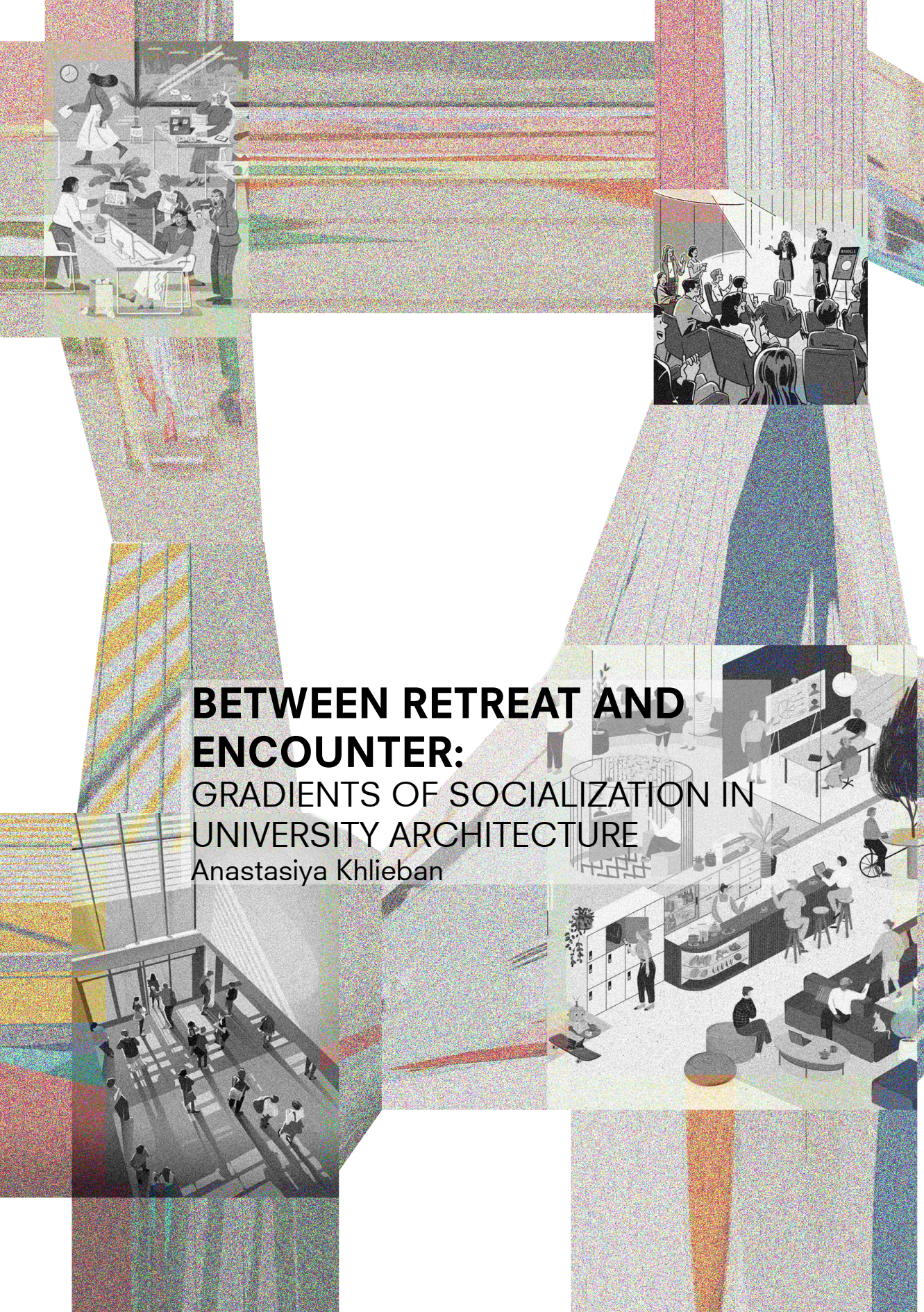
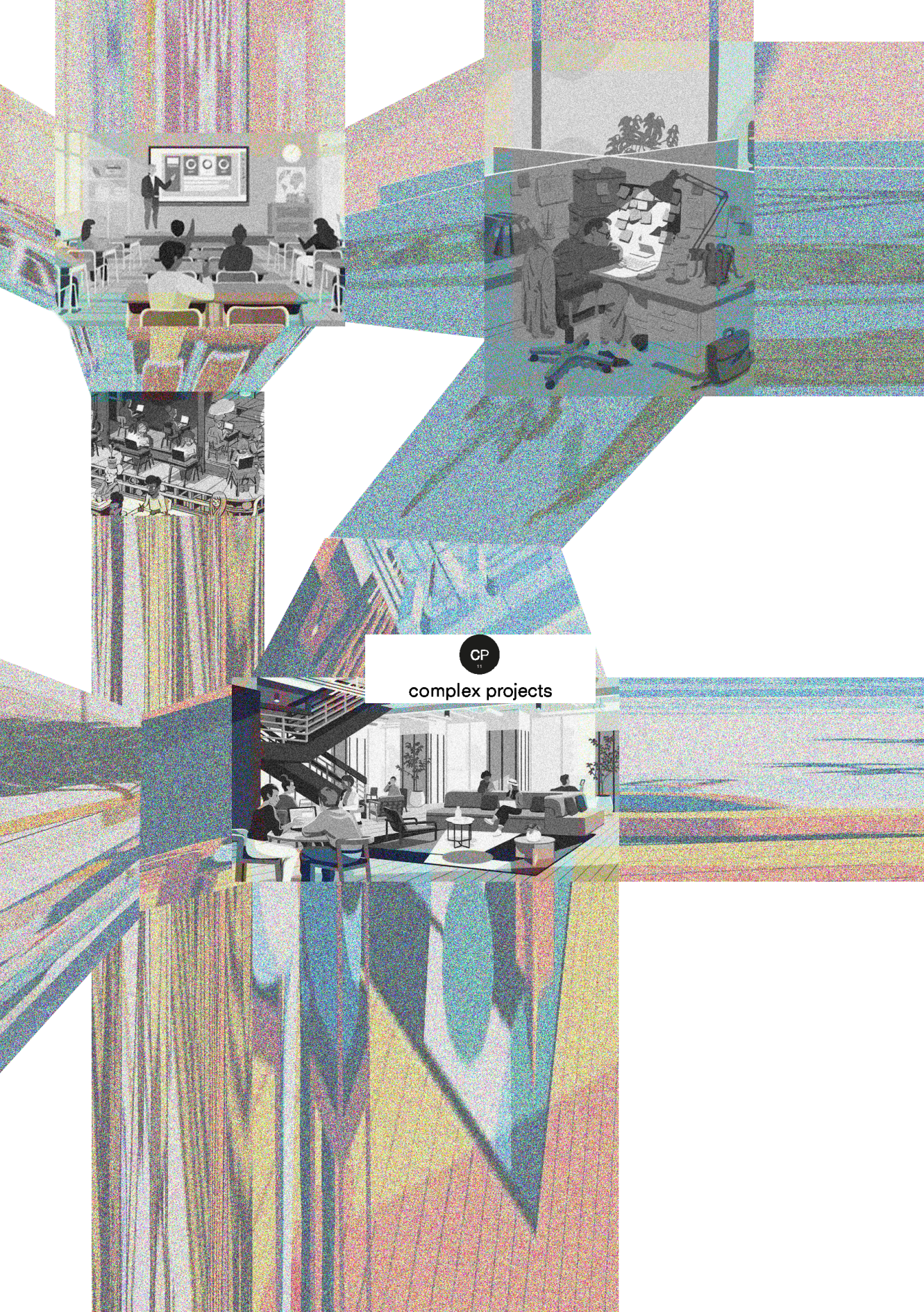




**BETWEEN RETREAT AND
ENCOUNTER:**
GRADIENTS OF SOCIALIZATION IN
UNIVERSITY ARCHITECTURE
Anastasiya Khlieban



complex projects

2026

COMPLEX PROJECTS
Bodies and Building Milan
26.06.26

students

Anastasiya Khlieban
6223818

chair

Kees Kaan

First Tutor

Olindo Casso

Second Tutor

Jelmer van Zalingen

Studio Tutor

Maria Finagina

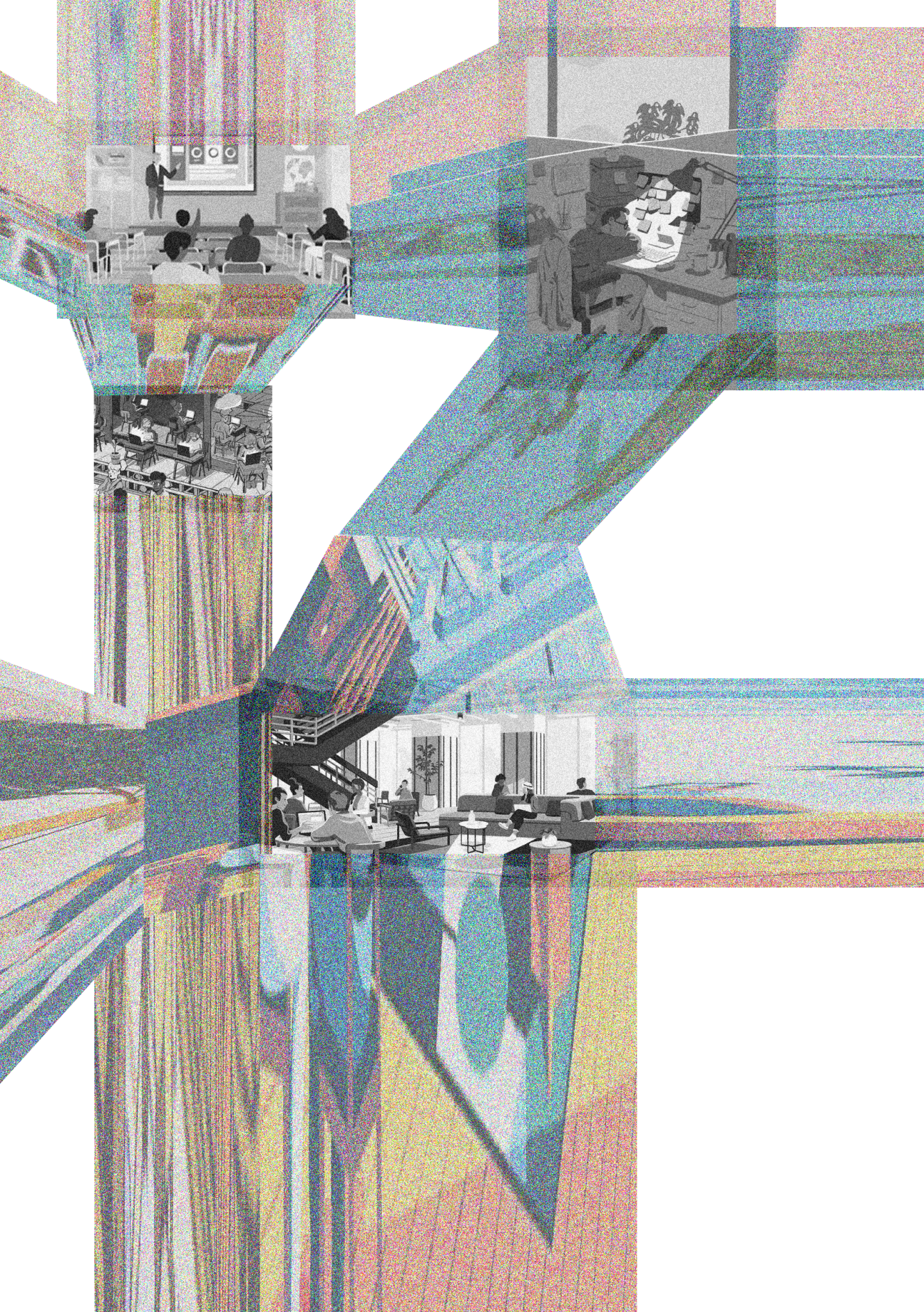
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INTRODUCTION



01



Problem statement

Aim of the assignment is to rethink the spatial arrangement of the business school and subsequently propose the design solution to satisfy the broad range of possible socialization needs and increase efficiency of all the building users. Bocconi University, which specializes in economics, finance, management, is the context for the research and the site for the design proposition.

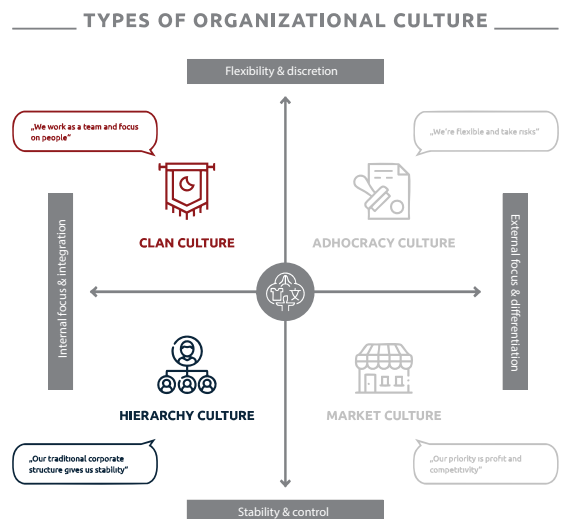
Business schools, similarly, to other higher education institutions, are constantly developing its operational and teaching methods to be able to respond to the changing world (Elliott, 2026). Currently, there are numerous recommendations in the modern literature on the business school development and the key element in most of them is the increase of social cohesion between different users of the facility. The increased variety of interpersonal relations has a positive effect on students' development in the field, efficiency of researchers and teachers work and on the overall university image (Kaplan, 2018). Therefore, the prominent business specialized schools are starting to implement those proposed methods. However, when such strategies remain superficial or fail to address the spatial and experiential conditions of everyday academic life, they risk overlooking a growing problem: academic alienation among students.

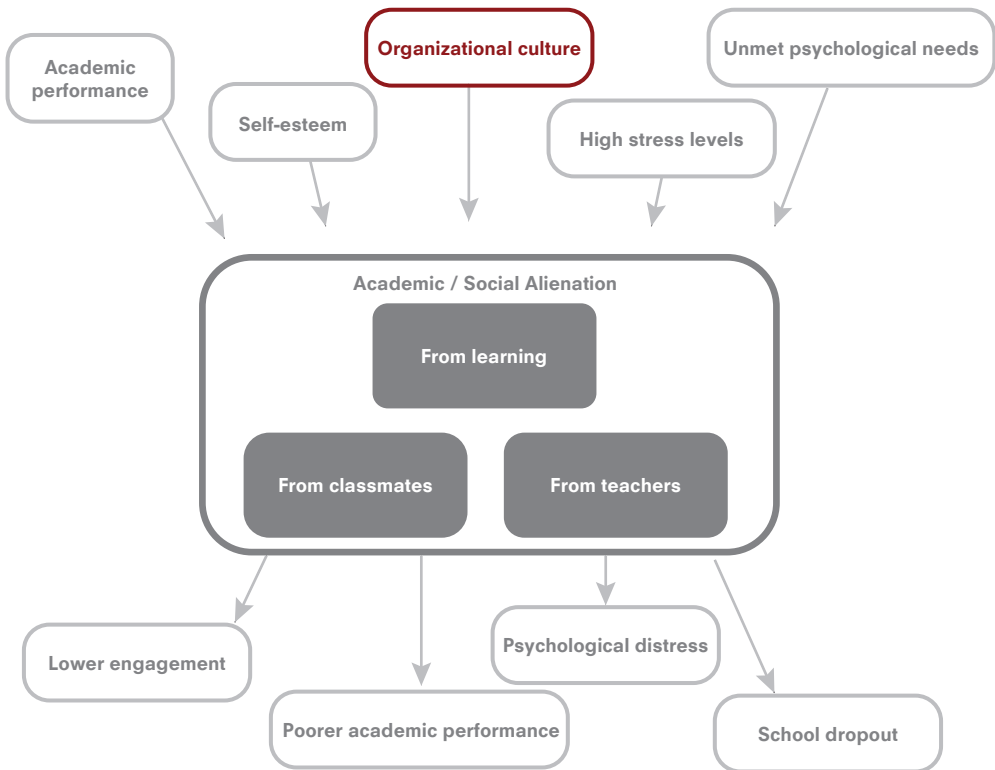
Academic alienation is a societal condition in which students feel an emotional detachment from various aspects of educational environment such as academic content, institutional structures, peers, and teaching staff (Hascher & Hagenauer, 2010). This state minimizes the academic and societal benefits that students would normally receive at the university and additionally can lead to more detrimental outcomes such as higher dropout rates, poor academic performance, psychological stress and further interconnected problems.

Alienation is getting more common nowadays due to the same changes in the world and their impact on education facilities and student life in general. There are a few factors causing it but the organization culture in the educational

facility emerges as a unifying and recurrent cause. More precisely, the hierarchical culture in which there is not many connections between peers, high competitiveness and unapproachability of lecturers is defined as unfit to create healthy school environment and minimize alienation (Zitha et al., 2023). Literature states that transition to clan culture in educational facilities is the part of the solution for academic alienation problem. In short, this entails an increased sense of community among students and between students and academic staff on campus (Trivedi & Prakasha, 2021).

Approach to battle alienation is identical to the development aims of business schools stated at the beginning. Therefore, universities should make more substantial steps to change their organizational culture, which partially will be done by rethinking the architecture of those facilities. New system will not be able to disseminate well if applied in archaic and limiting spatial conditions. Therefore, aim of this assignment is to propose new spatial organization that promotes spatial cohesion between different actors and considers their needs for privacy.





Relevance

The aimed research will be performed and tested through designing process on the Bocconi university campus as it was mentioned before. The given site is a suitable fit to study the defined problem and the approaches to minimize it in the architectural realm.

Bocconi is the leading finance, marketing and management school in European and World rankings. To secure this spot it constantly develops. It does so by perfecting and enlarging its teaching and research staff. Additionally, and most importantly Bocconi actively tries to rethink its teaching approaches and organizational culture in the institution. The stance of the facility is to enrich the university experience of students by giving them the opportunity to have a direct relationship with the faculty and classmates in the program (Innovative Teaching Methods - Bocconi University, z.d.). Also, the diversification of learning and teaching methods is applied to improve curriculum and increase the social cohesion (Design And Methods I

Built, z.d.). Those approaches are aimed to improve the teaching at Bocconi and secure its high place in rankings. Additionally, they should help minimize the alienation among students. However, the strategies applied by university are only policy or curriculum aimed. There are no planned changes to physical environment of university. How the aim to create smaller project groups can be realized without providing the adequate spaces for those small-scale groups? How teachers and students interact outside class if all the staff and researchers are gathered in one building and have no common space to see their students? How can students interact and exchange knowledge if campus provides limited self/group study places? Reconsideration of spatial arrangements of university buildings should go in hand with policy development to make an actual change.

Ambition

Therefore, ambition of this paper is to research and subsequently design the building and spaces inside, which can improve the social cohesion between all the university users. Additional wishes and specifics of the users also should be considered. Namely, the possibility of privacy for teachers and students needs to be preserved, since its lack can also diminish academic performance of the users. The gradient of social interaction is a key for a healthy increase in social cohesion.



Main

How can gradations of territorial control in business university buildings create a broader range of interactions among different users?

Sub

How can shared circulation spaces and controlled openness reduce academic isolation and support a sense of belonging among students?

Hypothesis

Social interaction in university buildings is strengthened not by eliminating territorial boundaries, but by balancing shared spaces with retreat areas that support psychological comfort and autonomy.

Assignment

The aim is to provide the answers to research questions through finalized design proposition for university building at Bocconi campus. More specifically at the location of current Via Roentgen 1 building.

Therefore, the assignment is to design a university building that supports a wide range of interactions between its users, more specifically student-student, student-teacher, teacher-student relations. The project focuses on circulation spaces as the central spatial element, which will accommodate areas for interaction and will vary degrees of territorial control to enable different forms of engagement between students and teachers.

APPROACH

The background of the page is a collage of architectural photographs. At the top, there's a large, dark, textured rectangular area. Below it, on the left, is a curved balcony with a metal railing. In the center, there's a dark, textured rectangular area. To the right of that, there's a dark, textured rectangular area. Below the central dark area, there's a dark, textured rectangular area. To the right of that, there's a dark, textured rectangular area. At the bottom, there's a large, dark, textured rectangular area. In the bottom right corner, there's a photograph of a large hall with a fountain in the center. The fountain has a dark, conical structure on top of a circular base. Two people are standing in the hall, one on the left and one on the right. The floor is covered with a patterned carpet in shades of red, blue, and yellow.

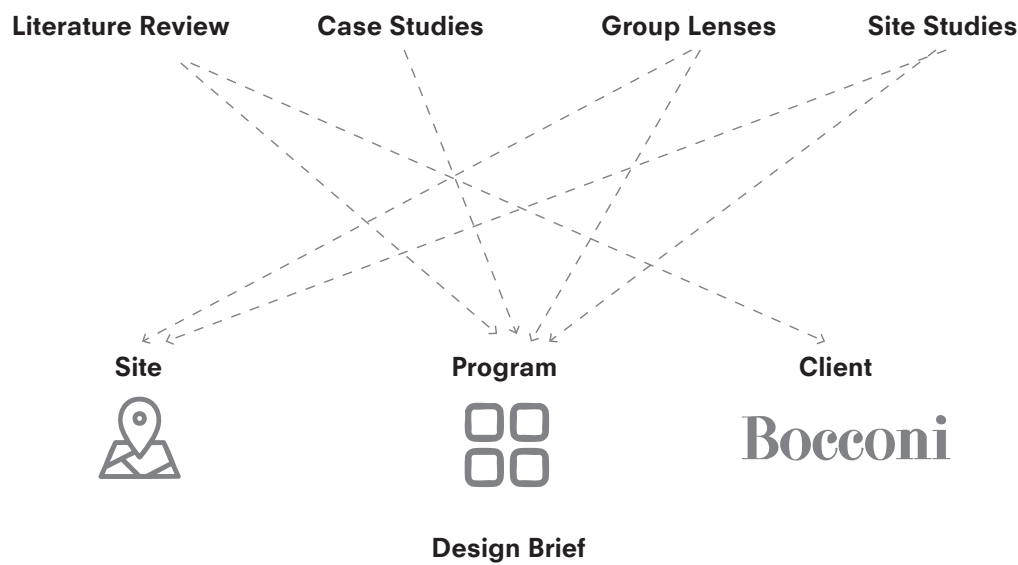
02



Theoretical framework

The assignment is to design the economy/ business school university building with new spatial organization that promotes spatial cohesion between different actors and considers their needs for privacy. To complete it and answer the overall research question of this paper a good design foundation should be created. A design foundation of this research is the overall research that was obtained through different sources and as a result created a vocabulary of approaches for future design considerations.

The research sources that contributed are a few and can be divided into 4 groups. Those are Literature, Case Studies, Group Lenses and Site Studies. All of them contributed to different parts of design considerations. Information obtained from the literature review was translated into the program brief and client brief and will further guide the spatial design process in the later phases of the project. Case studies informed key decisions related to the program brief, while the site analysis contributed to defining future site-specific and programmatic requirements.



Transitional Architecture	Behavioural/ Participatory Architecture'	Future/development of Business schools	University users needs
- Krstic, H., Trentin, A., & Jovanovic, G. (2016). Interior-exterior connection in architectural design based on the incorporation of spatial in between layers. - Boettger, T. (2014). Threshold spaces - la Cedercreutz (2023). Transitional design - Between public and private spaces S. Repenning (2003). An Architecture of Liminality	Lawson, B. (2001). The language of space.	- Kaplan, A. (2018). A school is "a building that has four walls. . .with tomorrow inside": Toward the reinvention of the business school. - Starkey, K., & Tempest, S. (2005). The future of the business school: Knowledge challenges and opportunities.	- Chen et al. (2017). A context-adaptive teacher training model in a ubiquitous learning environment. - Nkhoma, M., Lam, T., Richardson, J., Kam, K., & Lau, K. H. (2016). Developing case-based learning activities based on the revised Bloom's Taxonomy. - Spoelstra H., Rosmalen P., Sloep P. (2014). Toward Project-Based Learning and Team Formation in Open Learning Environments. - Jiafang Lu, Philip Hallinger, Parinya Showanasai, (2014). Simulation-based learning in management education: A longitudinal quasi-experimental evaluation of instructional effectiveness.

Literature

Literature review was conducted through 4 predefined themes that as result should inform architectural brief and future design. Those themes are 'Transitional Architecture', 'Behavioural/Participatory Architecture', 'Future/development of Business schools', 'University users needs'. Majority of those themes have sufficient literature sources that yielded results, which already informed preliminary design decisions.

More specifically, **user needs** gave a better understanding of learning approaches practiced in modern university settings. Academia staff needs where also looked in. Future development of business schools research helped to define the problem statement further and informed client related decision of the project.



Adaptive Learning

Ideal Group Size
5-10

Spatial & environmental conditions:

- Quiet or semi-quiet zones
- High degree of individual territorial control
- Flexibility of space
- Strong digital infrastructure (screens, Wi-Fi)

Typical/Possible Space Types:

- Adaptable classrooms
- Niches
- Quiet zones



Case-Based Learning

Ideal Group Size
8-20

Spatial & environmental conditions:

- Medium level of territorial control
- Clear visual contact between participants
- Instructor acts as facilitator, not lecturer
- Acoustical clarity

Typical/Possible Space Types:

- Seminar rooms
- Active learning room
- Small lecture halls



Project-Based Learning

Ideal Group Size
4-6

Spatial & environmental conditions:

- High group territorial control, low institutional formality
- Long-term occupation (days/weeks)
- Ability to leave materials behind
- Collaboration

Typical/Possible Space Types:

- Studios
- Group/project rooms



Simulation-Based Learning

Ideal Group Size
5-15

Spatial & environmental conditions:

- Highly controlled environment
- Immersive atmosphere
- Strong audio-visual systems
- Clear separation from everyday circulation

Typical/Possible Space Types:

- Enclosed rooms/lecture halls

Modern Learning Approaches



Office space

Spatial & environmental conditions:

- Privacy/Engagement
- Personalization
- Technology integration

Typical/Possible Space Types:

- Quiet hubs
- Shared meeting rooms



Research groups

Spatial & environmental conditions:

- Team interaction
- Transition spaces

Typical/Possible Space Types:

- Quiet hubs
- Meeting rooms
- Project/ ideas studios
- Break rooms



Laboratories

Spatial & environmental conditions:

- Flexibility
- Clear sight lines/Transparency
- Support functions
-

Typical/Possible Space Types:

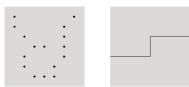
- Work stations
- Group office/work rooms
- Project rooms
- Storage spaces

Academia Staff Needs

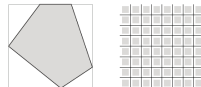
Themes of **Transitional architecture** and **behavioural/participatory architecture** were explored through different sources, and a design vocabulary was formulated, which will be used for design decision in subsequent project stage. It is important to underline that research themes of 'Transitional Architecture' and 'Behavioral/participatory Architecture' could always be explored further, which will be done in later project stages upon the need.

