC PROGRAMS

Adobe Indesign
 Adobe Illustrator
 Adobe Photoshop