Ways of Transitions in Spaces

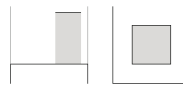
Free/guided sequence



Free/ordered geometry



Independent/embedded topography



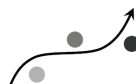
Unobtrusive/self-contained Furnishing



Neutral/distinctive materiality



Transformation as Progression



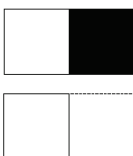
Boarders



Layering



AA/AB Patterns of transitions



Contracted/Expanded Sequencing



Zones of sensory engagement



Temperature progression

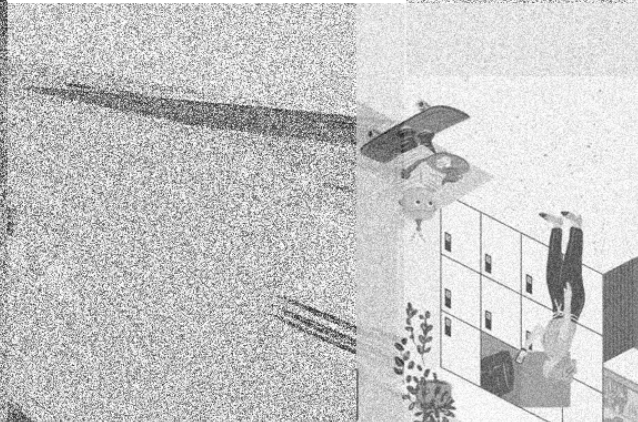
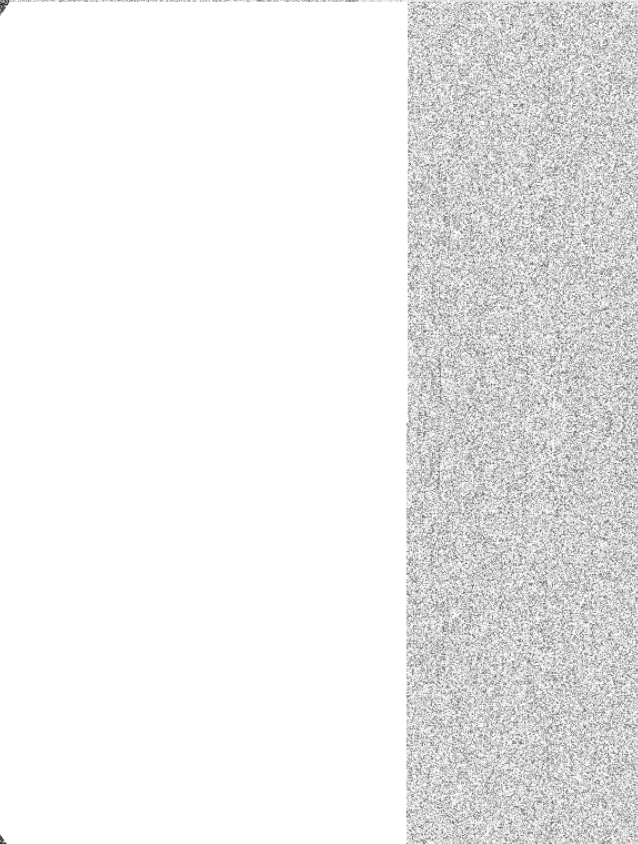
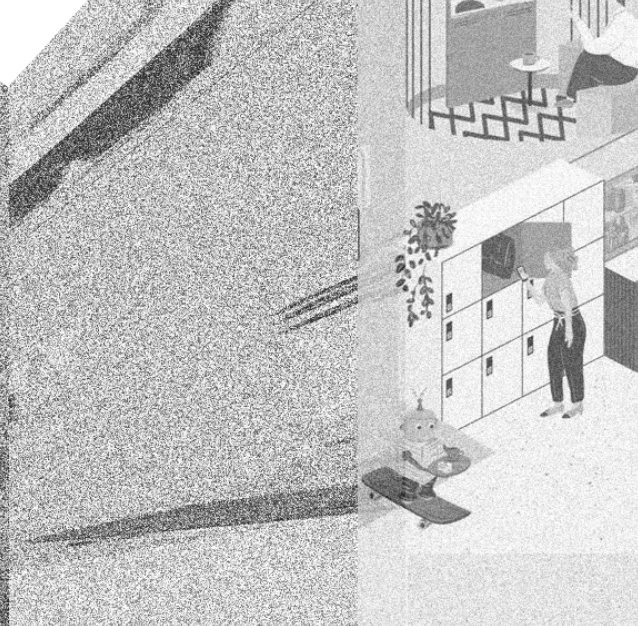


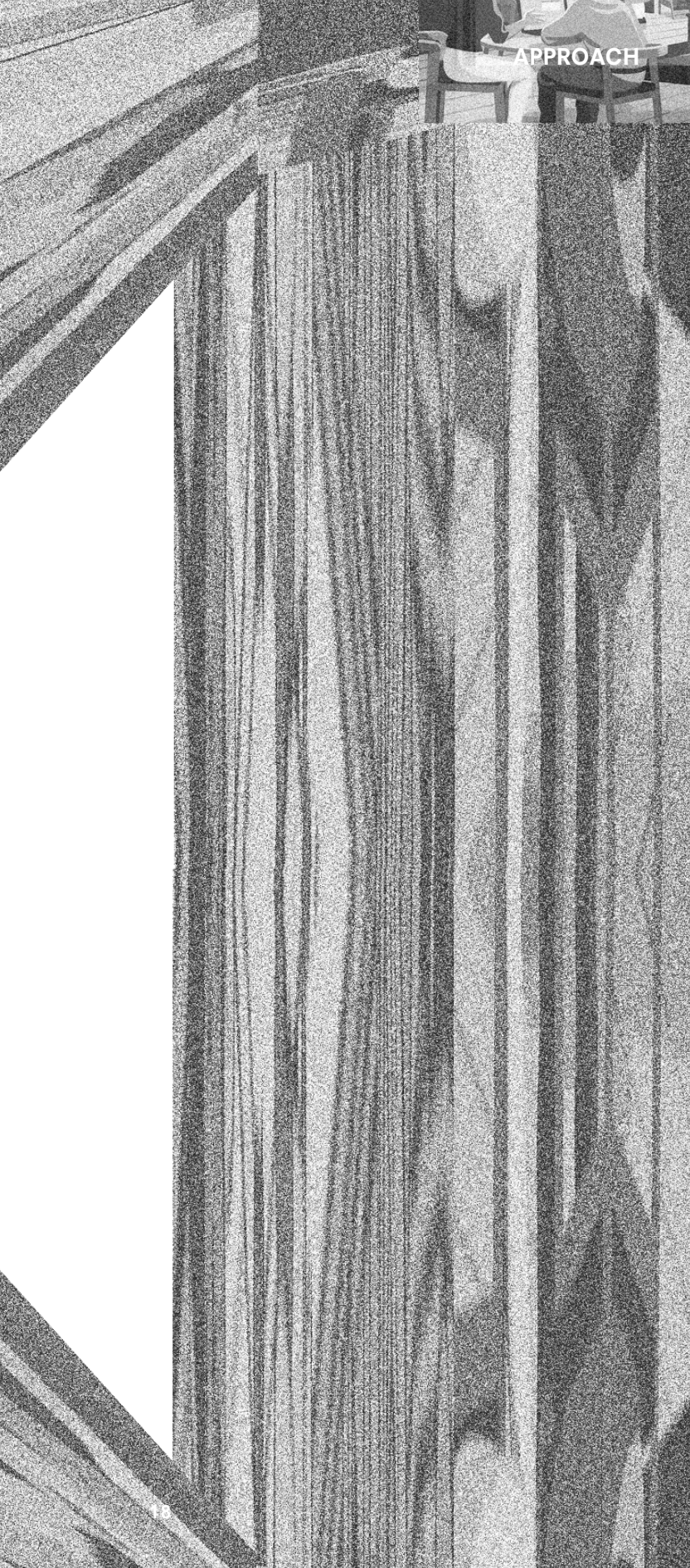
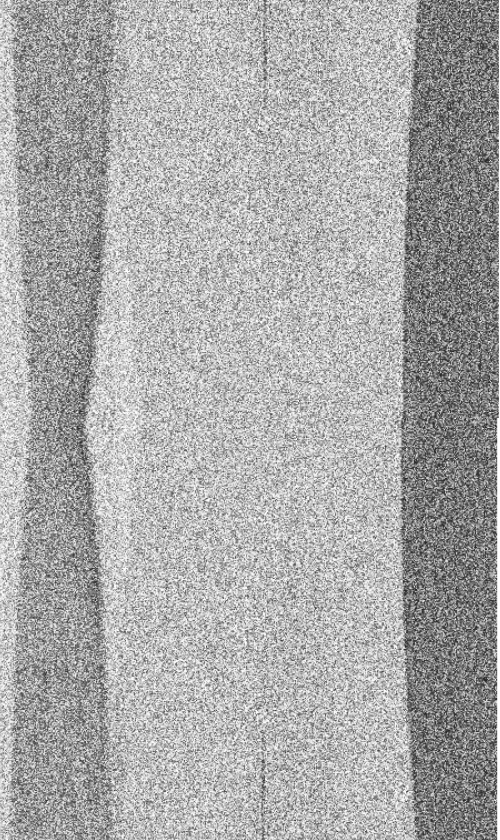
Design Vocabulary



Design brief

Is highly based in research mentioned before. It formulates the requirements and design ambitions for the future project. In depth site analysis and case studies are also shown and their influence on decision making processes is shown in this part.



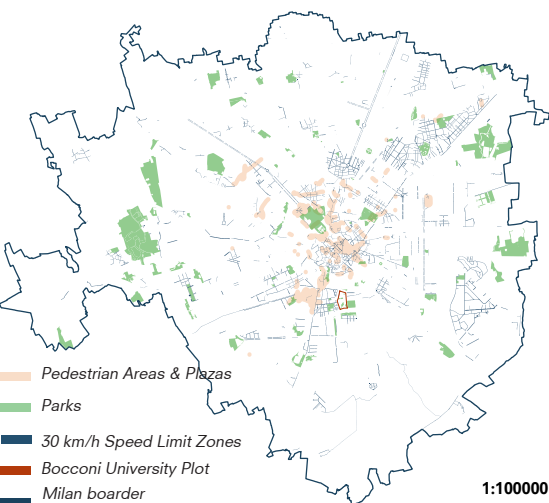
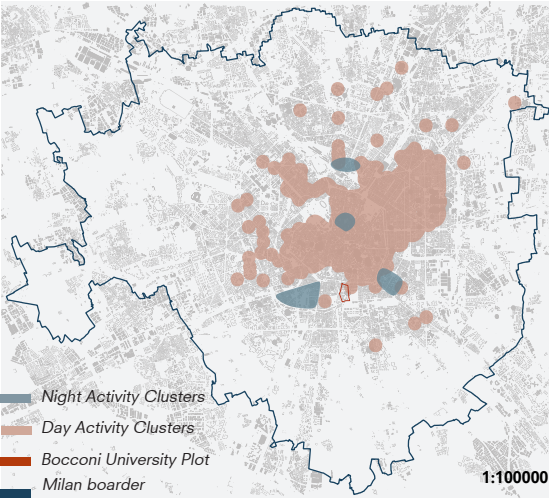
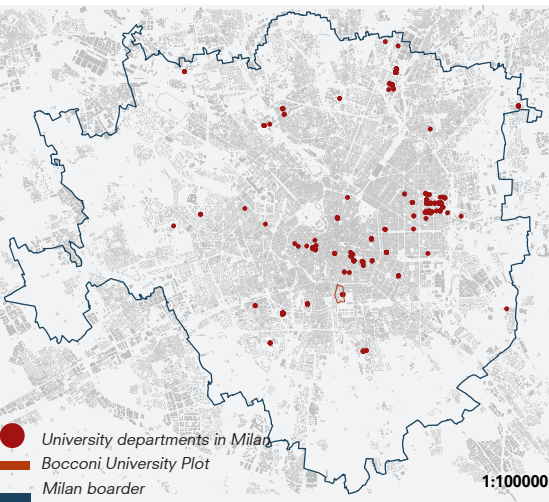


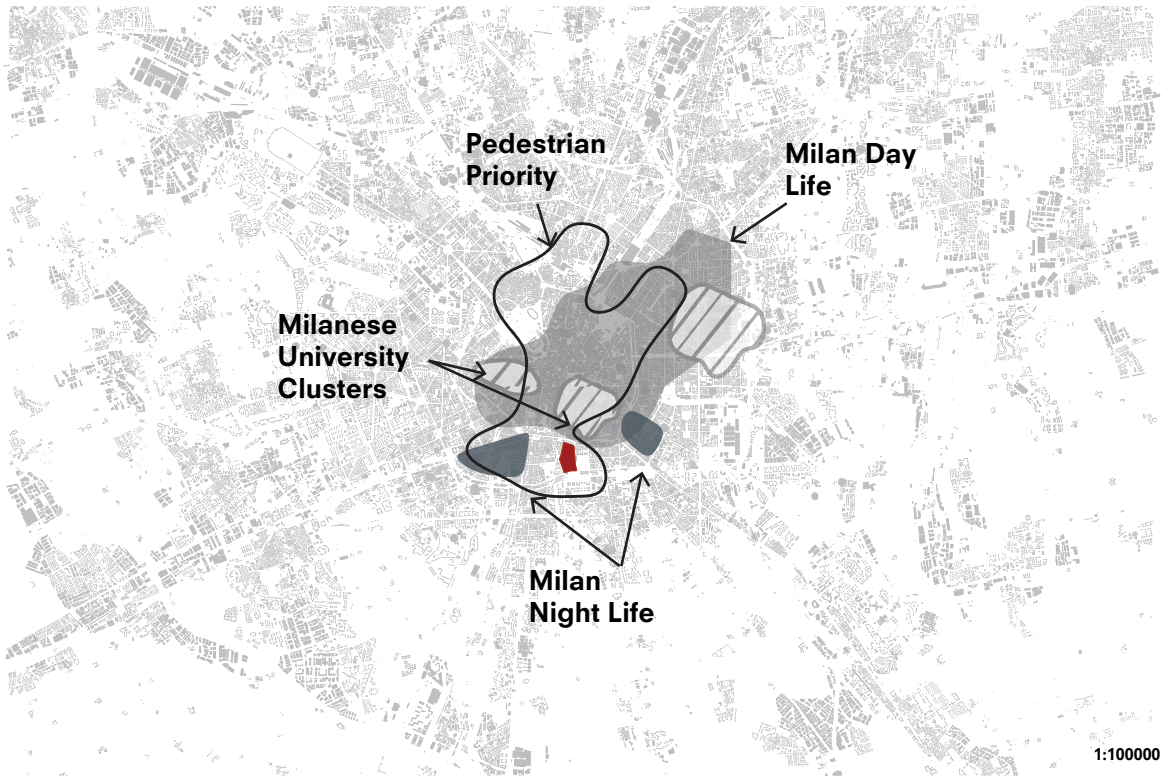
APPROACH

Site

Site analysis was done on four different scales, which were L(Scale of Milan), M(Scale of the neighbourhood), S(Scale of the Bocconi Campus) and XS (Scale of the Via Roentgen Building). This research resulted in the list of opportunities and constraints of the discussed site, which is Via Roentgen 1 and Bocconi Campus overall.

Scale L





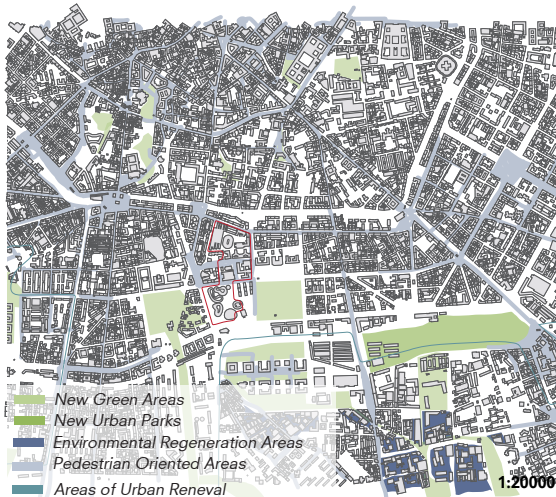
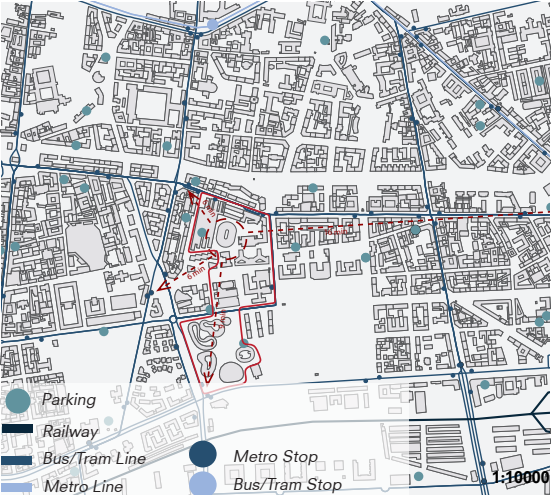
Opportunities

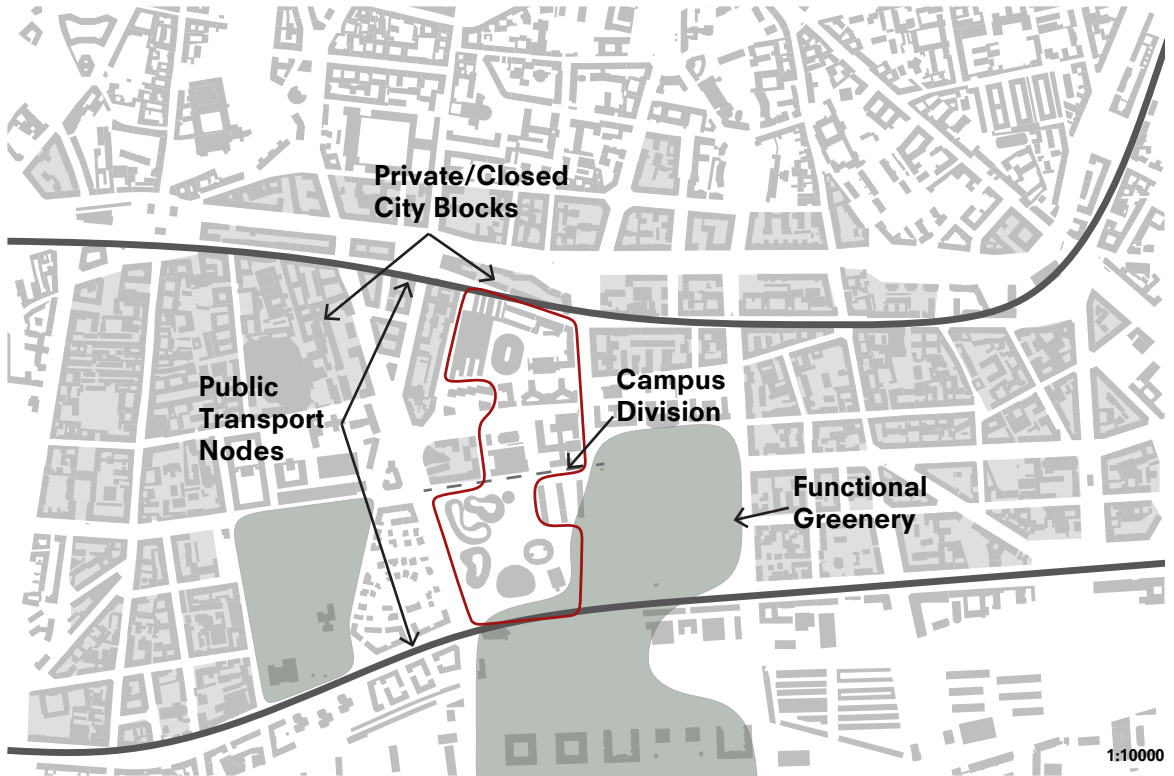
- The campus is not part of Milans main knowledge hubs.
- Bocconi as transition between an activity cluster and the quieter downtown fabric.

Constrains

- Less everyday contact with students of different institutions.
- Bocconi is outside Milan's main daily(and night) activity clusters

Scale M





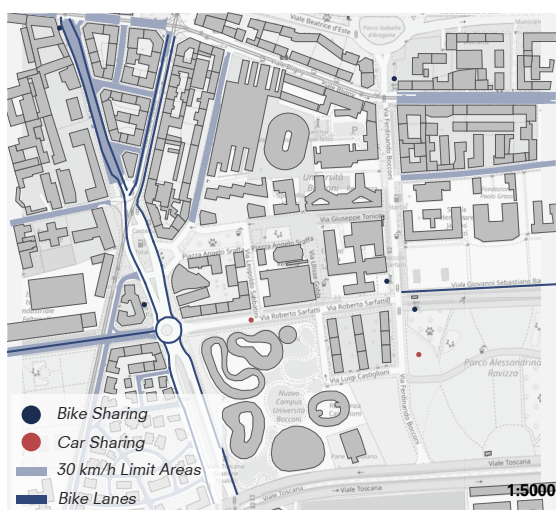
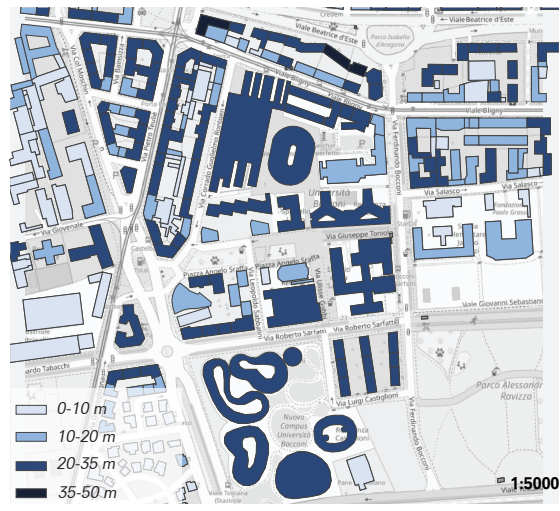
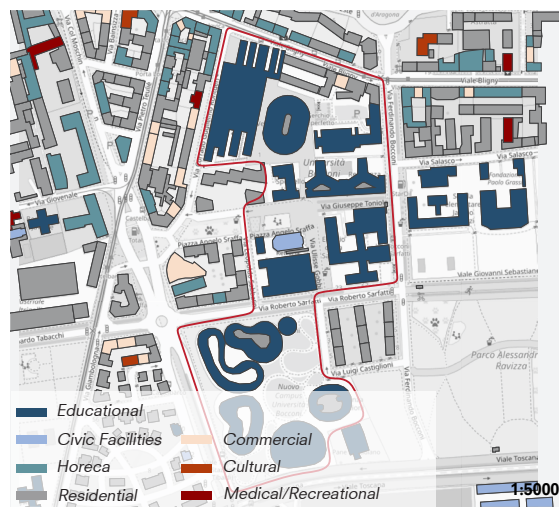
Opportunities

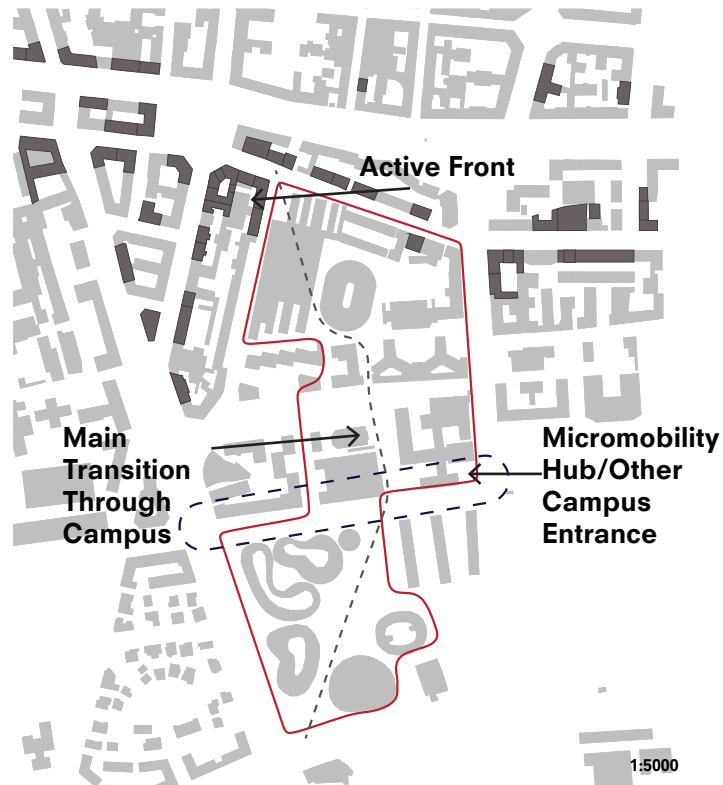
- With no surrounding heritage architecture, the campus has strong landmark potential.
- Bocconi is well connected by public transport, with multiple routes from different parts of Milan.
- Extensive recreational green spaces on south of the campus, some directly bordering it.
- Bocconi provides a comparatively open inner garden accessible to the public.
- Future plans indicate an expansion of pedestrian-oriented streets.

Constrains

- The Beruto Plan has clear separation between public streets and private block interiors.
- A main road forms a clear boundary and reduces permeability.
- A tertiary road cuts through the campus and splits it into two areas.
- Blocks introverted, separated from public space.

Scale S





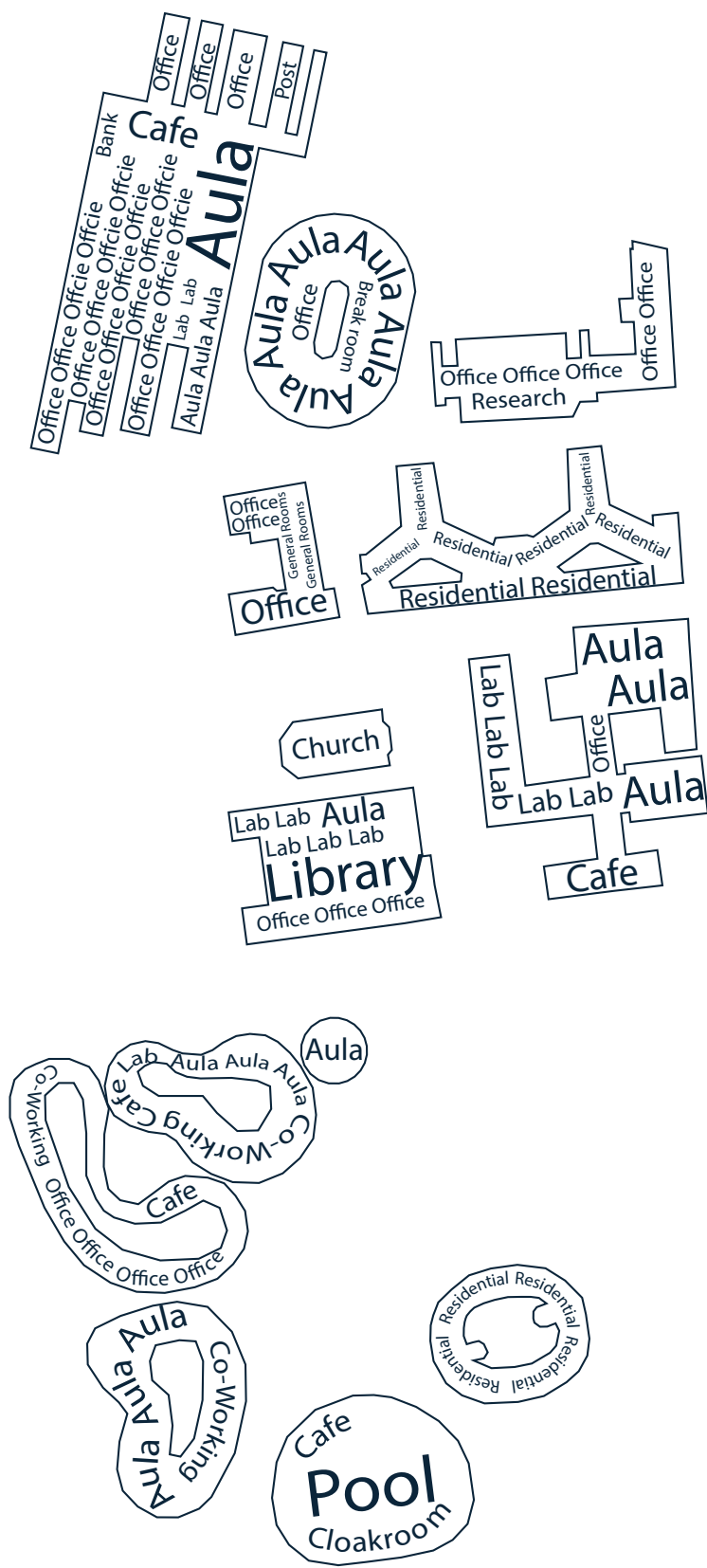
Opportunities

- Bocconi was meant to be a peripheral campus, but it has become urban as the city expanded.
- The campus (Grafton Building) fronts onto a lively street lined with shops, cafés, and restaurants.
- Micromobility hubs are concentrated in the center of the campus.
- Bocconi buildings are among the tallest in the area, making the campus visually prominent.

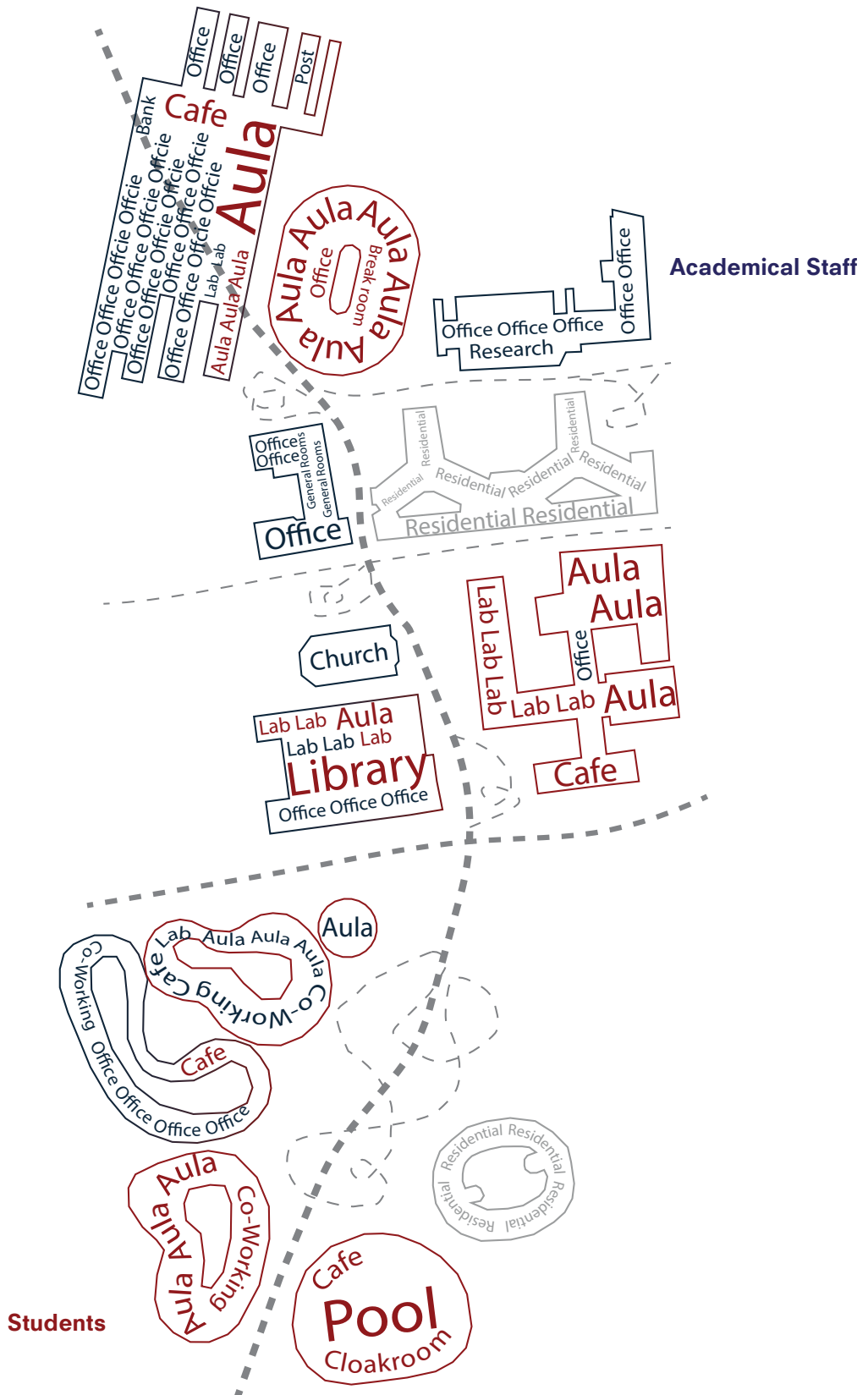
Constrains

- Disconnect between current Via Roentgen site and urban fronts around

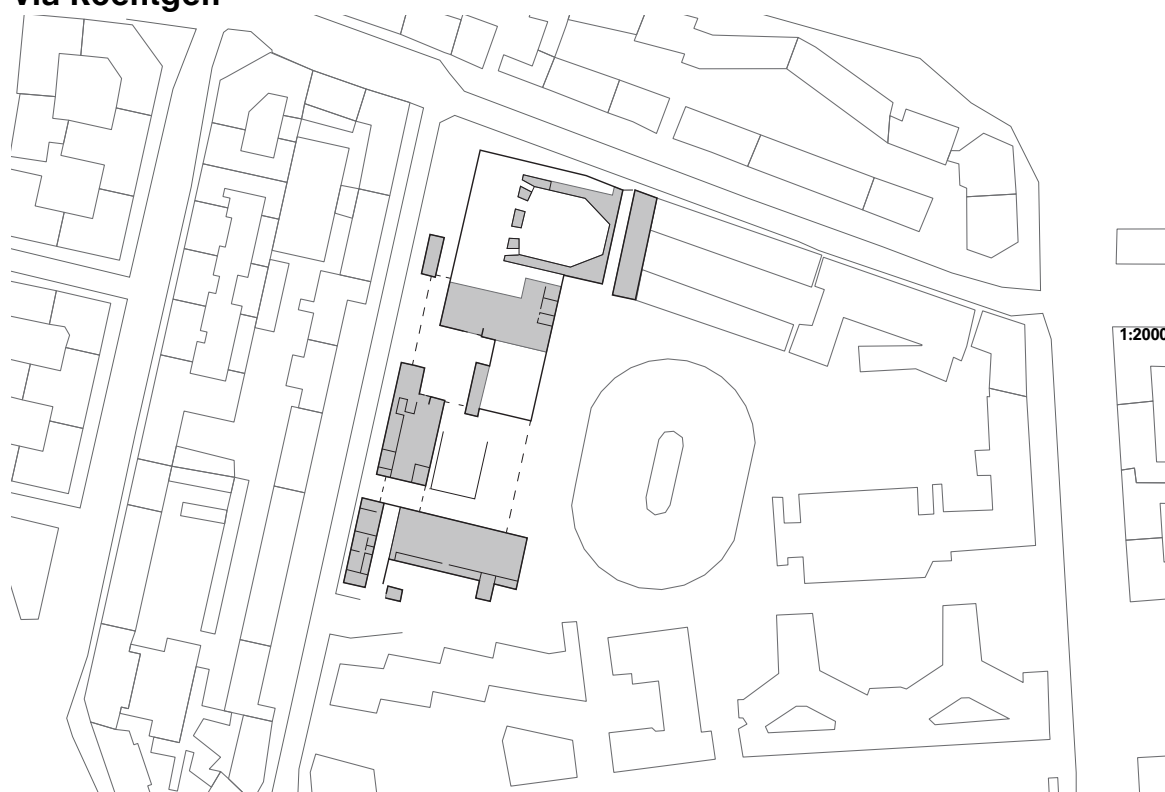




Bocconi Campus and Its Users



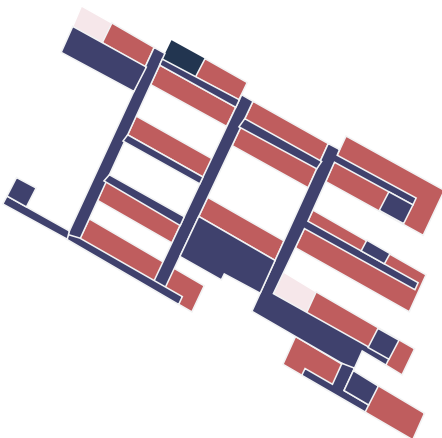
Via Roentgen



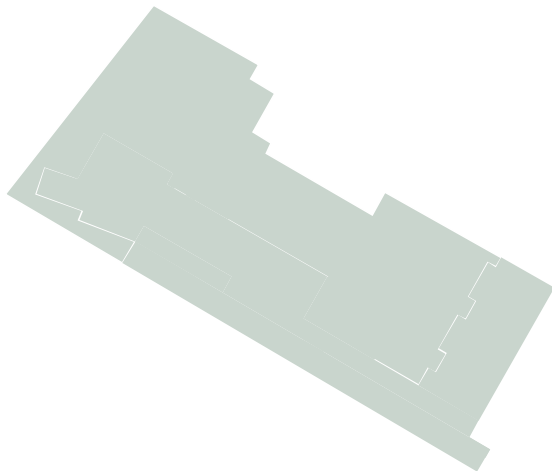
Current Floors of Via Roentgen



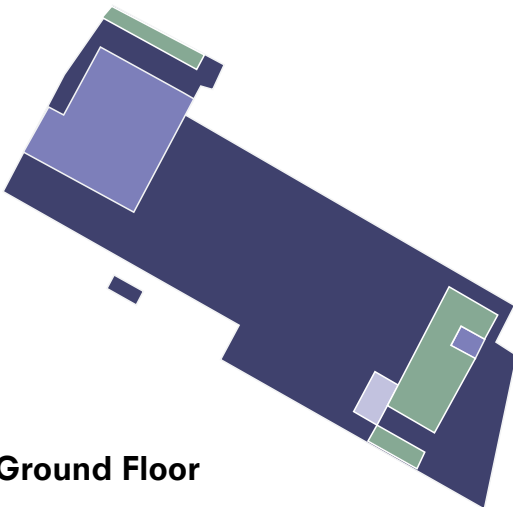
-1 Basement



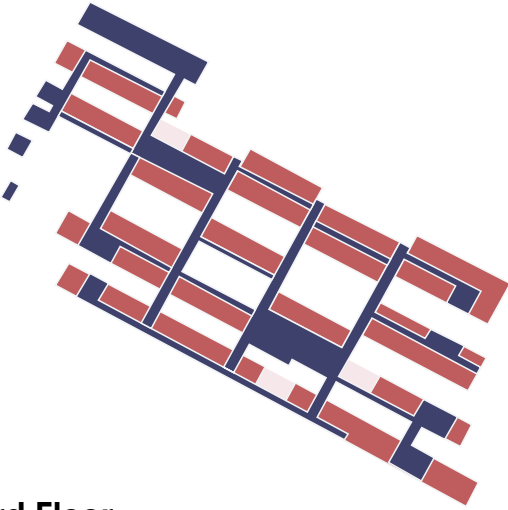
First Floor



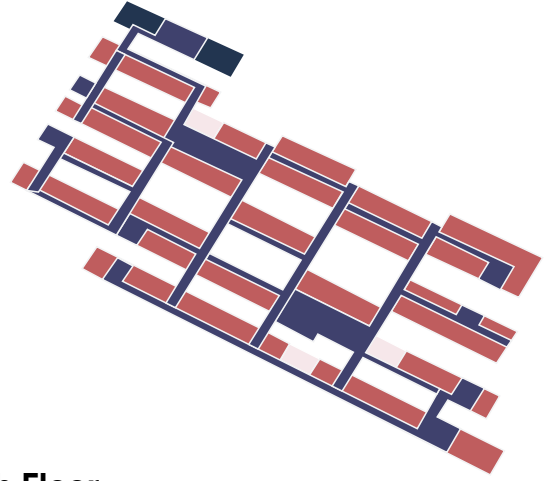
-2 Basement



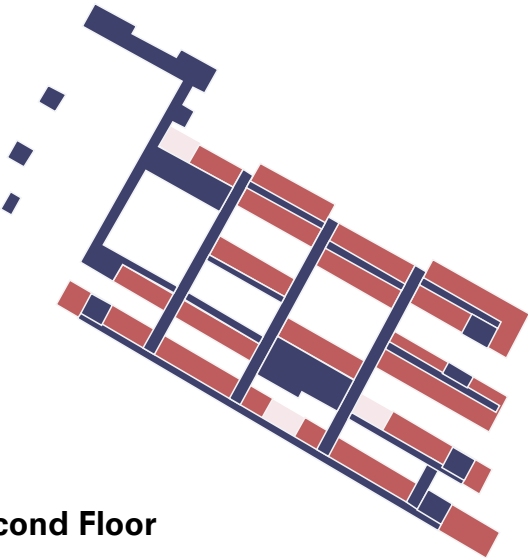
Ground Floor



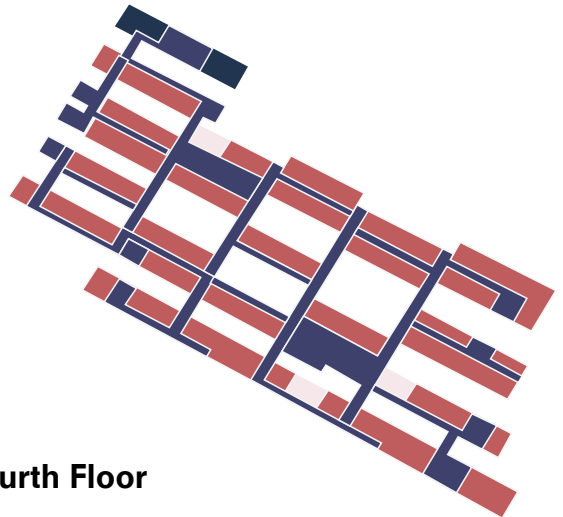
Third Floor



Fifth Floor

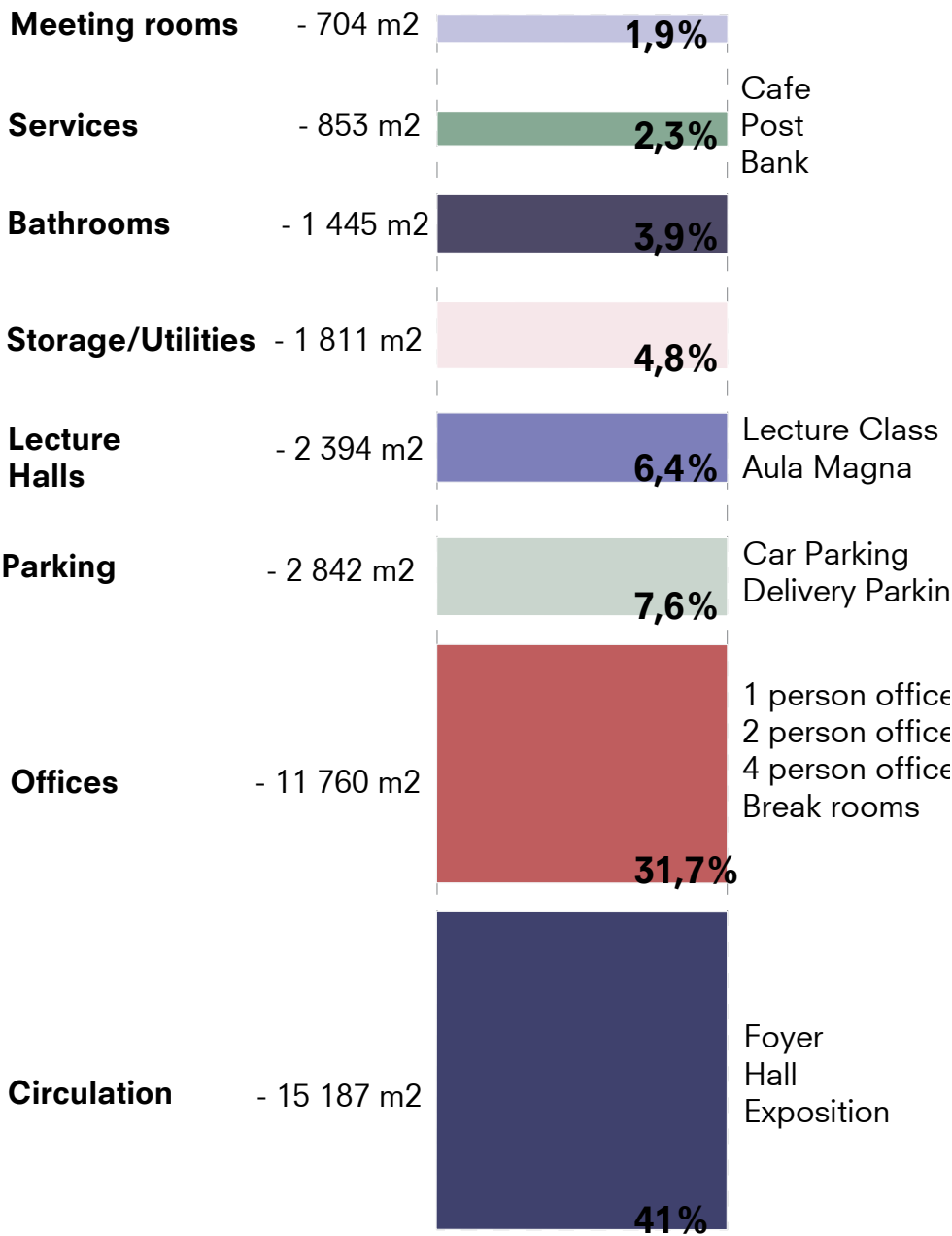


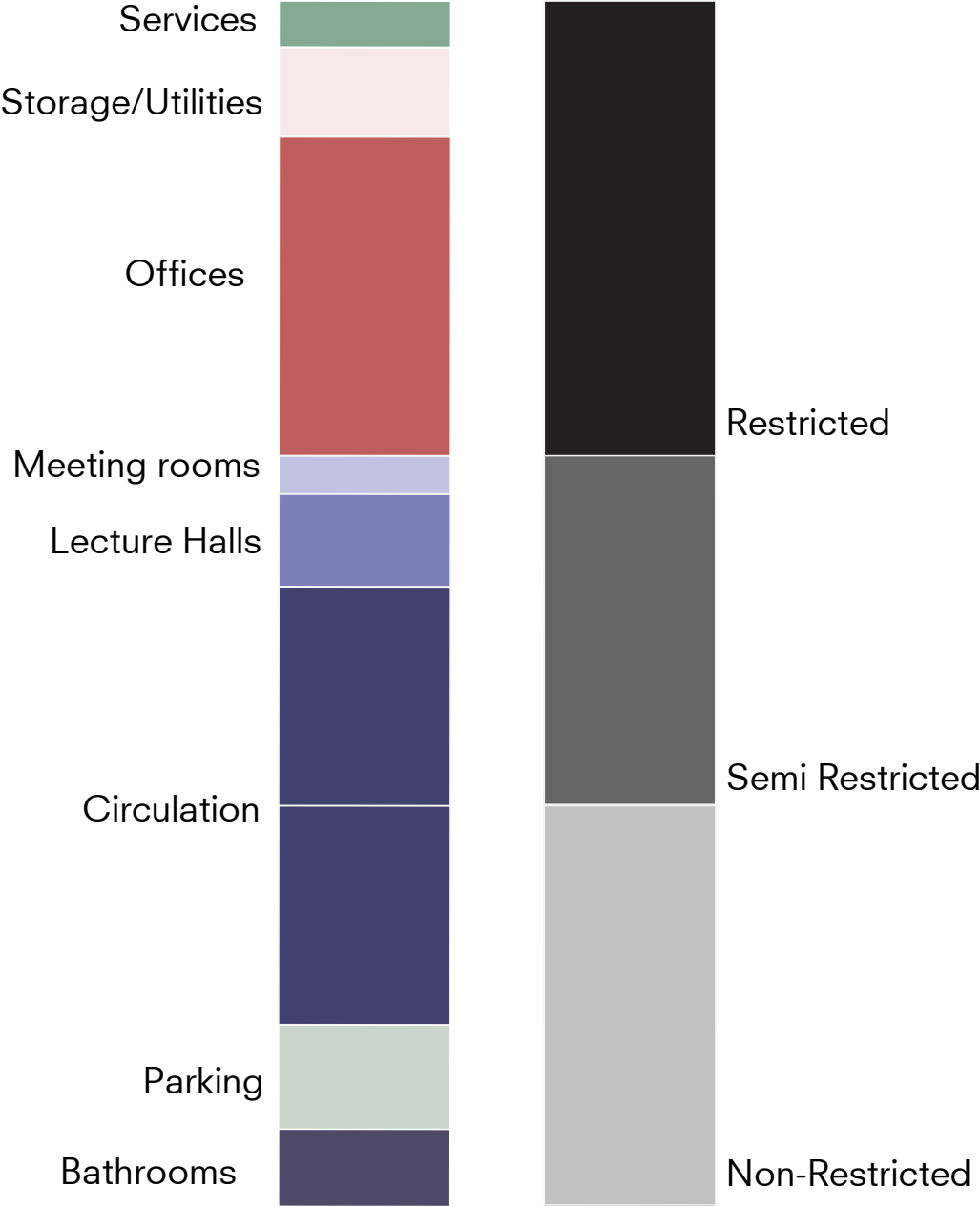
Second Floor



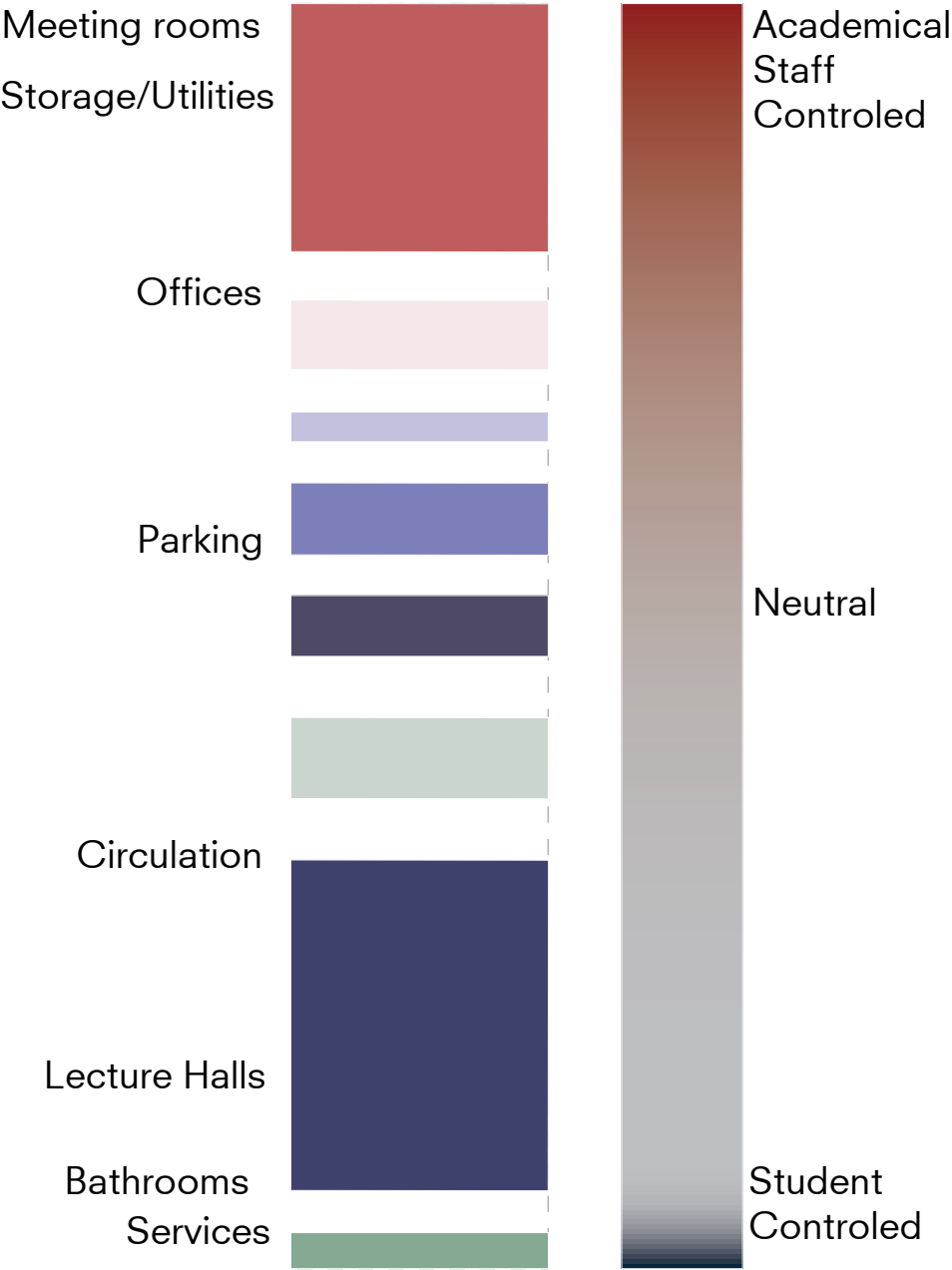
Fourth Floor

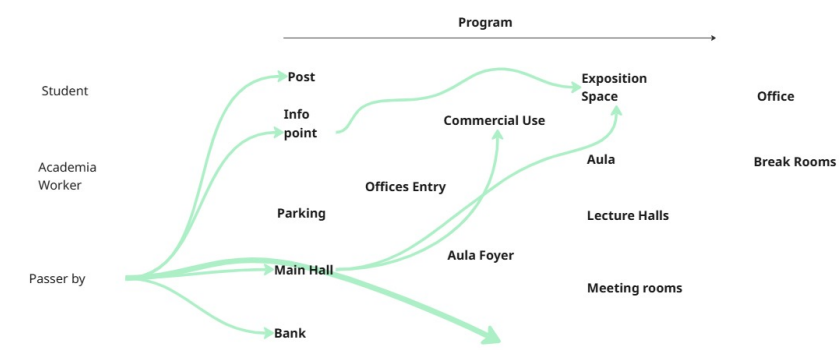
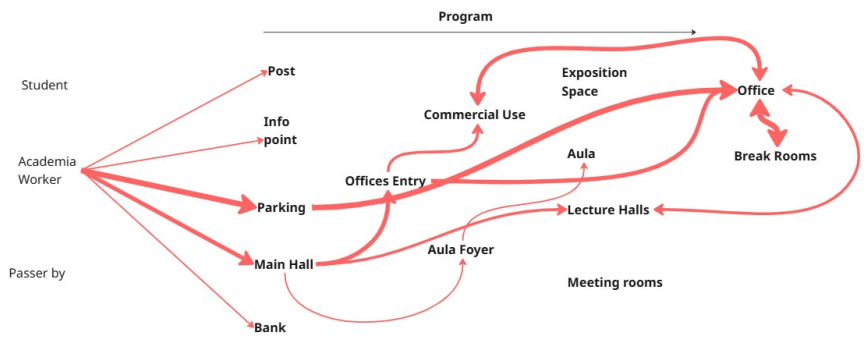
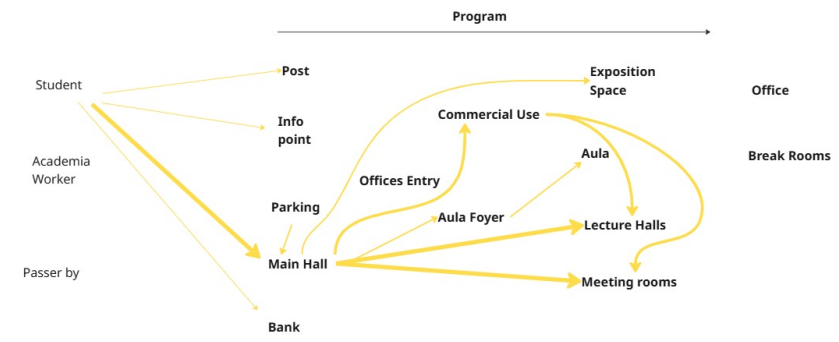
Current Program





Current Teritorial Control





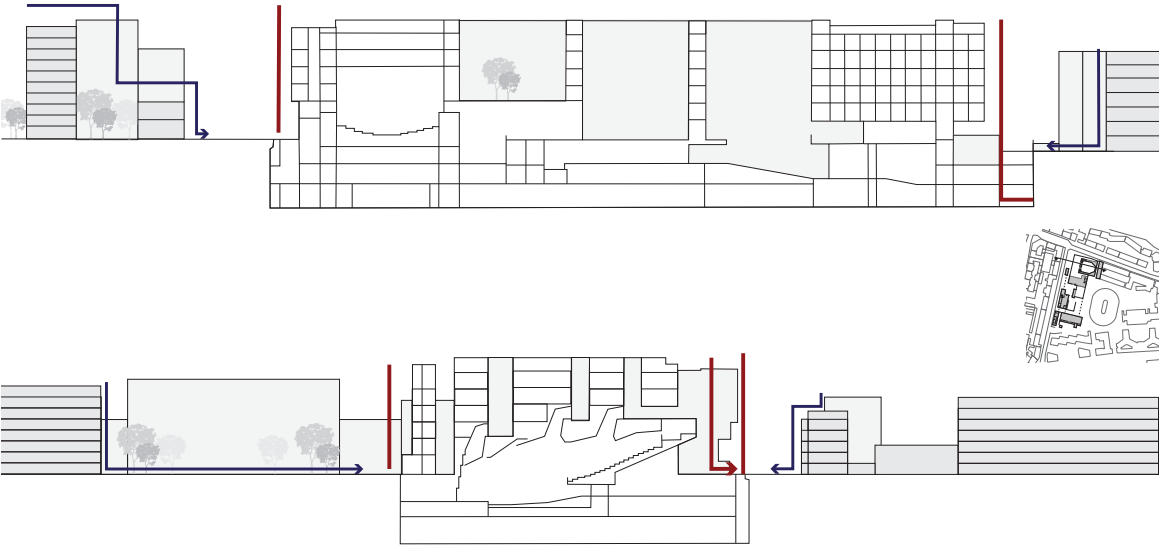
Having this descriptive analysis as a foundation, a set of requirements were formed for future design in terms of its location. Those guidelines and corresponding research findings are divided into 4 groups, which are named as Match, Improve, Keep and Underline.

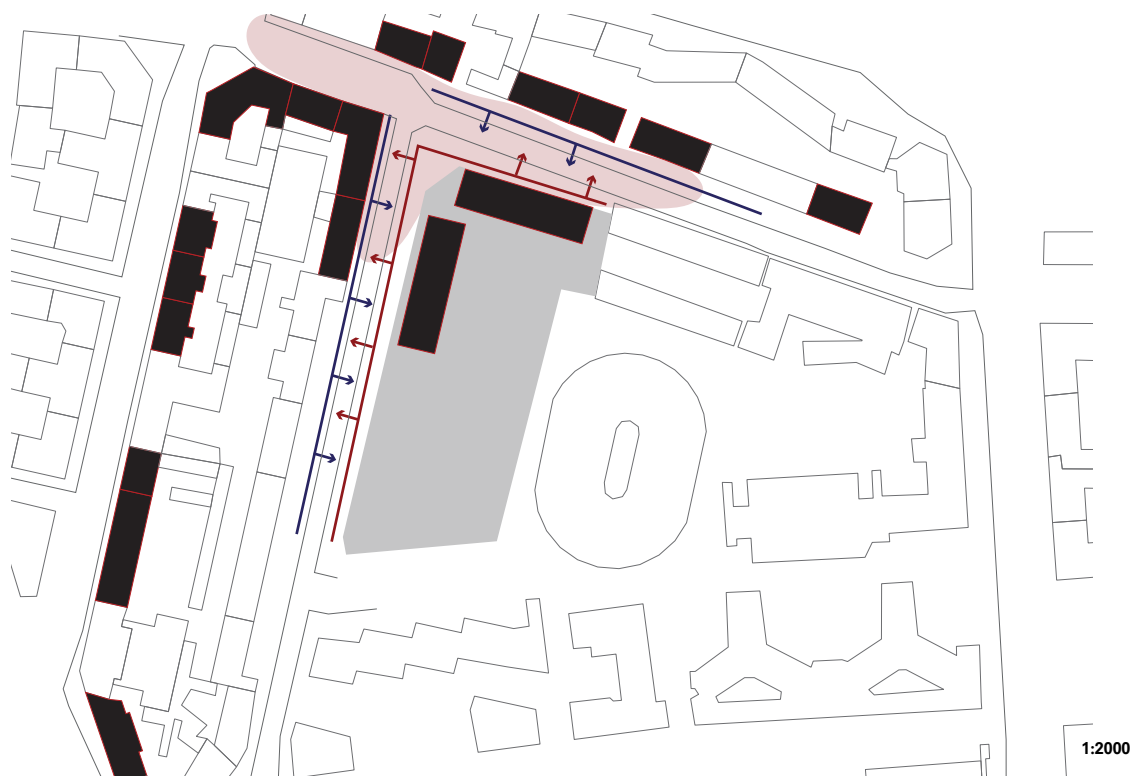
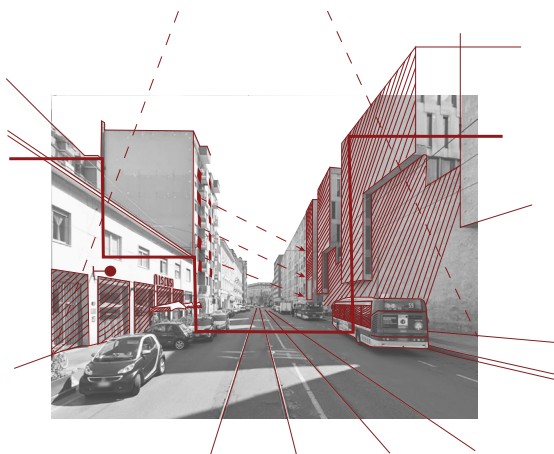
Match

More precisely, site analysis revealed imbalance between current Via Roentgen building and facing urban fronts in terms of height gradation, openness and functionality. It specifically relates to north/west side of the discussed building site. This should be addressed in the future design, therefore the guidelines of matching the existing urban fronts is placed. Matching in terms of façade of the future building and of the functions located at the ground floor.



Imbalance Now

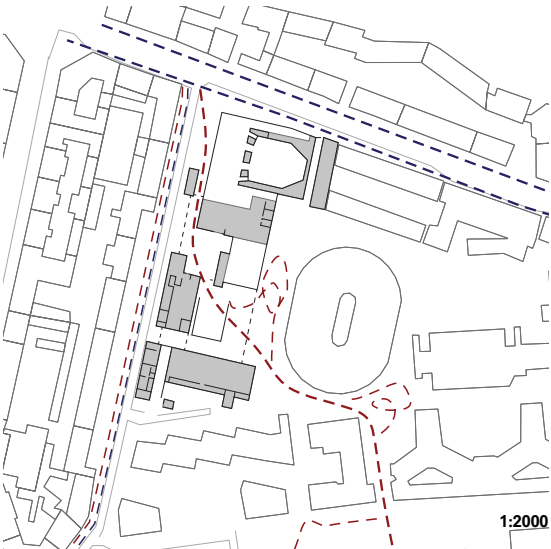




1:2000
Match

Improve

There is also not optimal organization of pedestrian movements paths along and on the site. Namely, the pedestrian circulation of campus users is limited along the building and redirected through it. The guideline to Improve this situation and reinforcing the lacking pedestrian flows is placed.



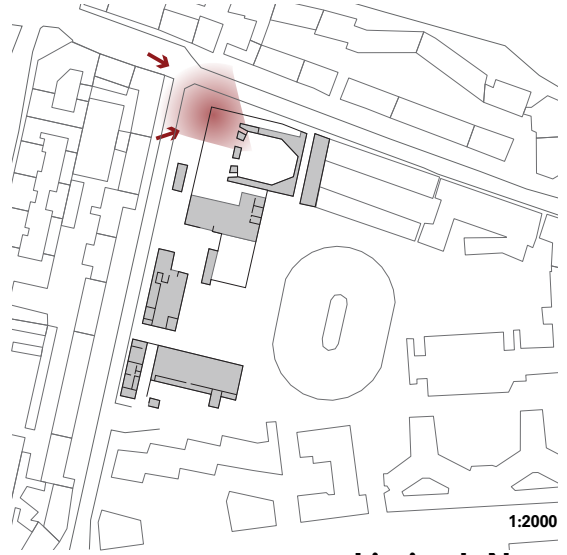
Unfit Now



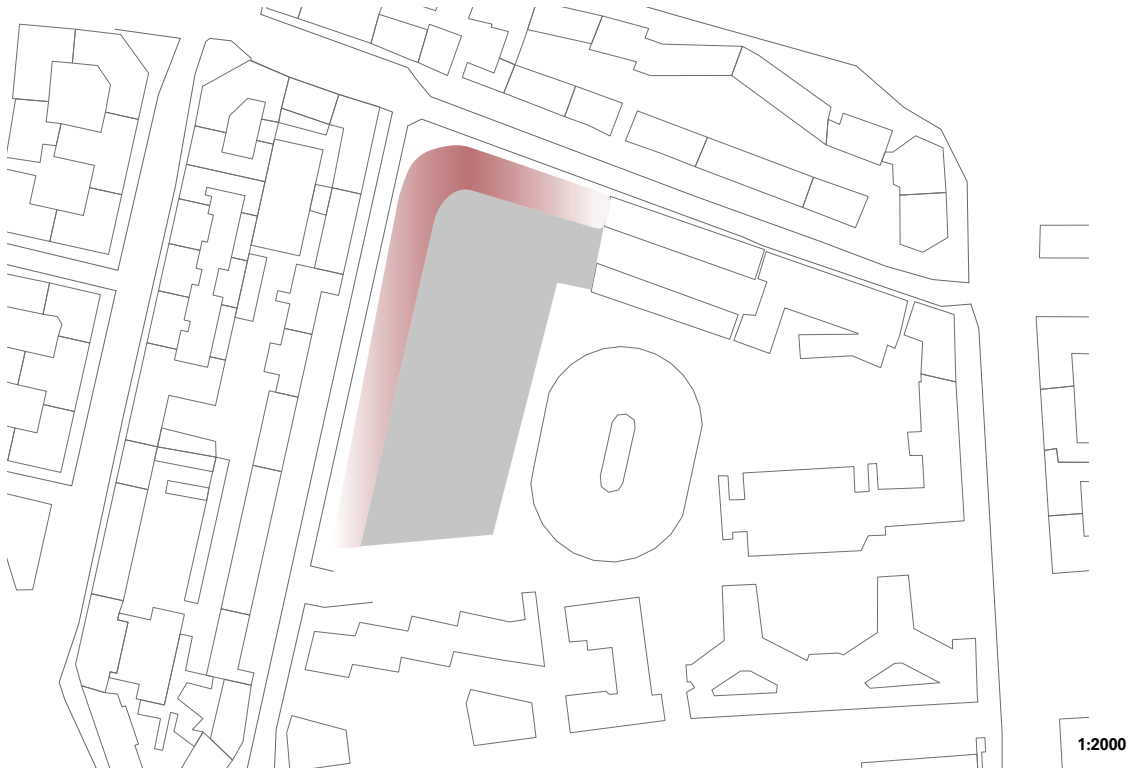
Improve

Underline

Future design should underline the strategic position of the site. The entrance to the building should be made more prominent through architecture and by adding urban facilities to create an urban anchor point.



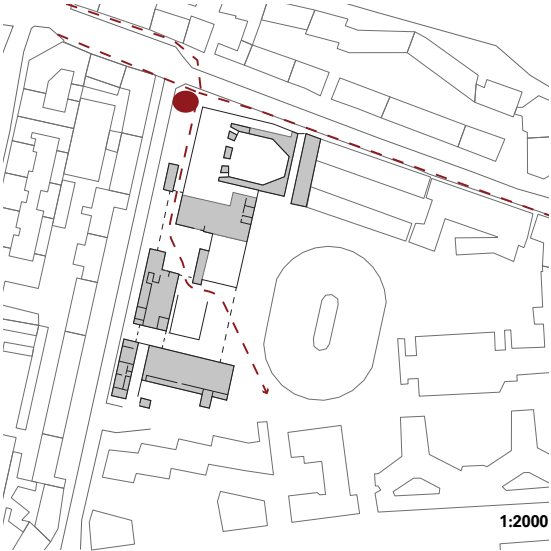
Limited Now



Underline

Keep

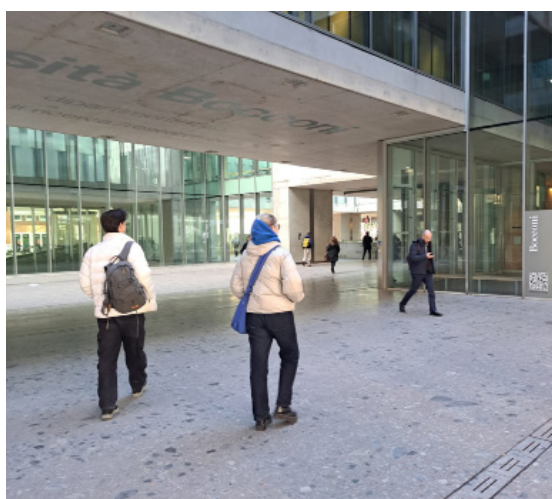
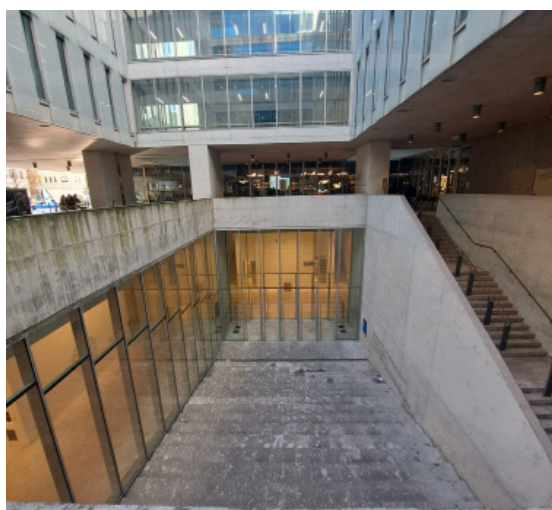
The discussed site is a strategic place in the campus since it performs a role of the entry point. Current building perfectly uses this opportunity, therefore a guideline to keep this aspect should be put for the future design.



Permeability now



Keep/Reinforce



SITE AMBITIONS



**MATCH
WITH EXISTING URBAN
FRONT**



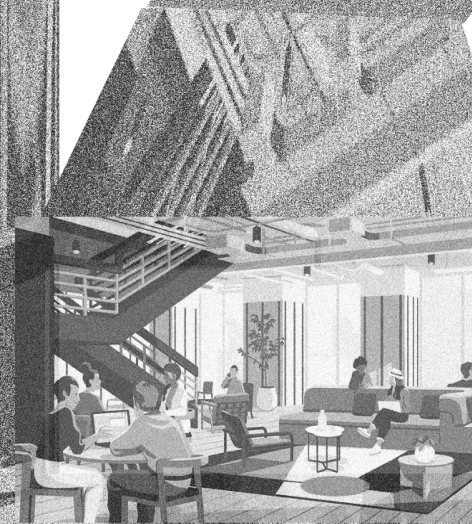
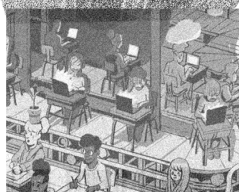
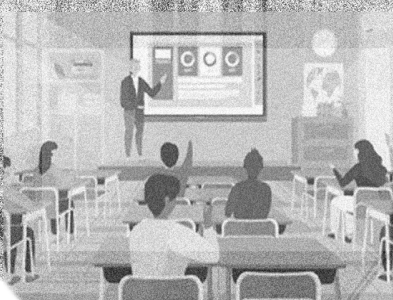
**IMPROVE
PEDESTRIAN FLOWS**



**KEEP
PERMEABILITY**



**UNDERLINE
ENTRANCE ROLE OF
THE SITE**



Program

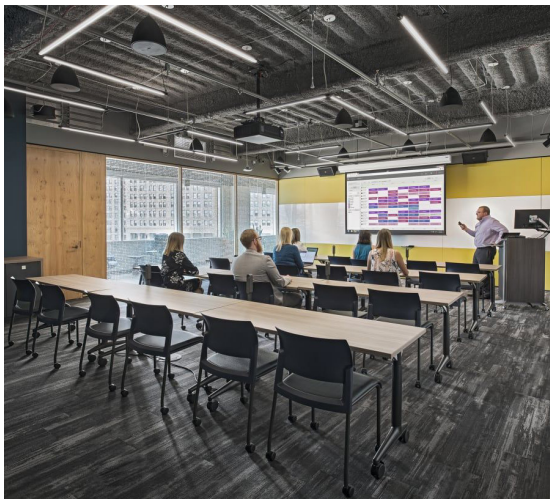
The analysis of current program in Via Roentgen and the relation between it showed the domination of Academia staff aimed program and rather hierarchical organization of facilities in the building. To complete the assignment, students presence should be increased and its relation to Academical staff organized according to the 'cult' idea discussed in the first chapter.

Diversification of Learning

Firstly, the diversification of learning aimed spaces for students should be done. Present lecture halls are limited and do not answer all the study need of students, which are underlines by the Bocconi university themselves. Spaces such as Alternative learning classes, case-based classes, project-based classes, simulation-based classes and self-study should be added.

Adaptive Learning



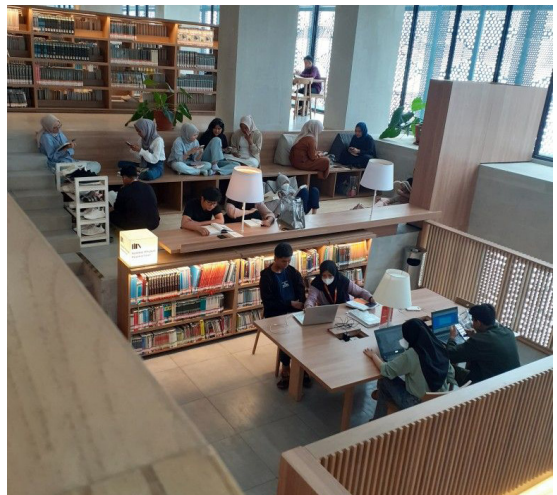


Project-Based Learning





Self/Group Study



Diversification of Working

Secondly, the diversification of working spaces for different types of academia staff should be considered as well. Currently, the core faculty, researchers and lab workers are occupying the Via Roentgen building. They are in 1,2-or 4-person office rooms. Office organization should be rethought to accommodate diverse academic staff while minimizing the number of individual office rooms. To accomplish that project rooms, work pods and workstations should be added. Additionally, break areas should be increased in size and functionality.



Work Pods





Case Studies

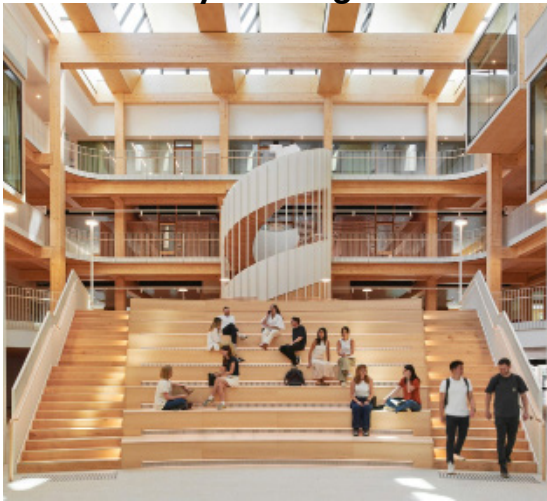
Considerations concerning building user needs and the proposed additions to existing spaces already create a set of requirements for the program. To address the question of social cohesion in university space and increased social interaction between students and teachers, it is also important to consider the organization and proportion of spaces.

The analysis of the case studies indicated a few tendencies that should be considered and added to the requirements. Namely, equality between student-dominated and teacher-dominated spaces provides opportunities for social retreat for both user groups. Additionally, two of the three cases show a high percentage of neutral spaces, and differentiation of services is also included in their programs.

University of Connecticut Science 1 Research Center

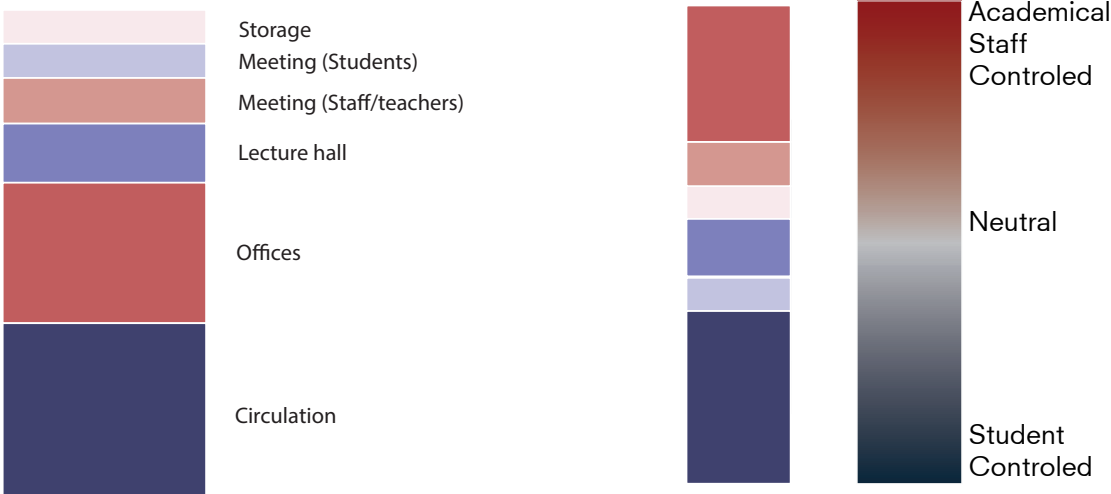


Macquarie University Michael Kirby Building



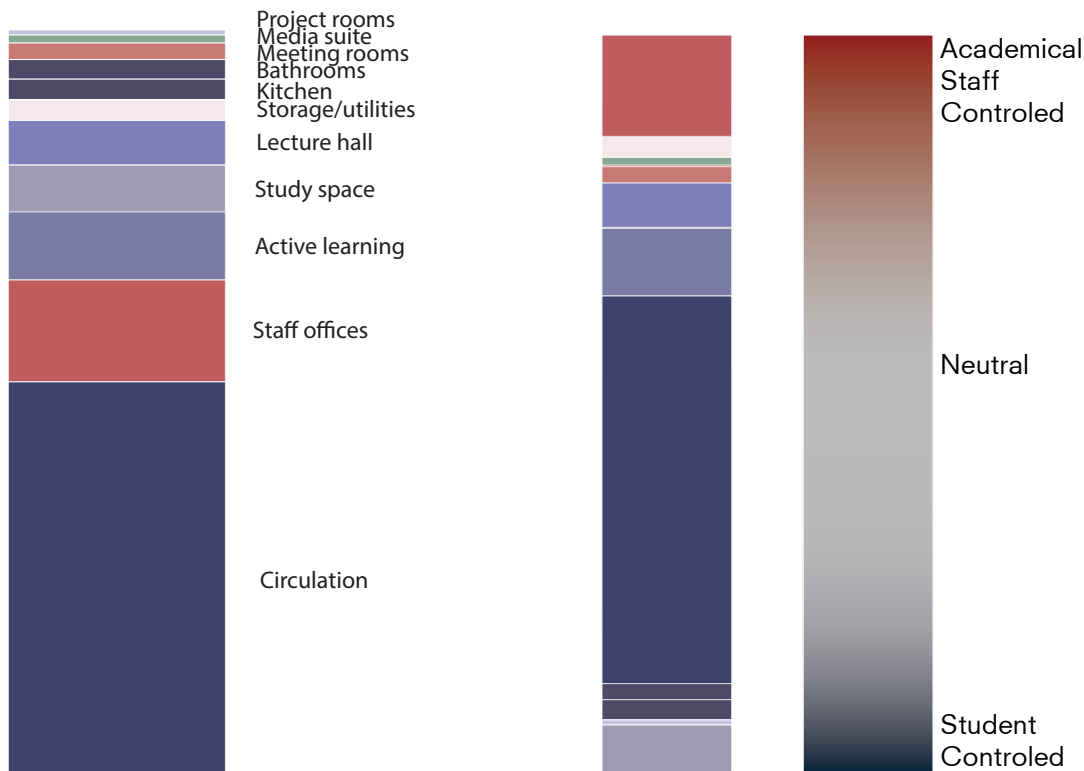
Rolex Learning Center



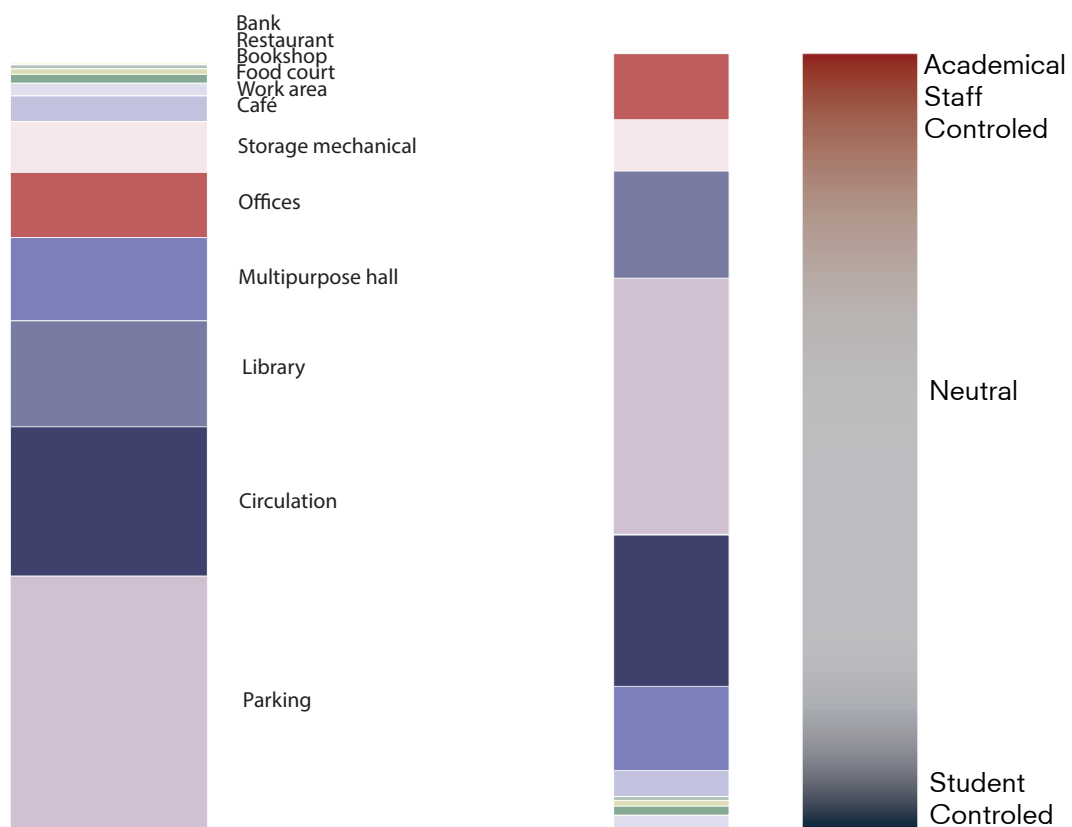


Total area: 2600 m2

Macquarie University Michael Kirby Building



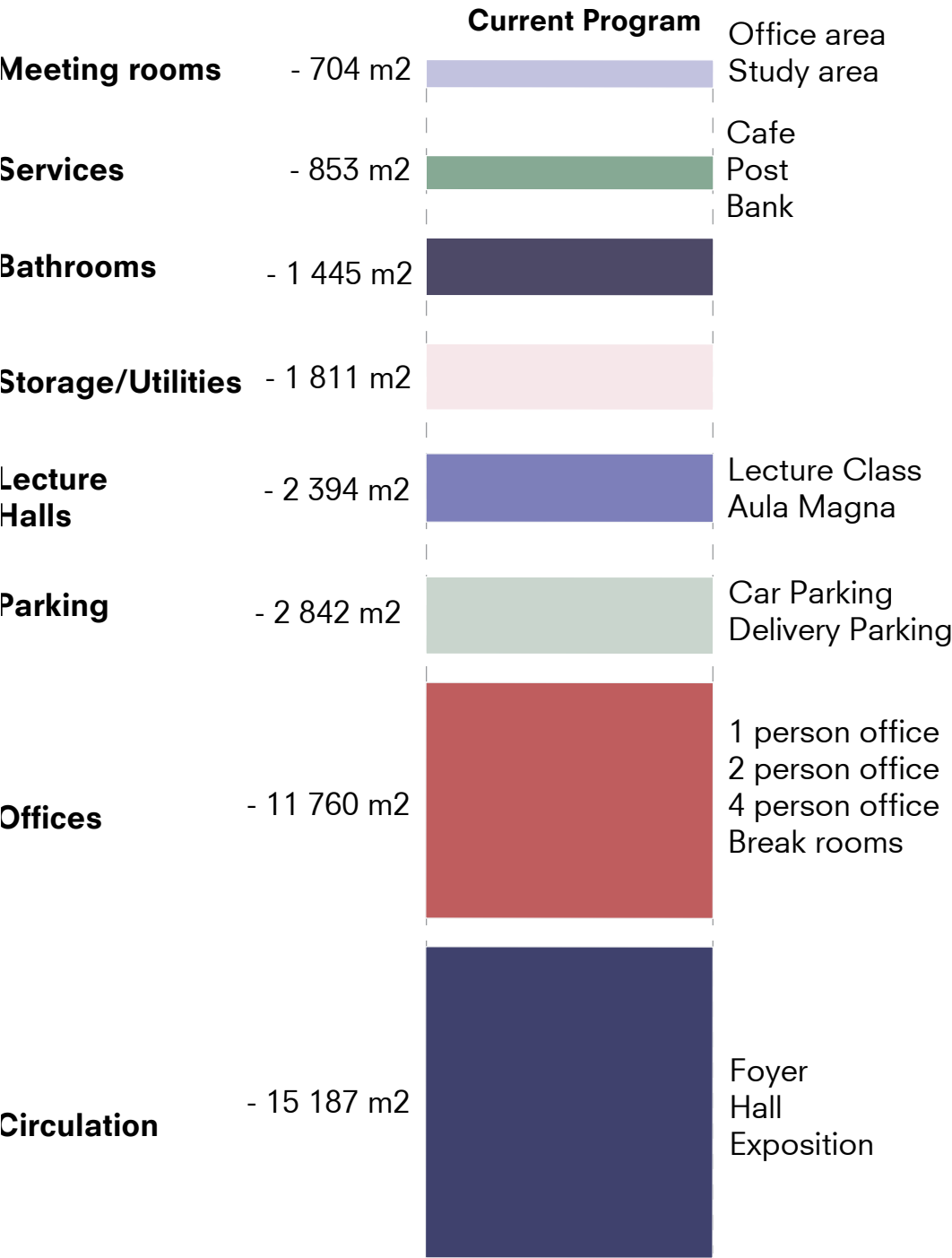
Total area: 10 200 m2



Program Proposition

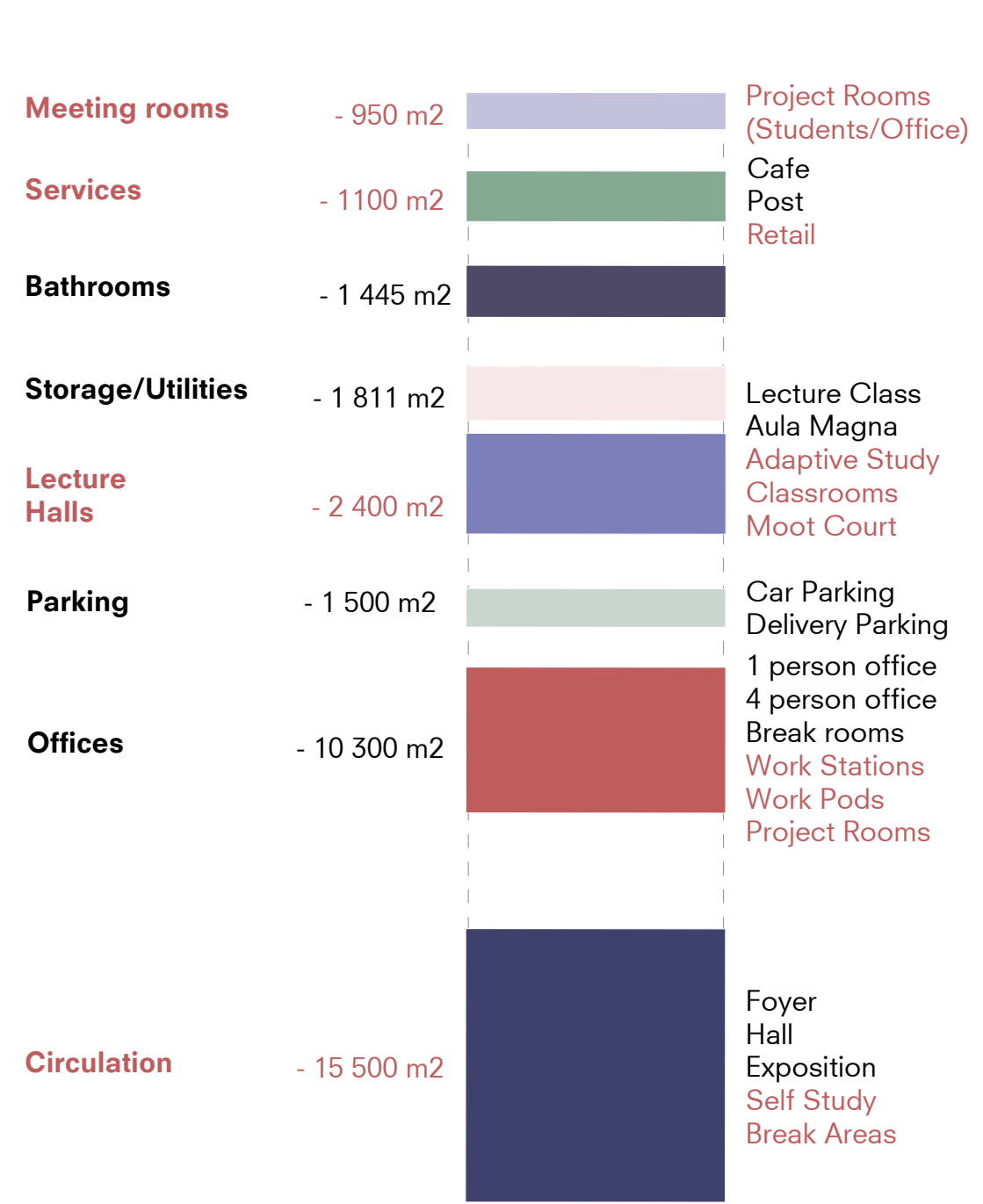
These approaches to the program and its organization are set as requirements and implemented in the proposed program and its envisioned organization. Student- and teacher-dominated spaces are therefore differentiated and more equally distributed, and several additional service facilities are introduced.

Furthermore, the amount of neutral space is increased. Circulation space is envisioned to play the role of this neutral and socially intensive area in the future building. Its aim is not only to connect facilities but also to merge them where applicable, creating gradual transitions that connect and guide building users.

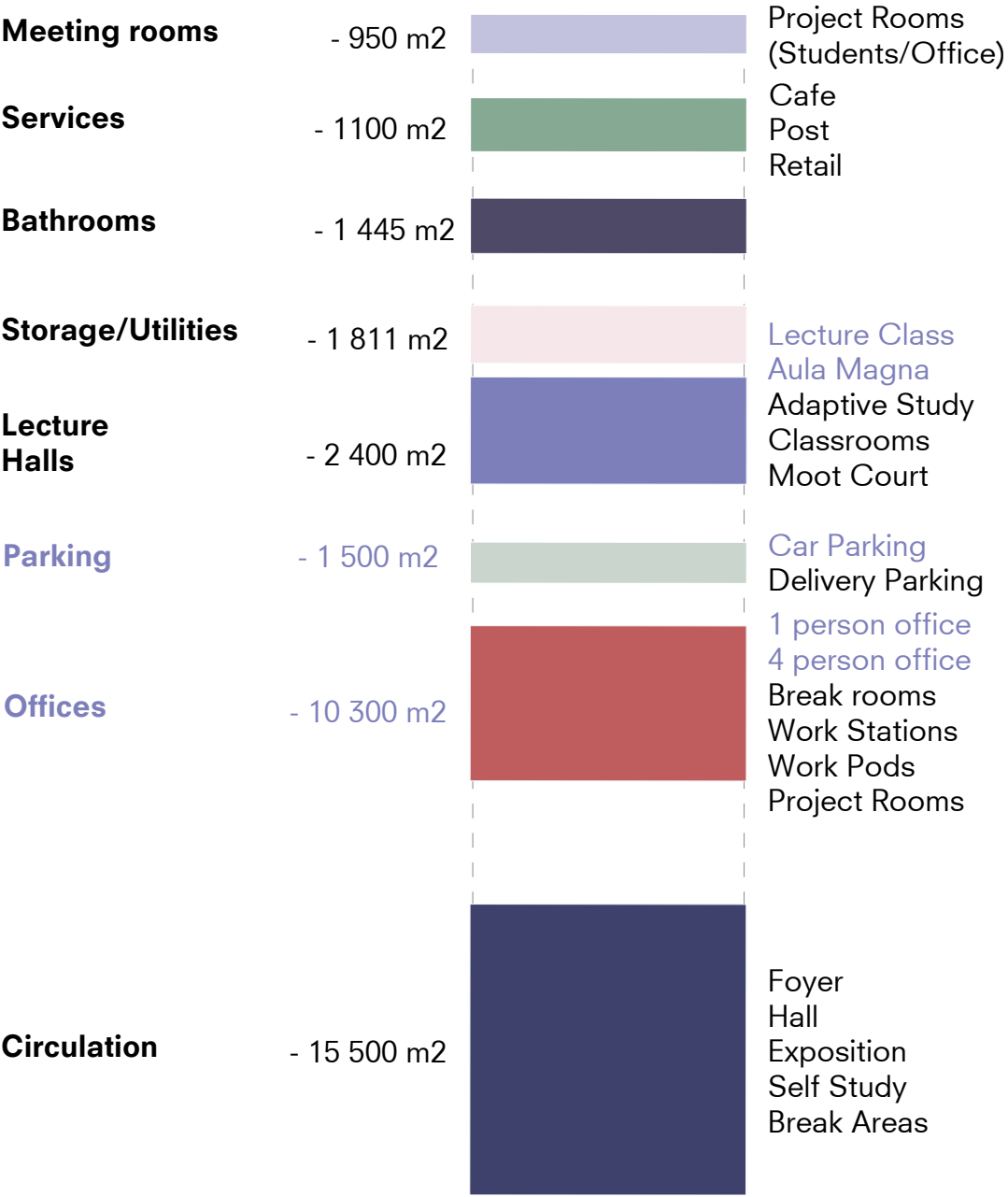


Proposed Program		
Meeting rooms	- 950 m2	Project Rooms (Students/Office)
Services	- 1100 m2	Cafe Post Retail
Bathrooms	- 1445 m2	
Storage/Utilities	- 1811 m2	
Lecture Halls	- 2400 m2	Lecture Class Aula Magna Adaptive Study Classrooms Moot Court
Parking	- 1500 m2	Car Parking Delivery Parking
Offices	- 10300 m2	1 person office 4 person office Break rooms Work Stations Work Pods Project Rooms
Circulation	- 15500 m2	Foyer Hall Exposition Self Study Break Areas

Added/Increased Program

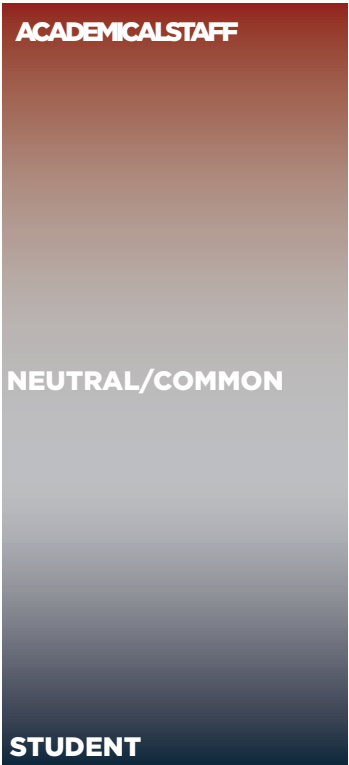


Decreased Program

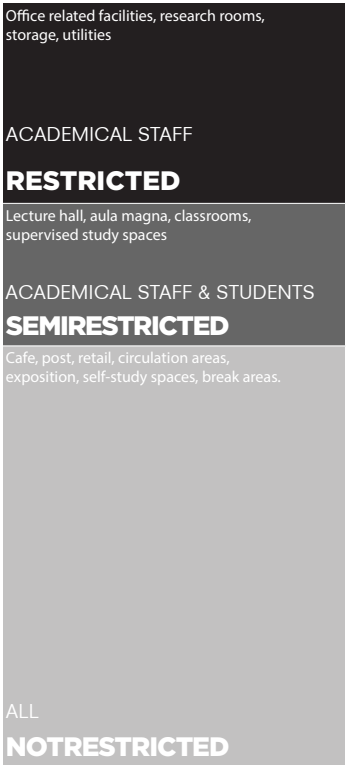




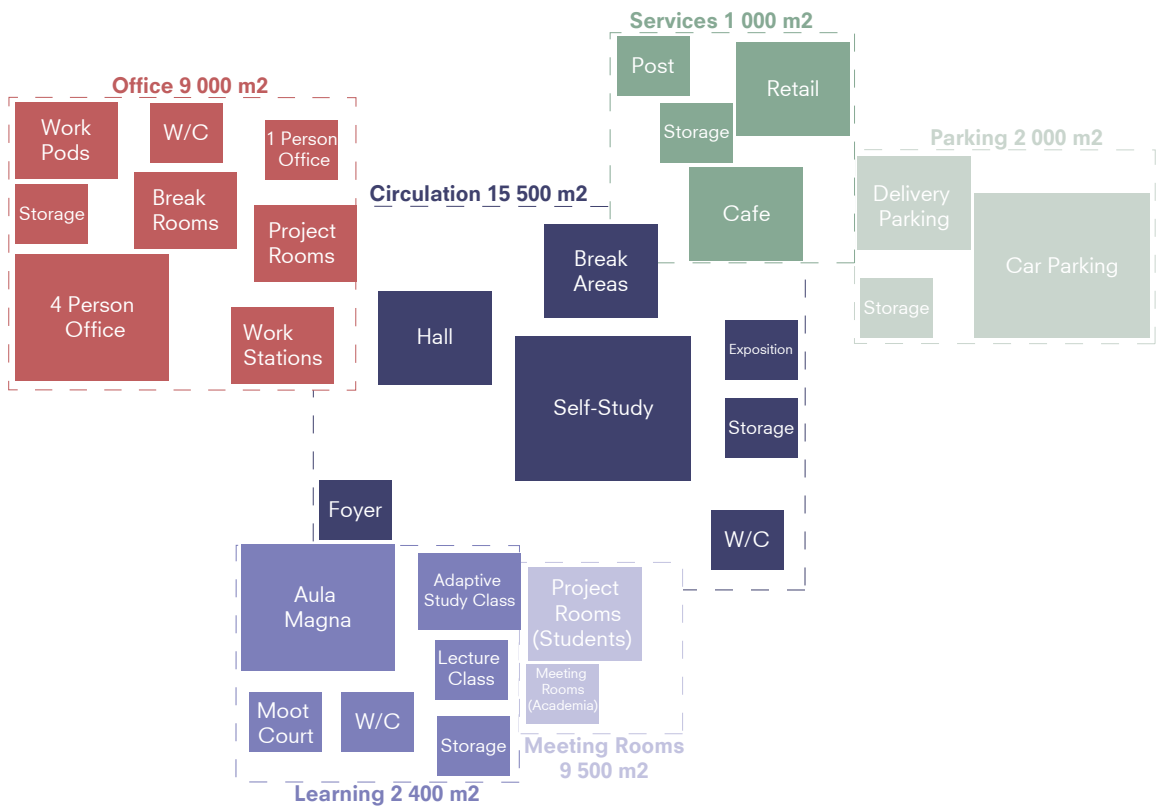
Program Proposal



Control Proposal



Access Proposal



PROGRAM AMBITIONS



**DIFFERENTIATE
LEARNING**



**INCREASE 'NEUTRAL'
SPACES**



**DIFFERENTIATE
WORKING**



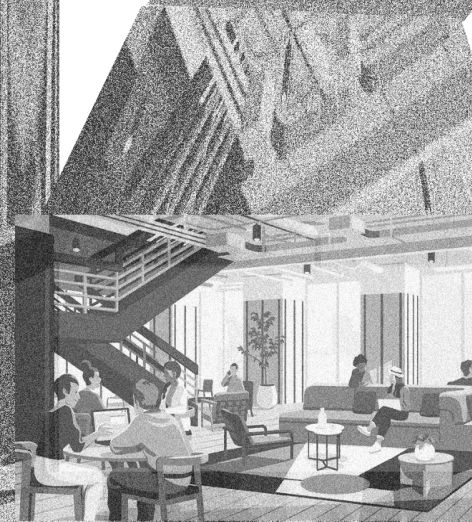
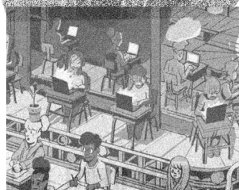
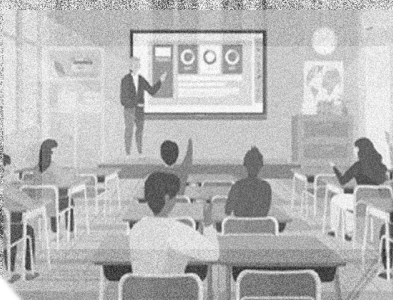
MERGE SPACES



**CIRCULATION AREA
AS KEY AREA**



DECREASE PARKING



Key Space

Due to the importance of circulation space within the proposed program, several requirements for this space were also formulated, based on case studies and their approaches to common and circulation areas.

University of Connecticut



- Flexibility of spaces
- "Pedestrian corridor"
- Functional circulation space
- Daylight
- Clustering-> "Neighbourhoods"
- Gradient of privacy

Rolex Learning Center



- (artificial) Topography
- Open Space
- Soft barriers/partitions
- Intergration of Functions
- Functional circulation space
- Visual connection inside-outside
- Strong connection with landscape
- Transparency

Schwarzman Center



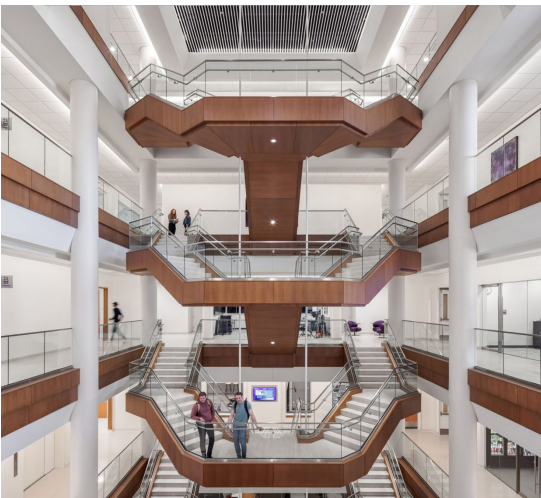
- Hall as a center-> for temporal functions
- Openness
- Soft barriers
- Intermix of programme
- Physical academic proximity
- Circular organization
- Layering of the facade
- Different scales of public spaces

Macquarie University



- Atrium as a social heart
- Soft barriers
- Differences in Scales
- Transparency
- Circular organization
- "Warm" materiality
- Visual connection outside-inside
- Main&functional meeting point-->Stairs

Shoenecker Center



- Double height spaces
- Central atrium as organization
- Scaling
- Transparency
- Flexibility of spaces

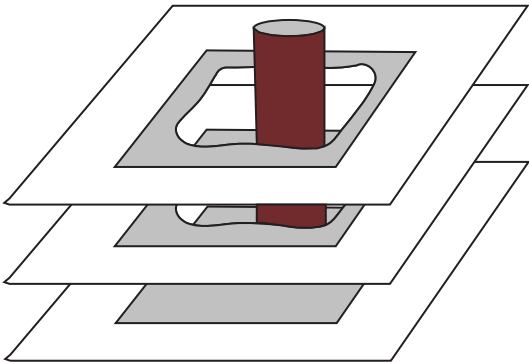
The Pennsylvania State University



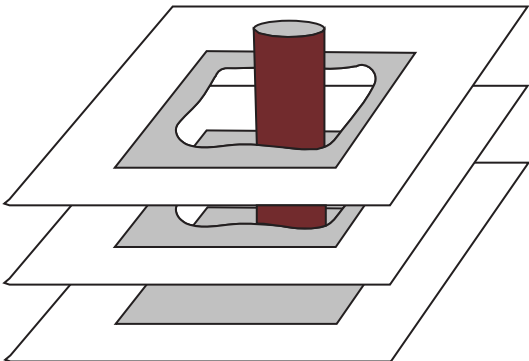
- Grouping of functions
- Distributed social nodes
- Materiality to group/connect
- Dynamicity of interior-> spaces/finishes
- Big/combined circulation halls
- Functional circulation halls

Circulation Organization Approaches

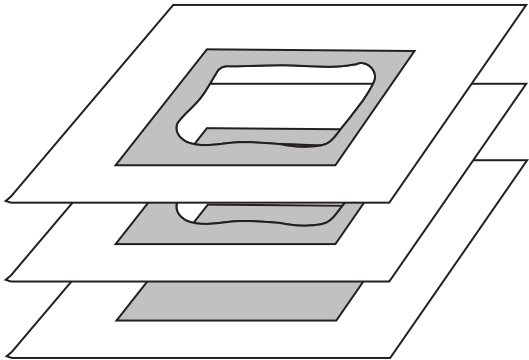
Macquarie University



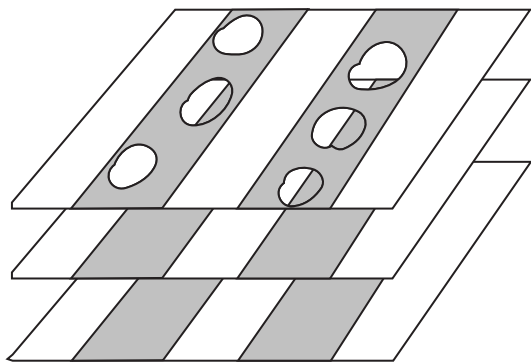
Schwarzman Center



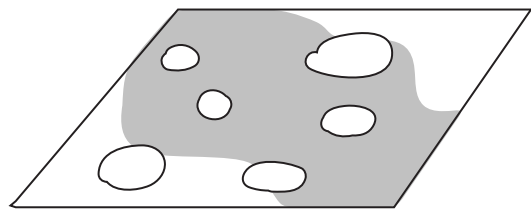
Shoenecker Center



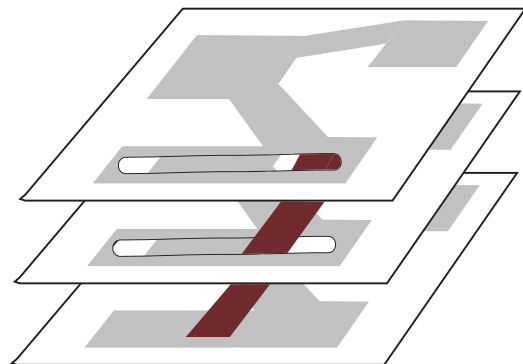
University of Connecticut



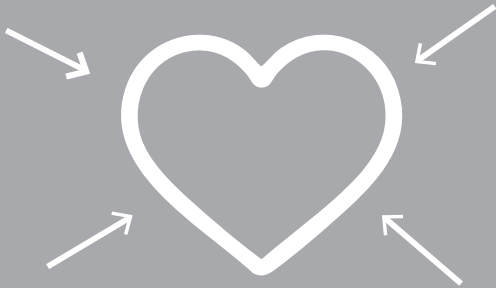
Rolex Learning Center



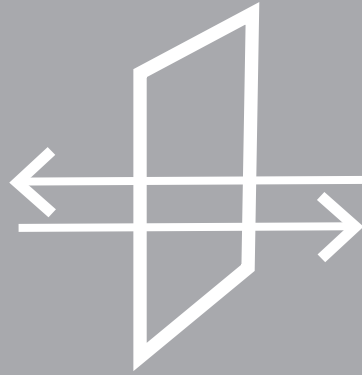
The Pennsylvania State University



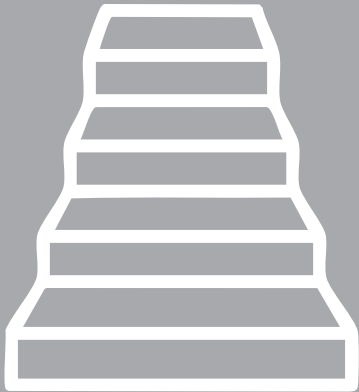
CIRCULATION/NEUTRAL SPACE AMBITIONS



SOCIAL HEART



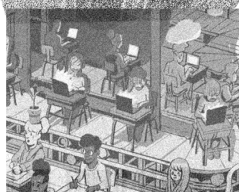
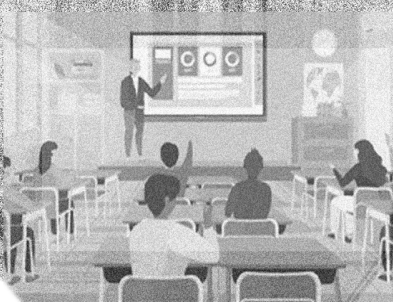
**VISUAL CONNECTION
INSIDE/OUTSIDE**



**STAIRS AS A
MEETING POINT**



FLEXIBLE SPACE



Client

The clients of the project are Bocconi University and the Italian Ministry of Education, University and Research. The project aims to support their ambition to create a university environment that promotes the principles of Open Science, strengthens student engagement and retention, and leaves students with a lasting positive impression of their academic experience.



Bocconi University

Ambitions

- Academic performance and reputation
- Development of business education
- Attractiveness to international students
- Open Science Culture



MINISTERO DELL' ISTRUZIONE, DELL'UNIVERSITÀ E DELLA RICERCA

Ambitions

- Reducing student disengagement and dropout
- Improving quality of higher education environments
- Promote Open Science Culture according to EU research/education trajectory

**Ministry for Education, University
and Research**

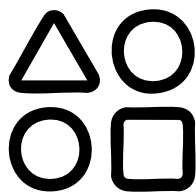


Ambitions

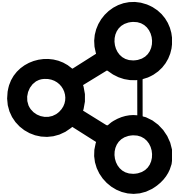
Previously discussed and heavily based on preliminary research outcomes, the design methods yielded an extensive list of ambitions for the future design. These numerous design objectives were further considered and summarized into main, cumulative ambitions, which will subsequently form the basis for design explorations. As a result, there are three summative ambitions.

Firstly, to cover the site ambitions of the project, the overall urban role of the site should be elaborated and differentiated. Secondly, to partially address the program ambitions and help answer the overall research question of the project, the spaces within the university should be well differentiated. This includes a wider range of working, studying, and socialization spaces. Lastly, to cover the remaining ambitions, the internal building organization and architecture should choreograph the future perception and use of spaces.

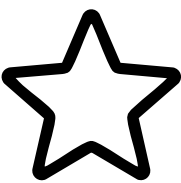
Research outcomes



DIFFERENTIATE
LEARNING/
TEACHING/
RESTING

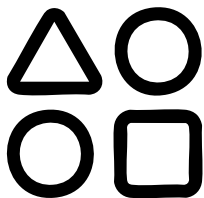


INCREASE/KEEP
'NEUTRAL' SPACES



CIRCULATION AREA
AS KEY AREA

Ambitions



DIFFERENTIATE
COMMON/
SOCIAL SPACES



GRADATION OF
TERRITORIAL
CONTROL/USE



UNDERLINE
ENTRANCE ROLE OF
THE BUILDING

To initiate the design process, an exploration of ambitions was conducted through a set of models. Namely, 12 models, equally divided between 4 themes, were created. For each category, a leading question related to ambition was formulated. The aim was to try to answer each of 4 questions through 3 different models. The exercise yielded a set of conceptual ideas concerning building form, program, site role, and organization that could be further used in the design.

Form Ambitions Tested

How can spatial strategies express Bocconis ambition to keep status and increase openness?



Model 1



Model 3



Model 2

Program Ambitions Tested

How can program organization
balance
interactions between students and
teachers?



Model 1



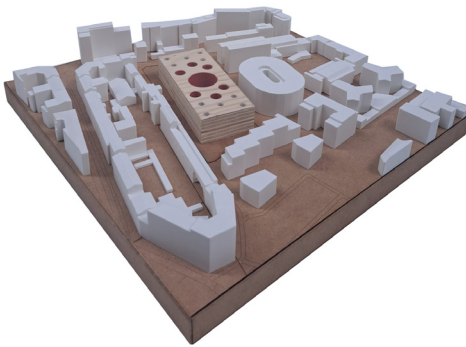
Model 2



Model 3

Group Theme Ambitions Tested

How can the courtyard become a main gathering point that balances intensity of interactions?



Model 1



Model 3



Model 2

Site Ambitions Tested

How can building form and location
shift the
site from passage to gathering
place?



Model 1



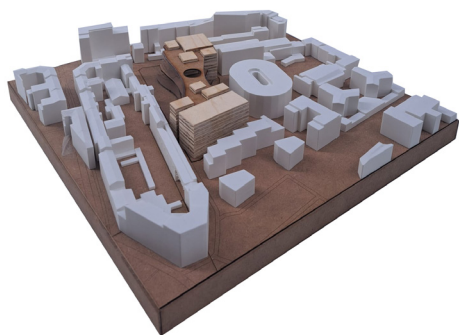
Model 2



Model 3

Summary Studies

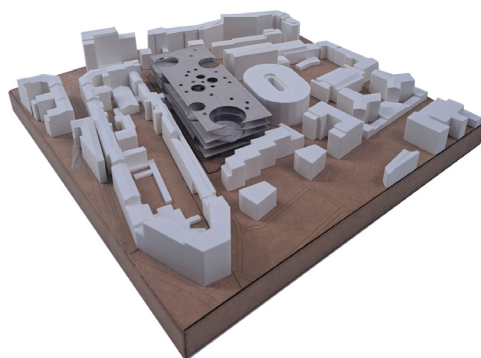
First design considerations. Ideas on how to connect different aspects obtained from model making exercise



Summary 1



Summary 2



Summary 3

Conclusion models

The subsequent step was to connect the concepts obtained through the explorative exercise described above and test them against the design ambitions and overall research question of the project. This transition from concepts to the more detailed design propositions was a longer process. In total, three exploratory combination models were made as a proposition for future design. Each of them had its pros and cons, yet none of them was chosen in its pure form. They were not chosen since none of them was able to achieve all three ambitions stated before on an adequate level. Nevertheless, each of the models and their subsequent analysis provided helpful insights and allowed us to evaluate previously found concepts and develop them further.

More precisely, the first proposition was developed from ideas to create two urban facilities on the site and to underline the circulation inside the building by mainly positioning it along the façade. This variant would achieve the urban ambition at a satisfactory level. However, two remaining aims would have been left underexplored, which would prevent the overall design from answering the research question.

The second proposition was also based on the concept of two urban zones on the plot, since it was a positive outcome of the previous variant. It approached it more radically and made an overall building form fully curved, which would create two extensive urban cores on the plot. Additionally, the program-related concept was explored through this variant. Namely, the idea to divide buildings by type of function and not by users, which, as a result, should generate more interactions between students and academic staff. This concept was envisioned in the model as a distinction between working/study plane and social/ leisure plane. They are disintegrated, and the connection points between them should become the high-intensity social zones. The design aspects arising from this concept would help realize the ambition to differentiate all kinds of spaces in the university building. Lastly, the ambition of curated perception/use of the building was approached through the application of sloped

floors. The idea is to actively lead people or to create subtle thresholds by creating slopes. This proposition seemed to satisfy all three ambitions and, therefore, was developed one step further. Nevertheless, the creation of actual floor plans for this variant revealed a major obstacle. Namely, the created building would be too narrow to house a wide variety of social spaces. In essence, the urban ambition seemed to be leading the design, which caused the remaining two to be less developed. It is undesired since the urban ambition itself does not answer the research question of the project.

The third proposition was developed around the ambition to choreograph the perception and use of spaces. It implemented and developed the concept of multiple courtyards and how they could change the character of space depending on their size. However, it did not integrate the remaining two ambitions and therefore needed to be further elaborated. To summarize, the model exploration and concept testing did not immediately lead to the concrete design. It helped to form a set of characteristics that should be implemented in the final design to achieve the ambitions and subsequently propose the answer to the overall research question of the project.

Preliminary design considerations started from the ambition to differentiate the working, study, and social spaces in the university building. The concept of two planes (work and social one), which was derived from model exploration, was a starting point. It integrates the idea that building is divided by type of function and not by user, which is essential to obtain the overall goal of increased social cohesion between different actors, especially students and academic staff. The work plane will be filled with differentiated working and study spaces that are discussed in the methods chapter of this paper. The workspaces will be graded along floors, not by users, but according to the level of concentration that is usually needed for them. More specifically, the public ground floor contains big lecture halls and low concentration study spaces, the coworking first floor containing the majority of group-based working spaces, and lastly the study second floor and working third floor containing silent study spaces, classical classrooms, and individual offices.

The social plane will also include different types of spaces. Namely, the social spaces should be differentiated not only by the type of program they contain but also by other aspects such as the envisioned number of users, intensity of social interactions, and levels of seclusion. This rationale is heavily based on the ideas described in Proxemics by Edward T. Hall and supported by the fact that a vast spectrum of users might have different needs. The broader choice will be proposed to them, the more chance that alienation occurrences can be minimized.

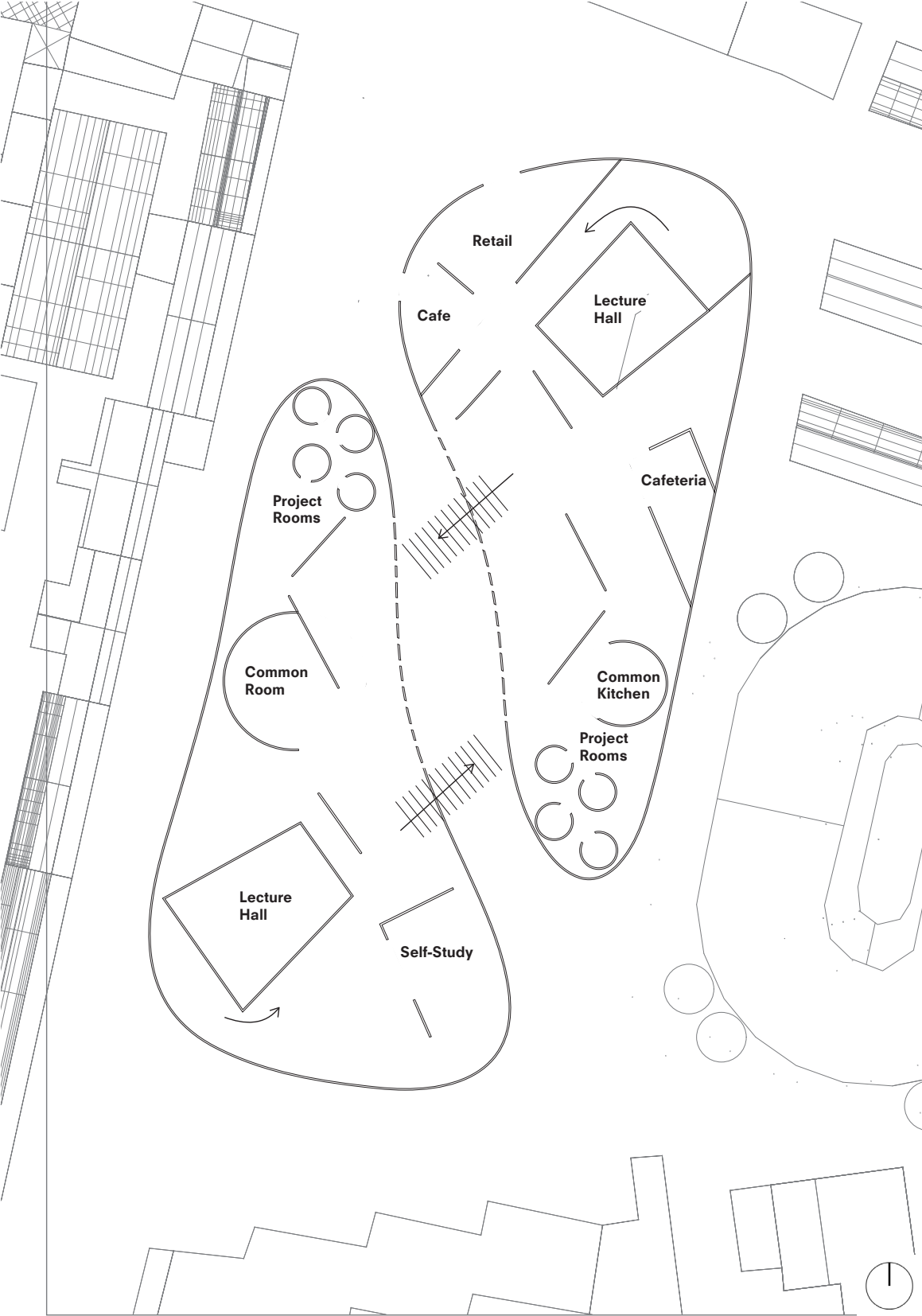
The second ambition of choreographing the user's perception of space translates into the overall spatial composition and the guiding elements that structure movement between spaces, particularly across the previously discussed spectrum of social environments. The model experimentation partially informed this approach, suggesting strategies such as the scaling of courtyards and the introduction of sloped floors as operative attributes of the grid. However, leading elements needed to be further

elaborated and added to be able to create a complete grid for the above-mentioned range of work and social spaces. Wayfinding literature by Passini mentioned nodes, zones, and guiding elements as essential attributes. The placement of spaces inside the building and use of additional architectural elements in floor plans, such as furniture clusters, division walls, elements of interest, or floor height differences, will help lead the user.

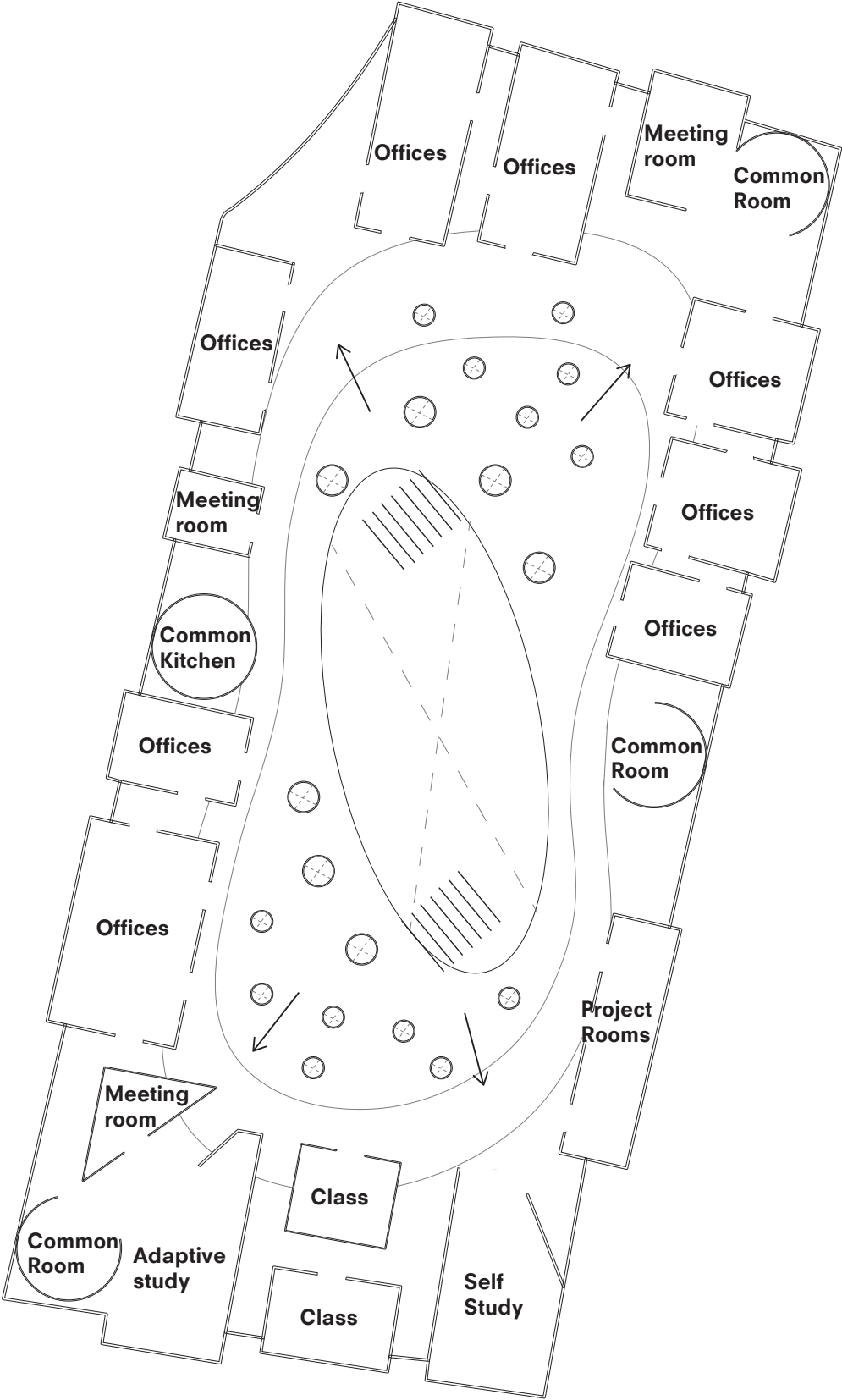
In terms of urban ambition, the idea is to keep the passage through the building and open up the ground floor to create more flows through the building and introduce connection and filtering between the urban and campus sides of the building.

Preliminary Ground Floor

1:500

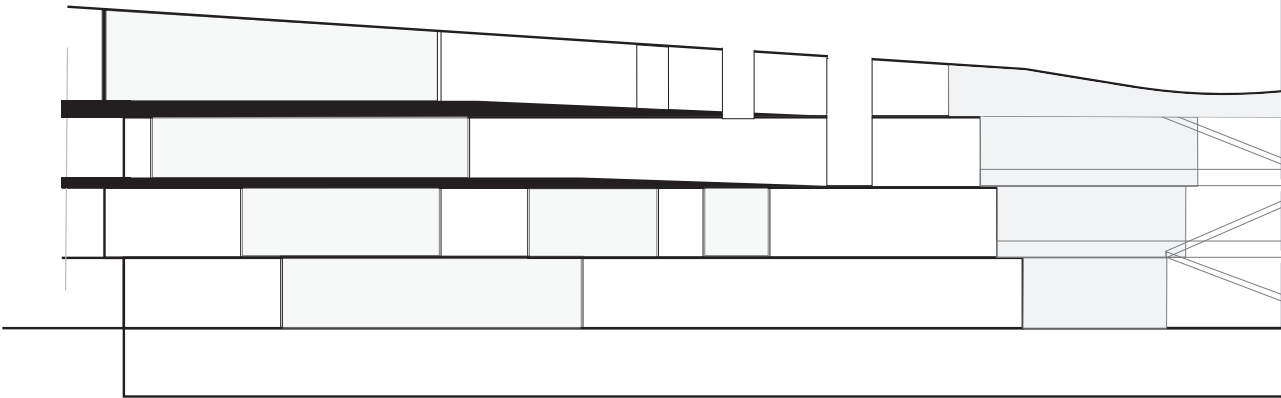


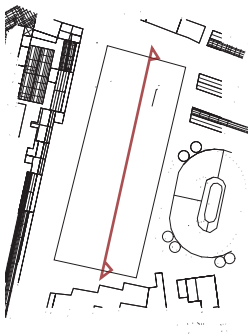
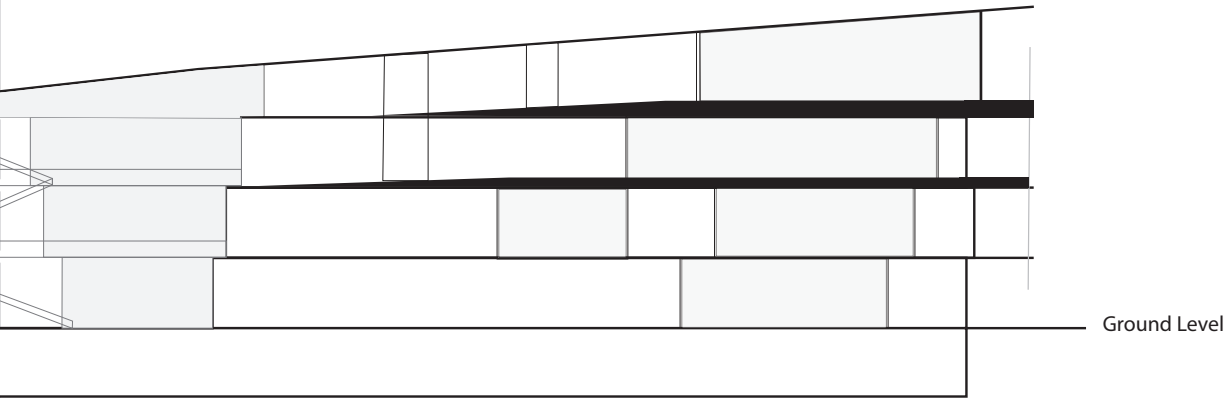
1:500



Preliminary Long Section

1:500





FINAL DESIGN





Main Building Entrance

Final Design

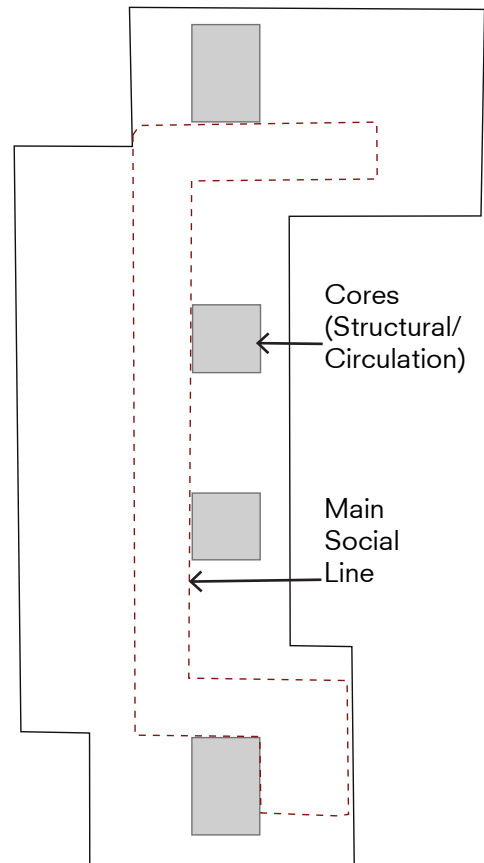
Preliminary design formed the base for the final design and helped to summarize the main aspects that can help. The three ambitions for the design stated previously can be summarized with verbs such as to mix, to filter, and to connect. Based on that and on preliminary design explorations, an overall leading concept was formed, which is porosity. The idea behind the design was that all the ambitions can be approached through that concept. The design process was progressing from the inside/out. Each floor has the same number of study and workspaces. They are not graded in terms of user but in terms of intensity of work or social interactions. Namely, the scale of workspaces gets smaller with each floor, which assumes the smaller work groups and more silent discussions. Also, social spaces get more overpowered by workspaces with each floor.

The floors differ from one another due to the scaling approach applied to the spaces. However, they all share the same core ideas of porosity and graduality, which guided their formation. Namely, to mix users and create more neutral spaces, spaces that encourage possible interactions, the work plane is penetrated by the social plane at multiple locations on each floor.

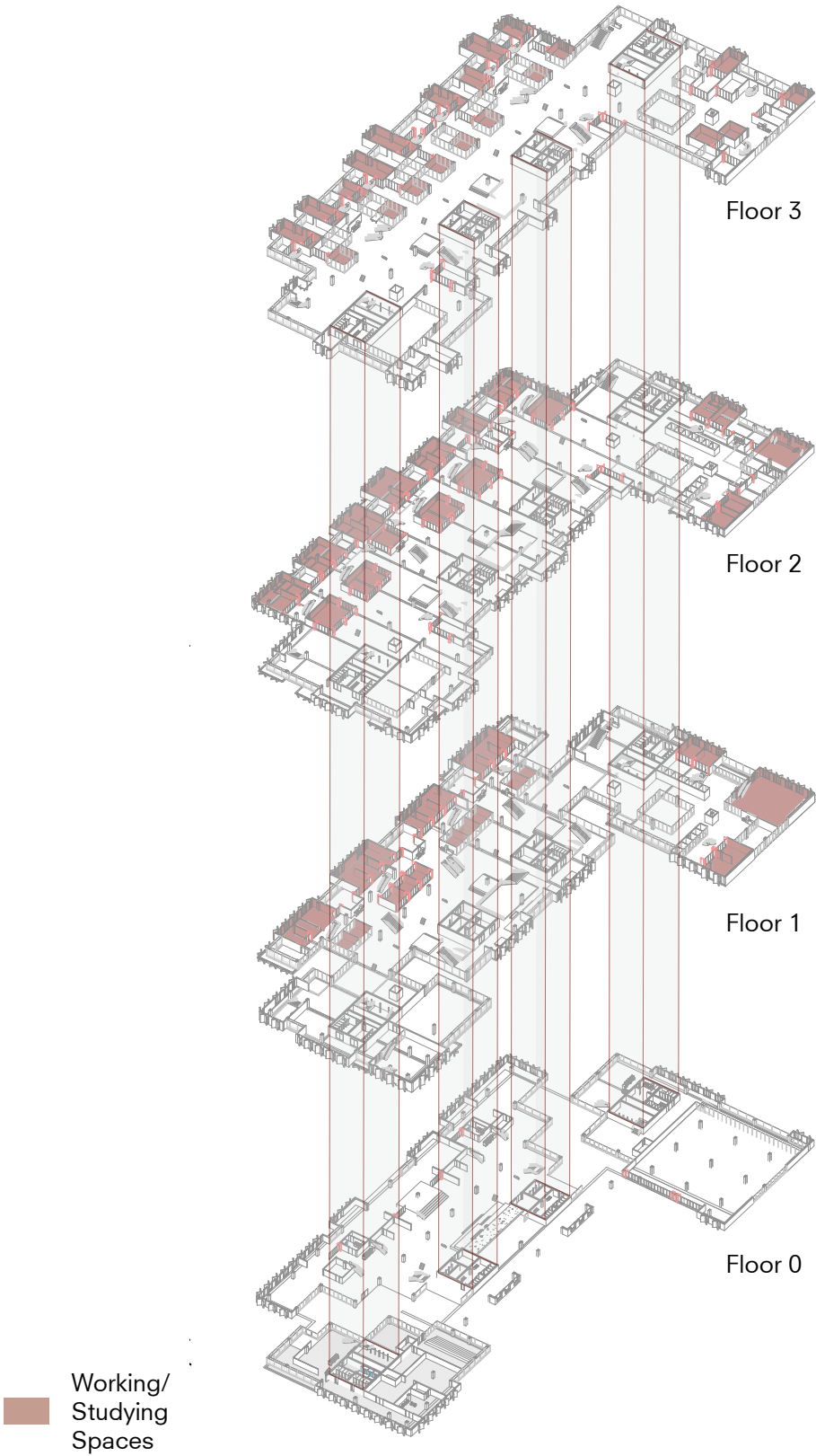
In summary, each floor contains a main social tunnel, or circulation lane, that connects the structural and vertical circulation cores. This is the most socially active space on the floor. The work plane is located along the sides of the building. To connect these two entities and express the spatial gradation, the social plane penetrates the work plane. The resulting pores are typically breakout areas or flexible meeting rooms that remain open most of the time. The work plane can be further divided into two zones depending on the expected level of concentration and intensity of use. Closer to the main social tunnel, more open and flexible spaces are located. Along the building edge, the workspaces for academic staff are placed. These spaces are designed to encourage interaction among colleagues while remaining more secluded, though not fully isolated.

To further develop the gradation and create more secluded and focused working environments, mezzanines are introduced on each floor. They provide quieter, more private working areas for both academic staff and students. On the mezzanines, these two user groups are physically separated while maintaining a visual connection. The mezzanine above the academic staff workspaces contains private offices and enclosed, high-concentration workstations or laboratories. The mezzanine intended primarily for students accommodates quiet self-study areas as well as group study spaces.

The addition of mezzanines further reinforces the concept of porosity, as they are not fully enclosed and therefore also subdivide the floors in the vertical dimension. Additionally, they strengthen the spatial gradation by creating partial obstructions on the floor below. This change in height is intended to be perceived as a spatial threshold.

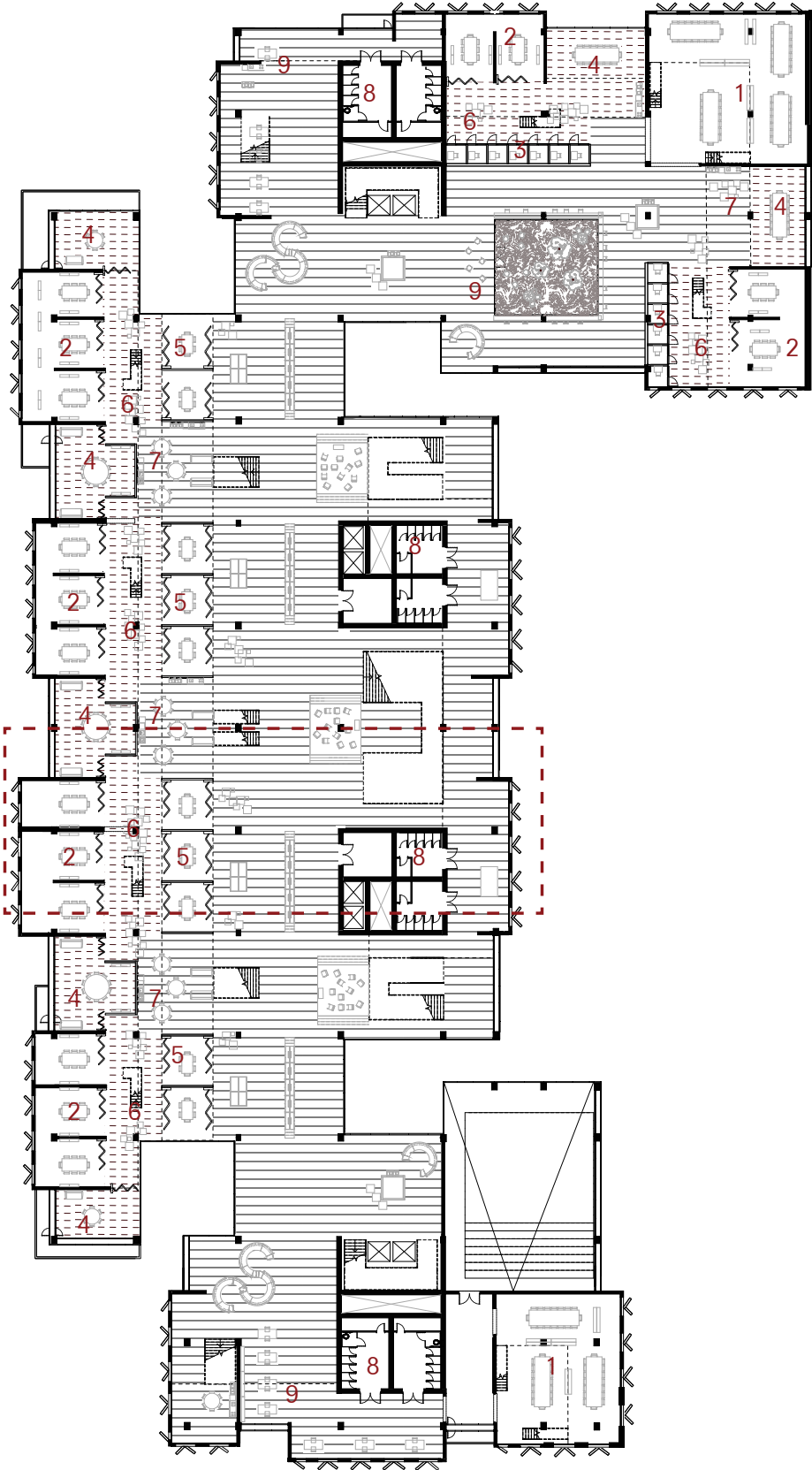


Guiding Principle for Floors



Floor 1

1:200



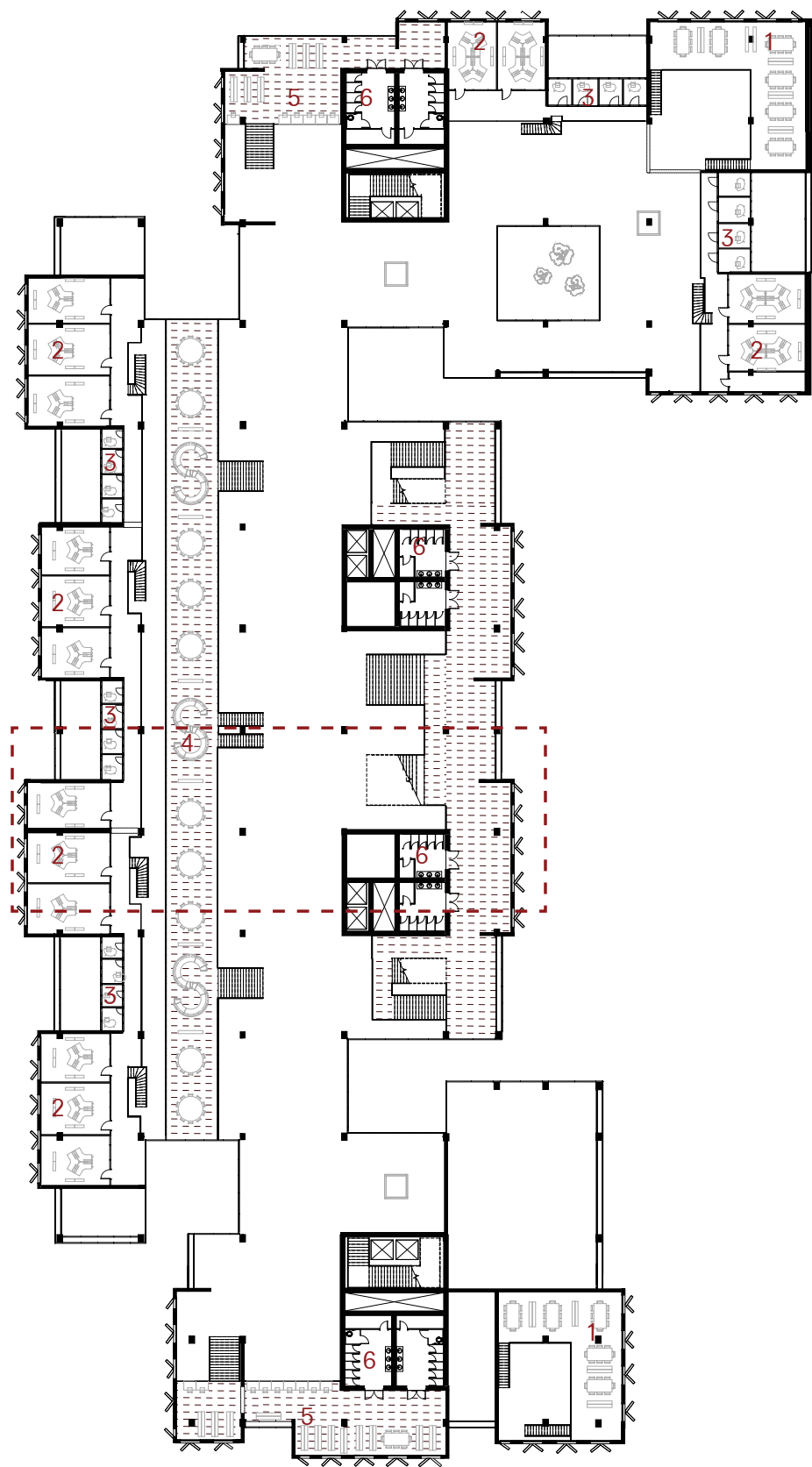
Legend

- 1. Adaptive Study (Studio Style)
- 2. Workstations (Interconnected)
- 3. Workpods
- 4. Meeting Rooms
- 5. Project Rooms
- 6. Break Areas
- 7. Kitchenettes
- 8. Bathroom
- 9. Self Study

Legend

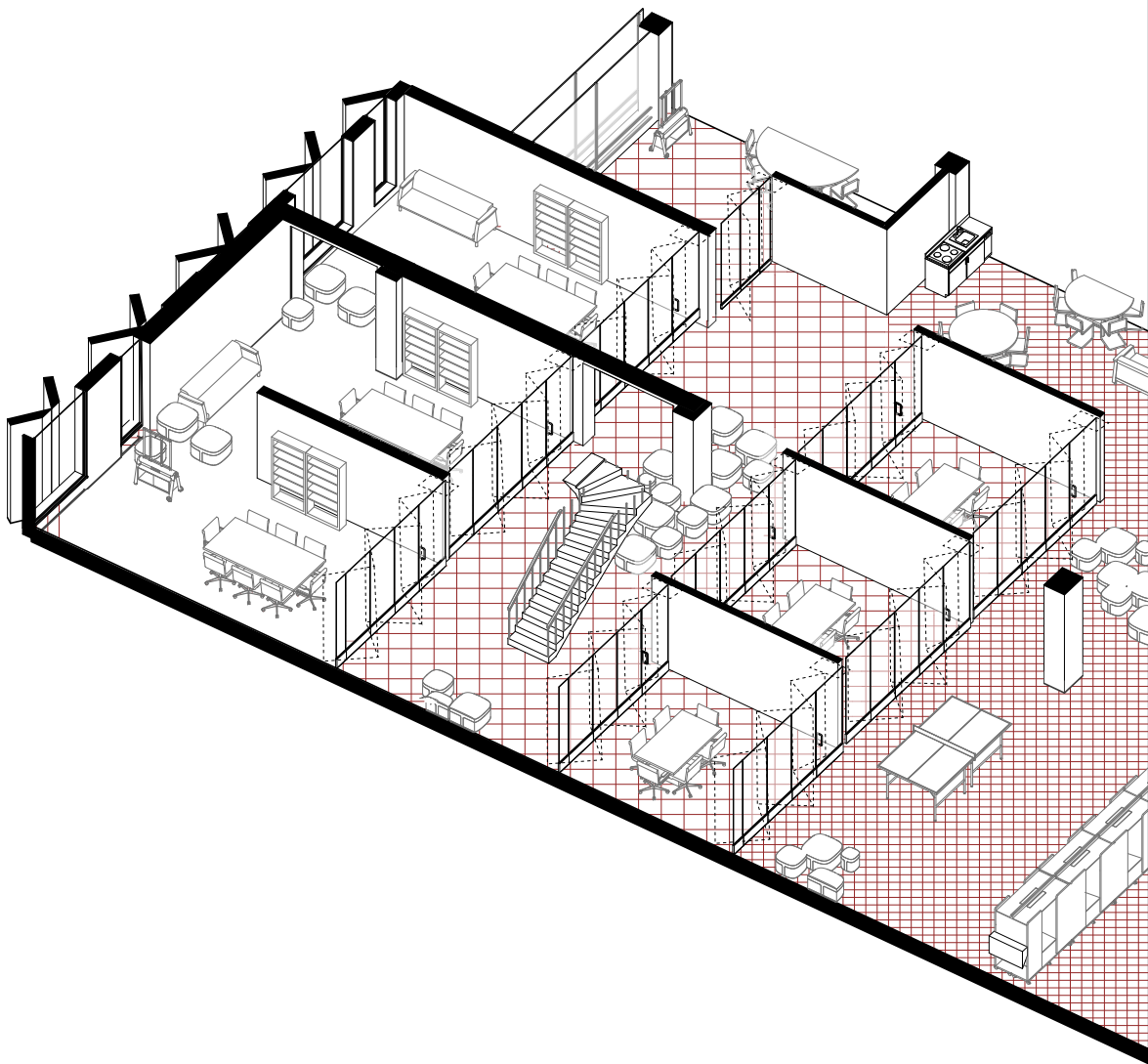
1. Adaptive Study
2. Workstations
3. Office
4. Self Study
5. Library Commons
6. Bathroom

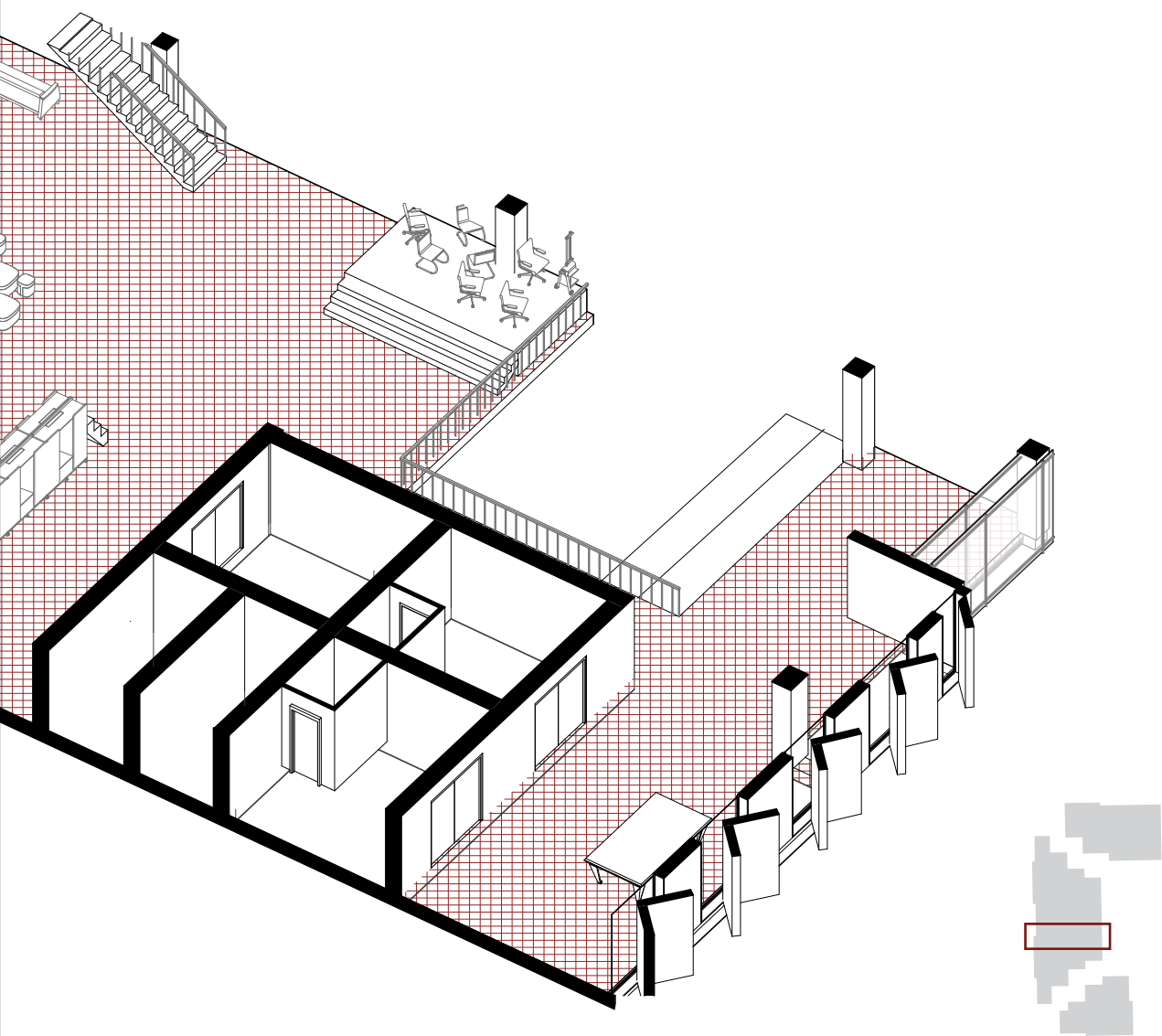
1:200



Fragment of main tunnel/Floor 1

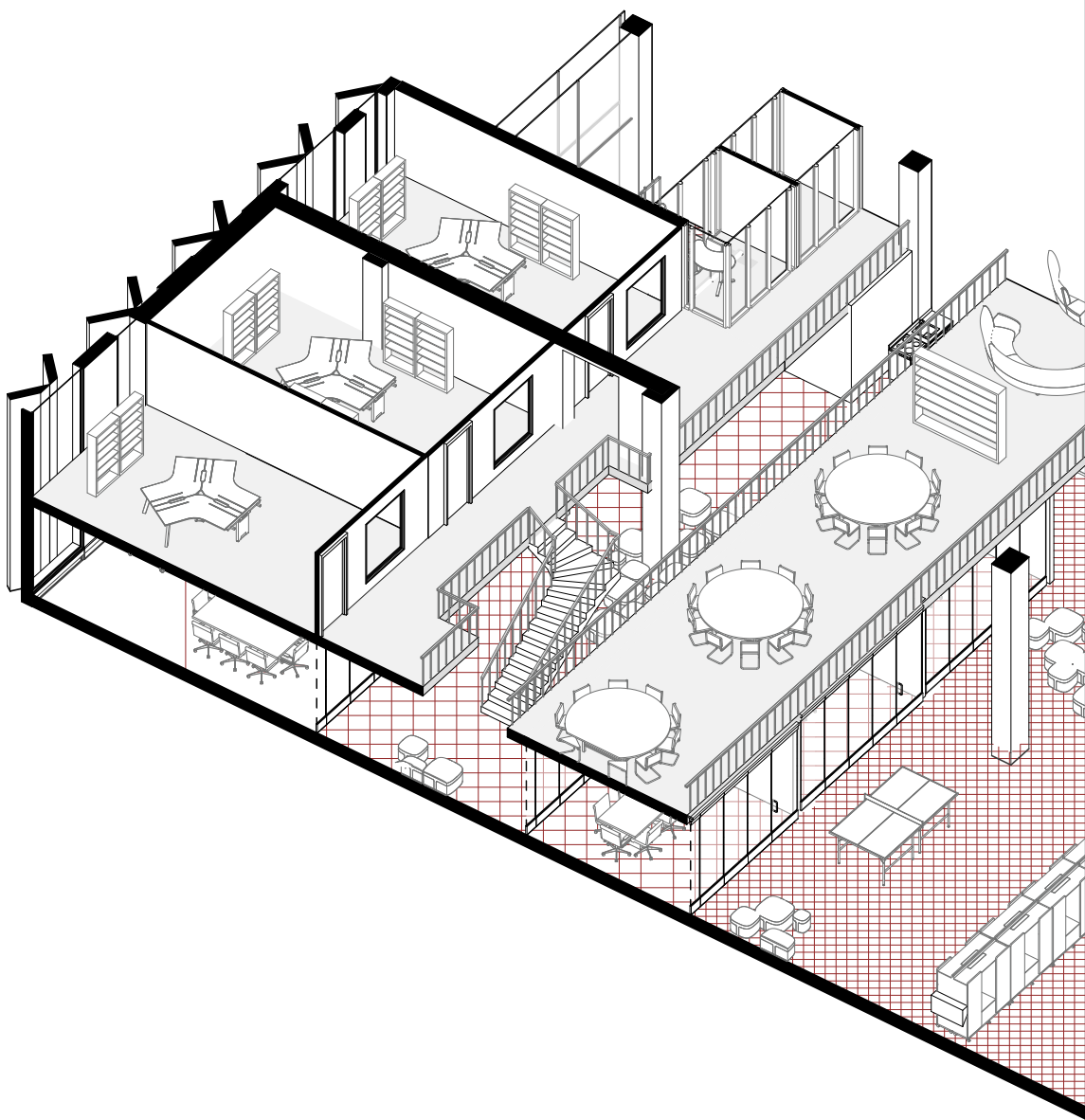
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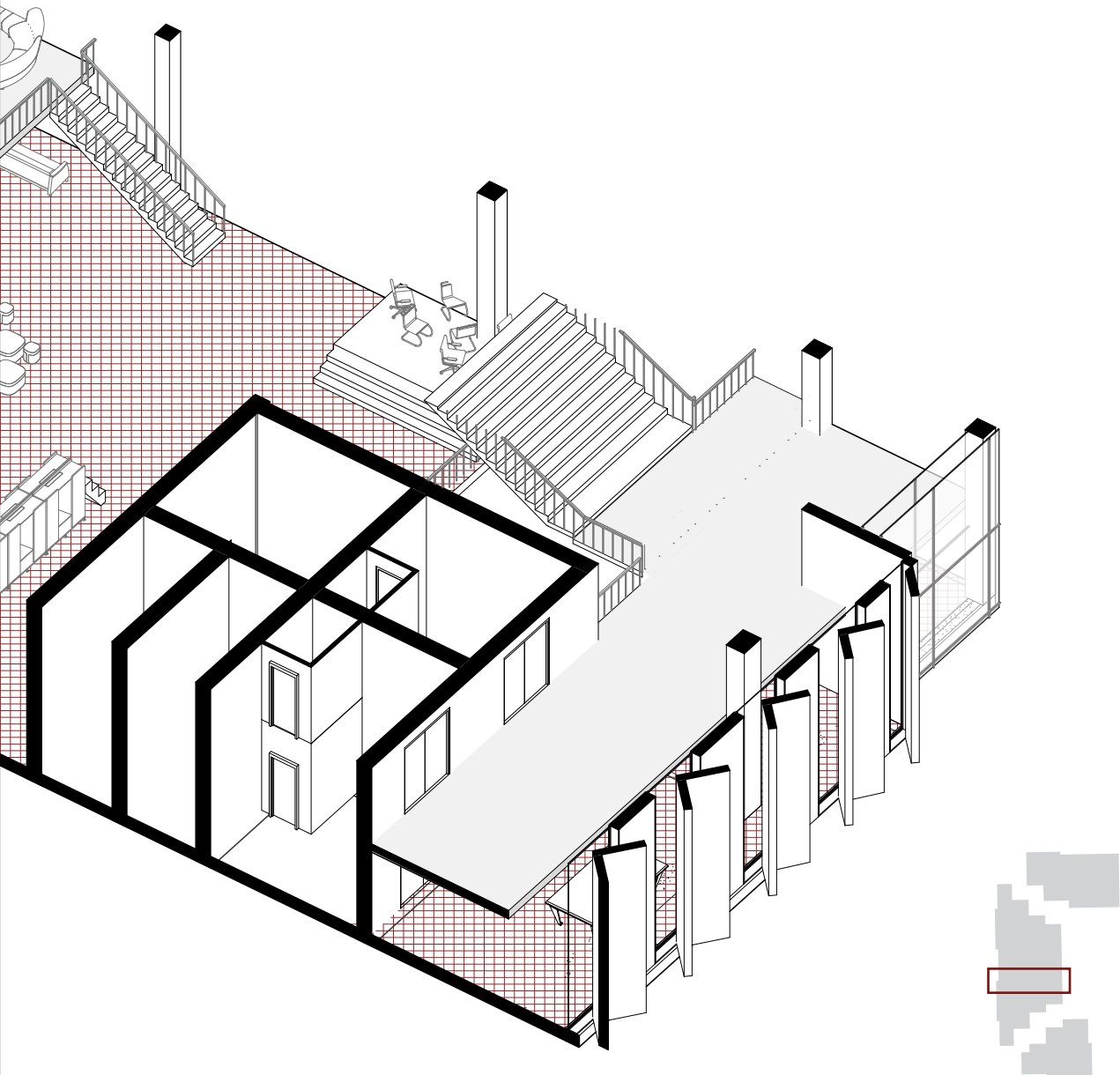




Fragment of main tunnel/Floor 1/Mezzanine

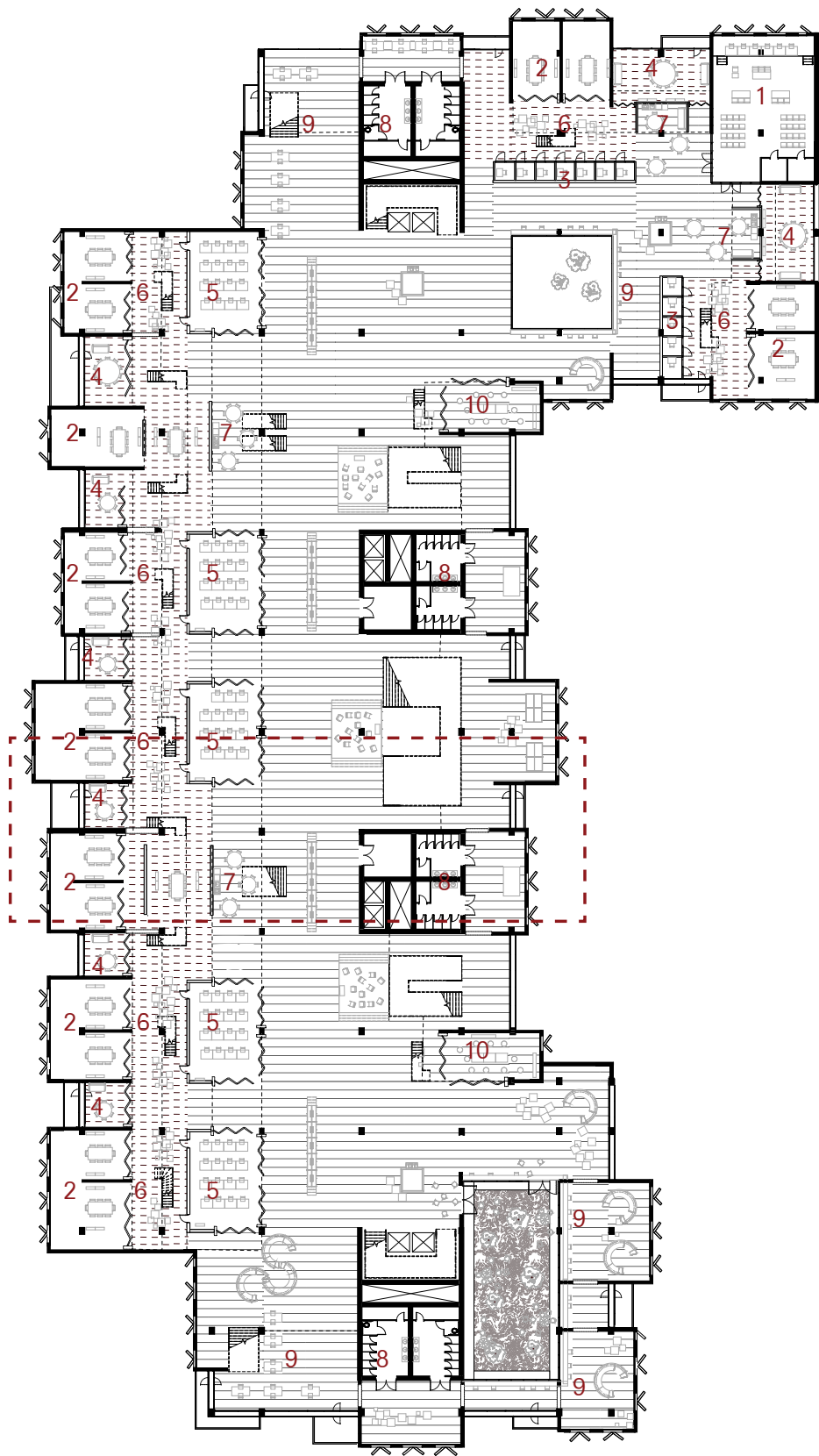
1:50





Floor 2

1:200



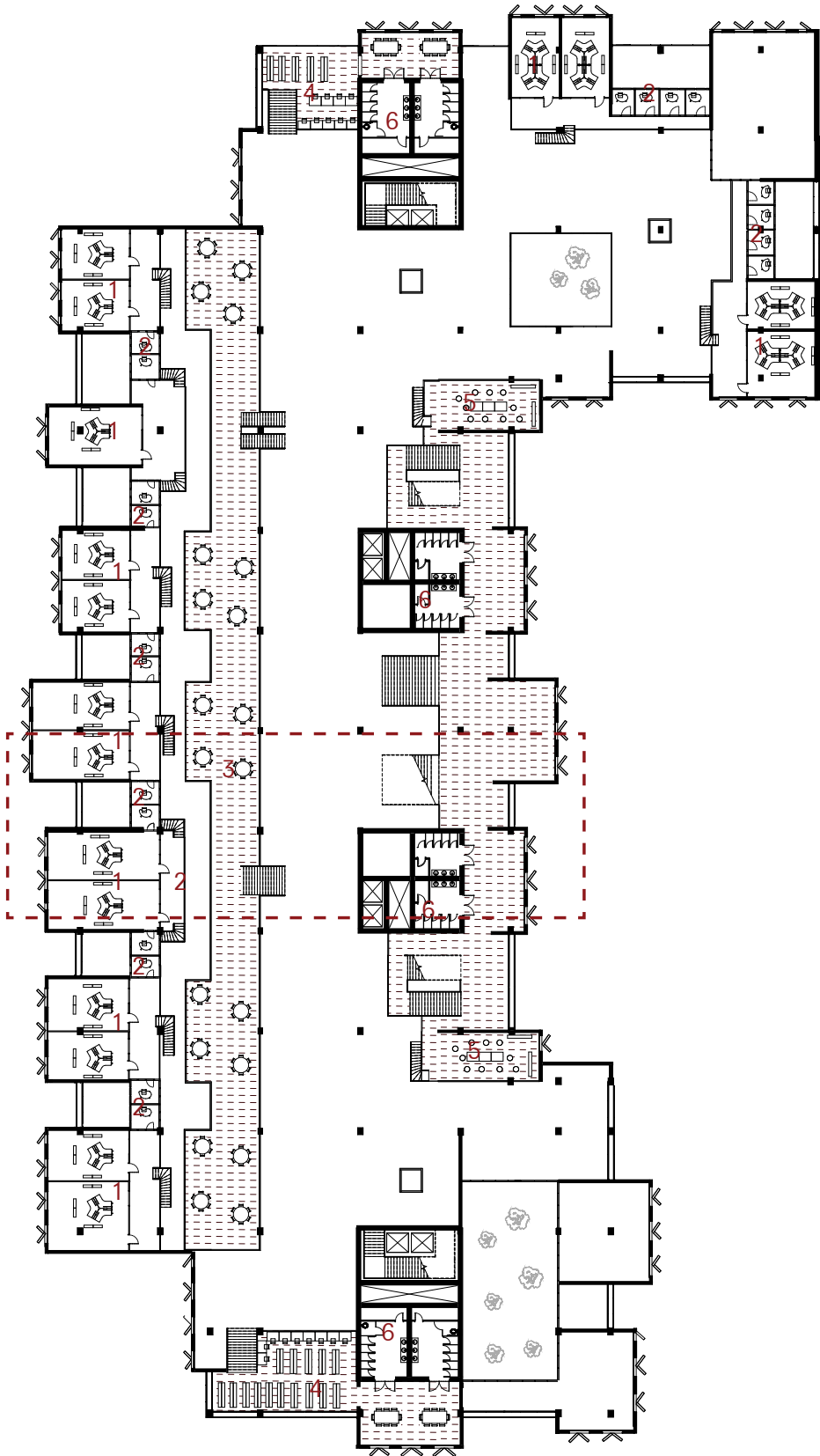
Legend

1. Moot Court
2. Workstations (Interconnected)
3. Workpods
4. Meeting Rooms
5. Classrooms
6. Break Areas
7. Kitchenettes
8. Bathroom
9. Self Study
10. Common Room

Legend

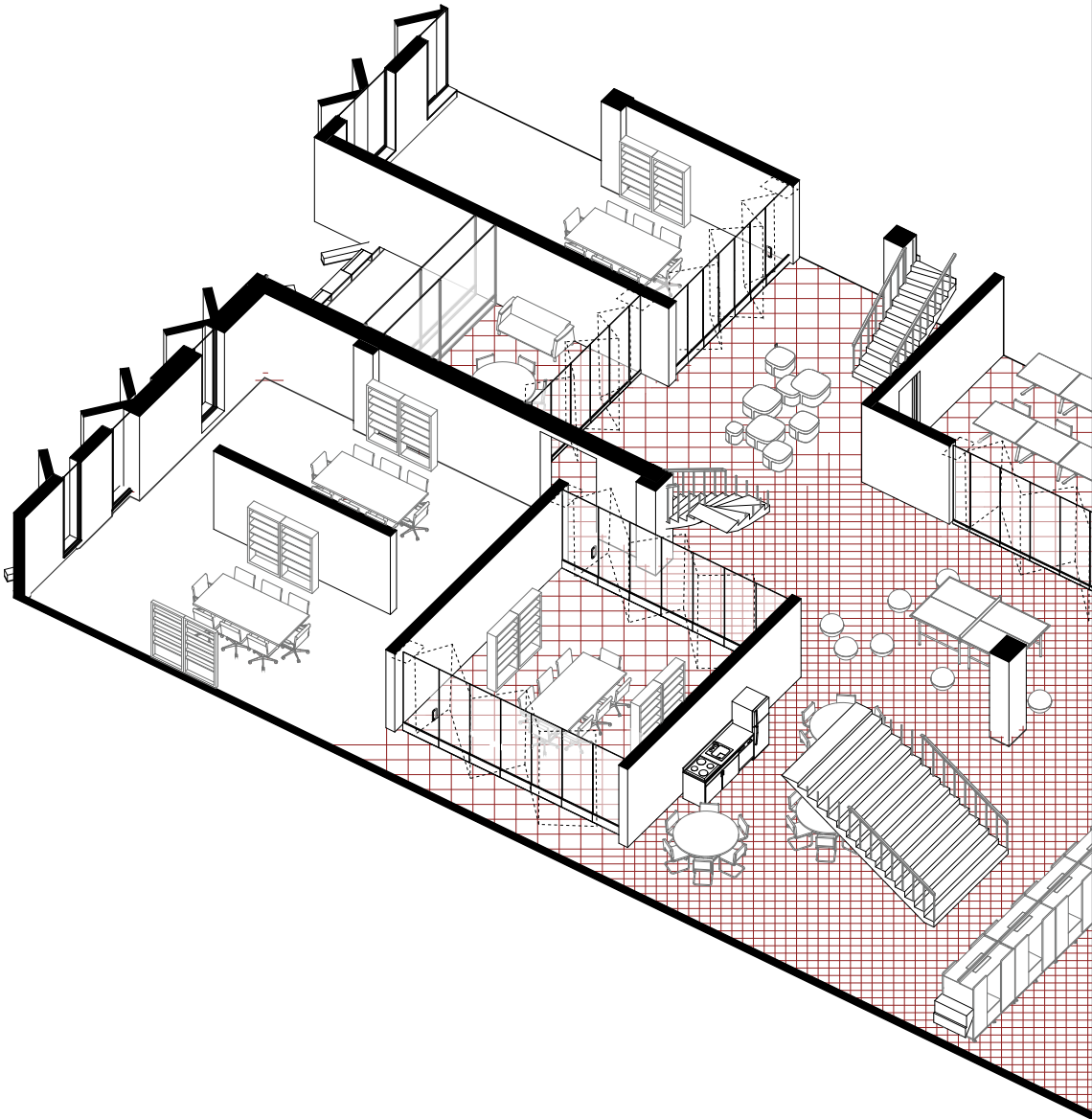
1. Workstations
2. Office
3. Self Study
4. Library Commons
5. Common Room
6. Bathroom

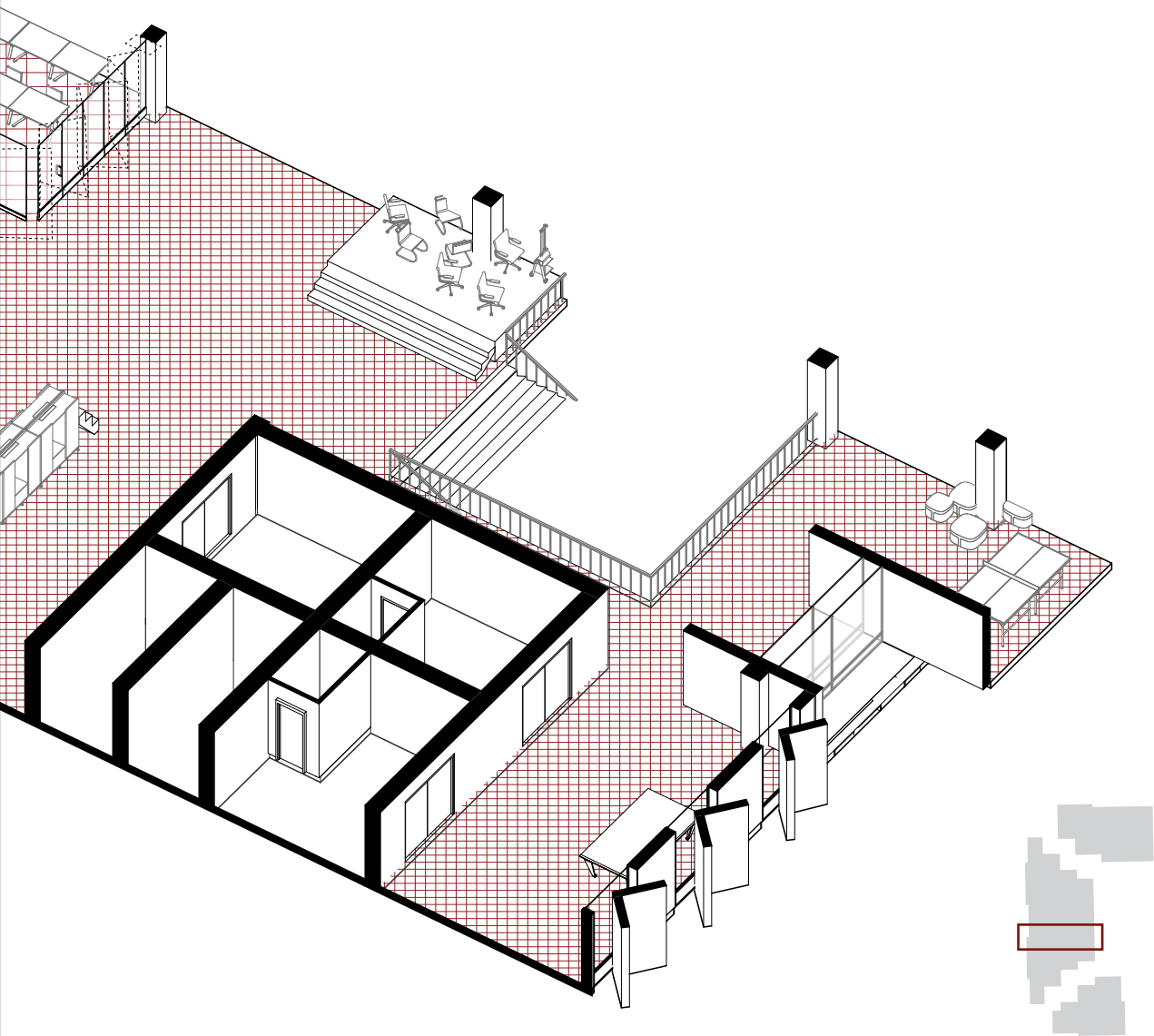
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Fragment of main tunnel/Floor 2

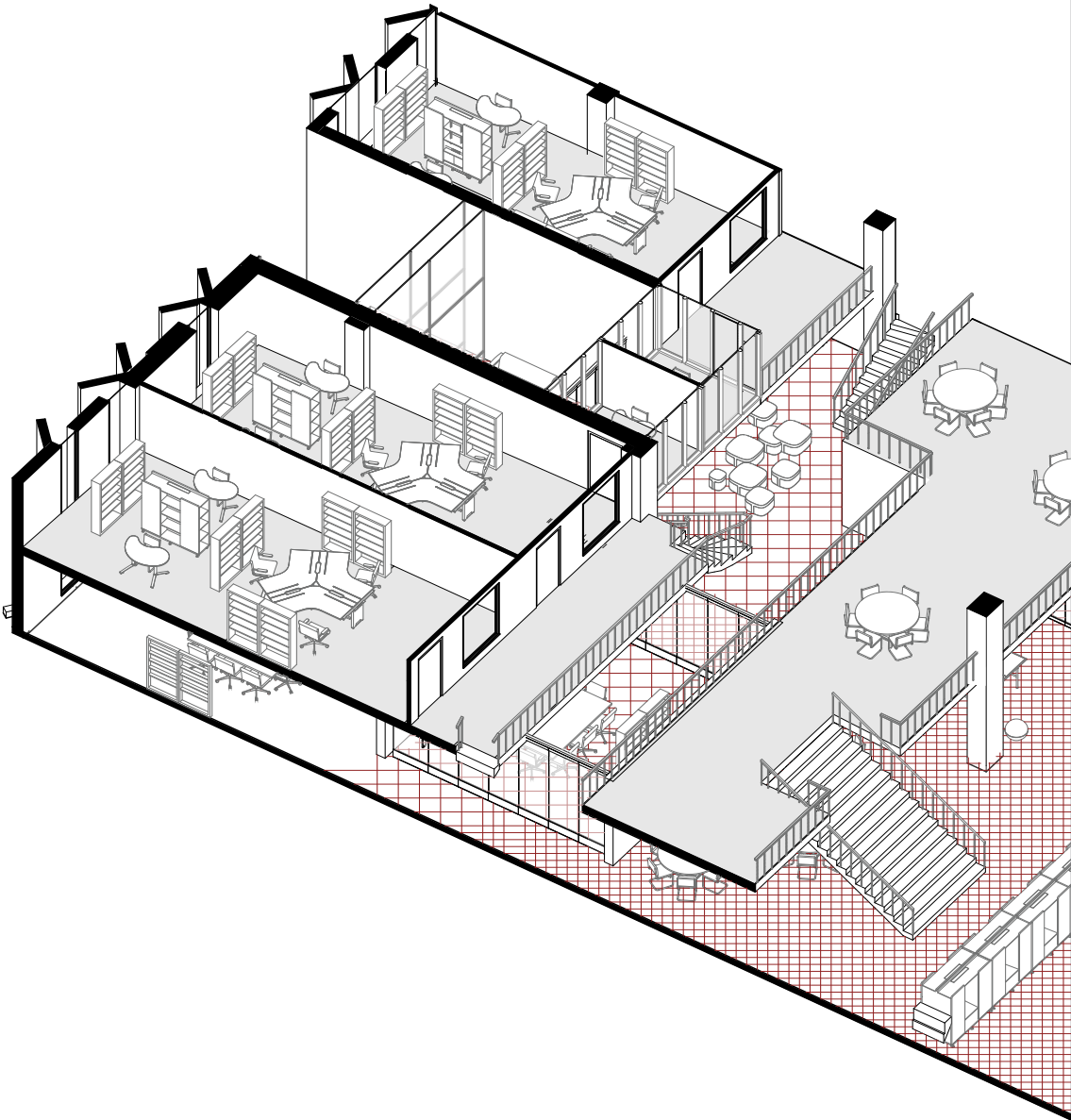
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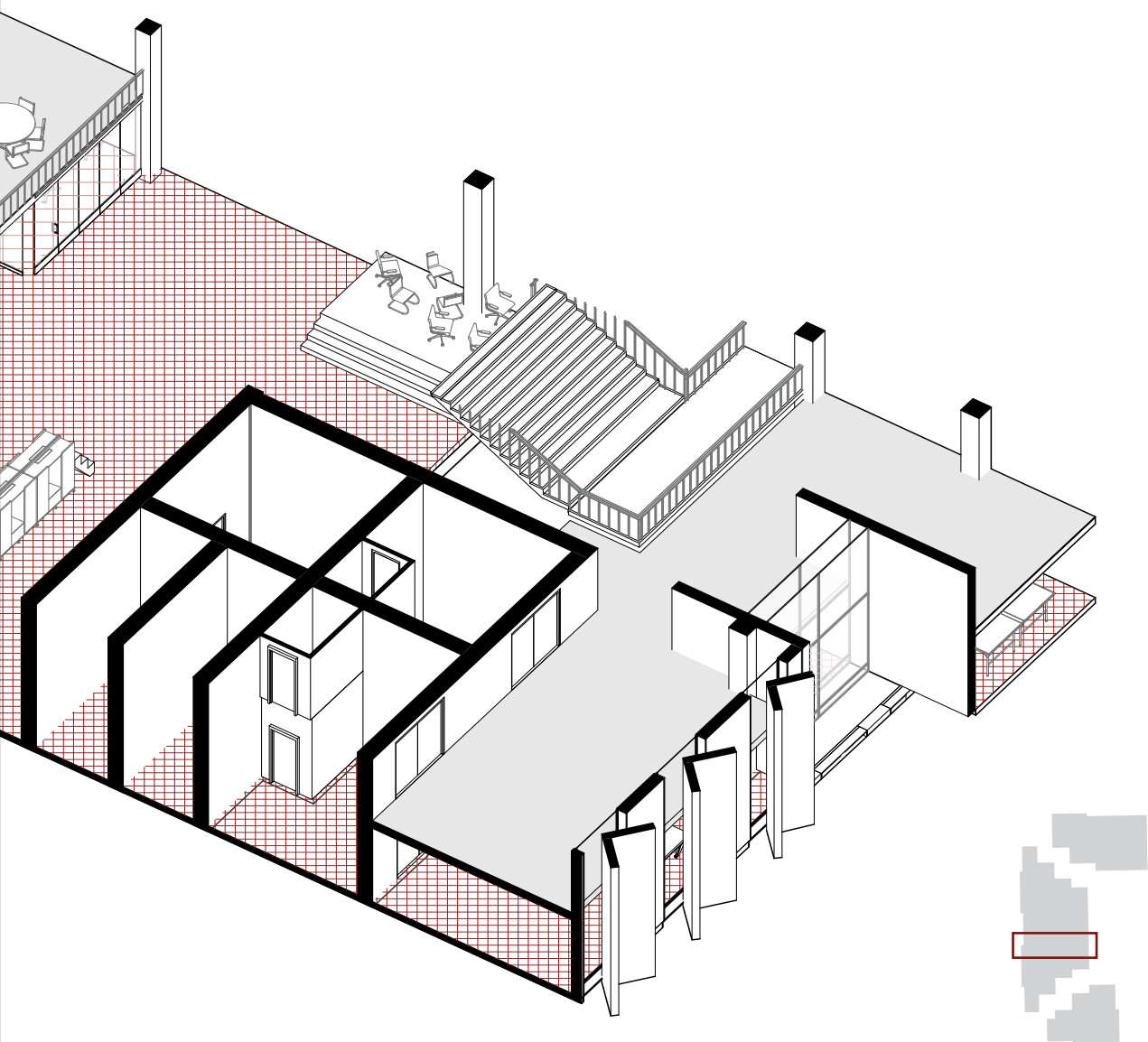




Fragment of main tunnel/Floor 2/Mezzanine

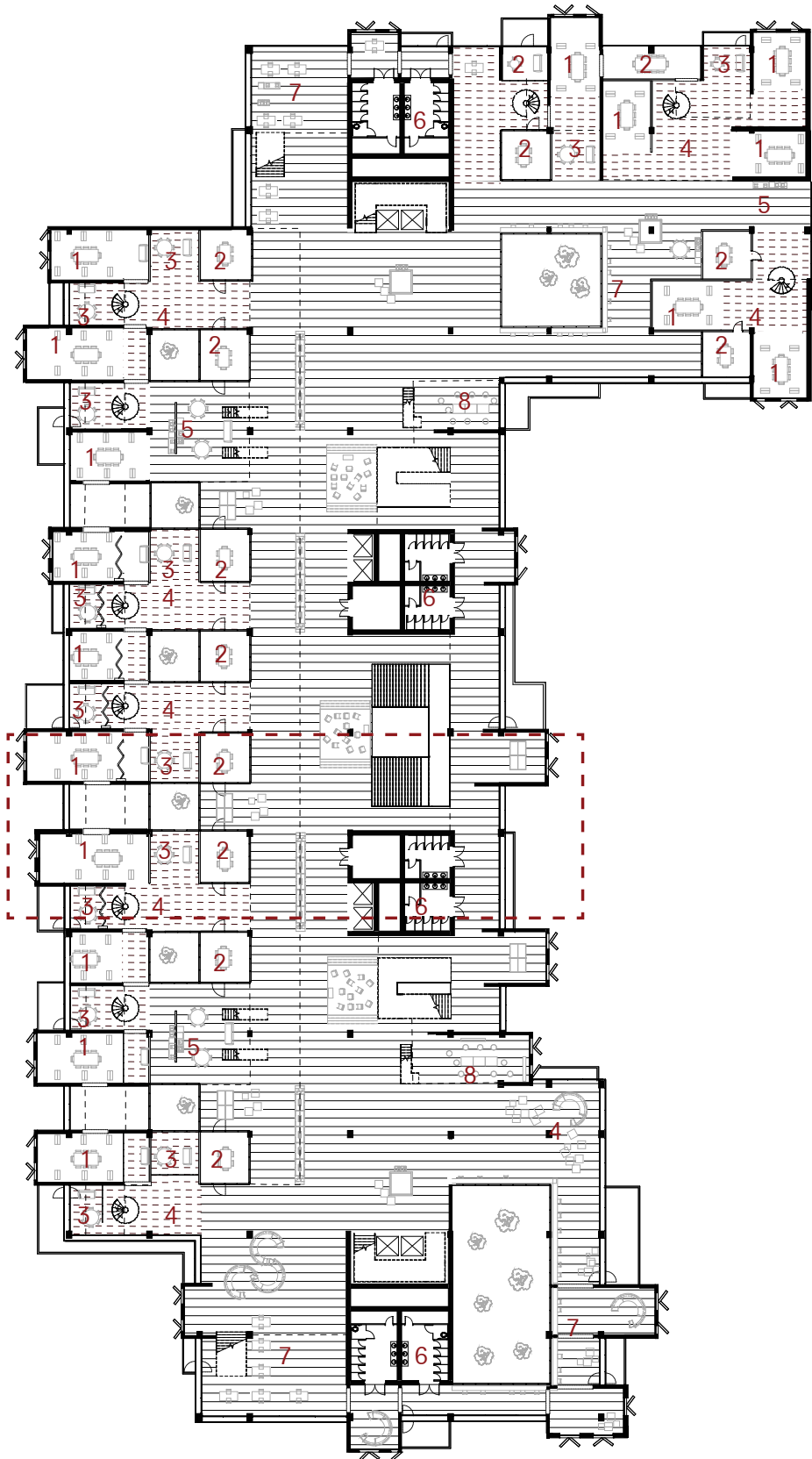
1:50





Floor 3

1:200



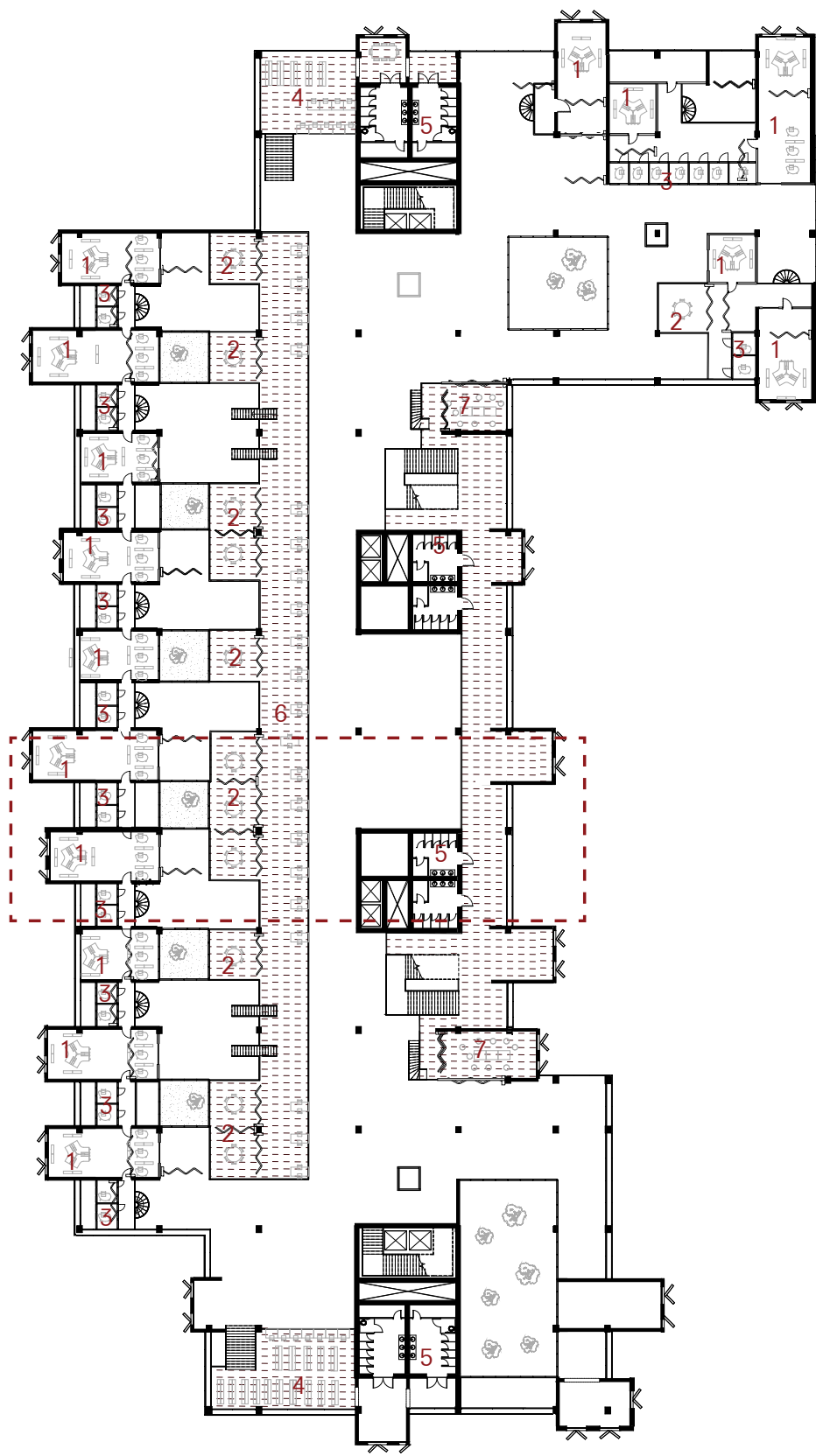
Legend

- 1. Labs
- 2. Project Rooms
- 3. Meeting Rooms
- 4. Break Areas
- 5. Kitchenettes
- 6. Bathroom
- 7. Self Study
- 8. Common Room

Legend

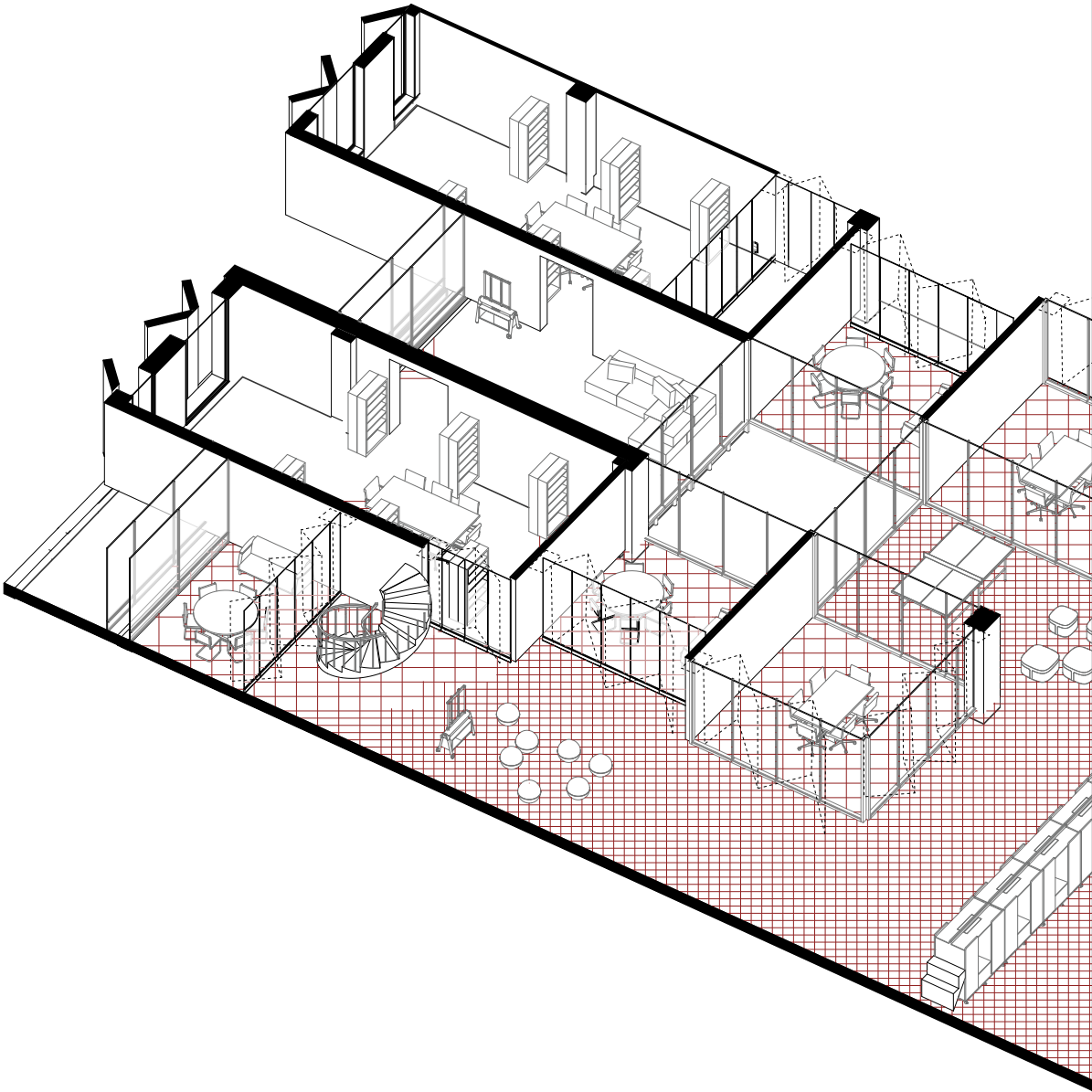
1. Labs
2. Project Rooms
3. Office
4. Library Commons
5. Bathroom
6. Self Study
7. Common Room

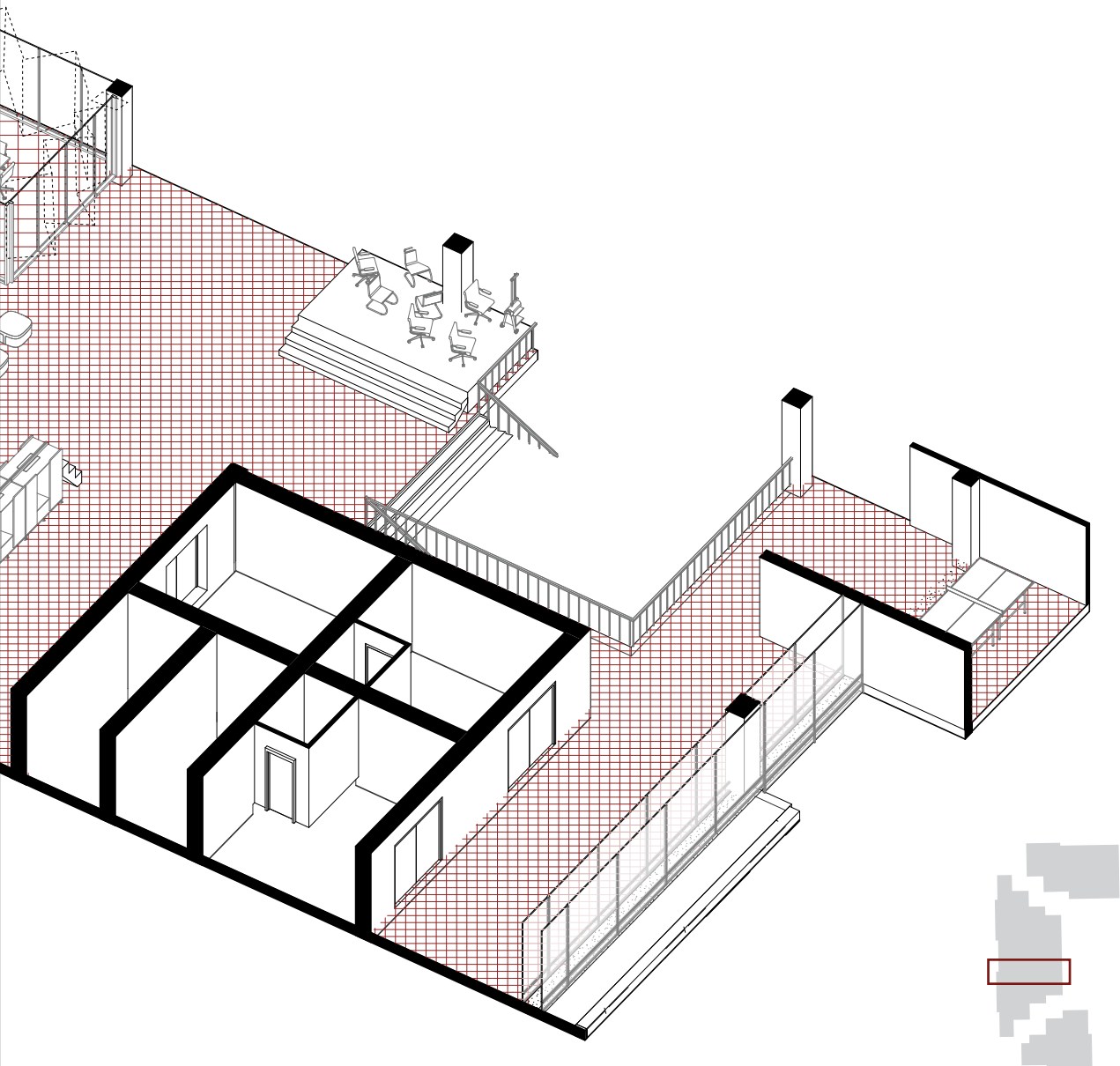
1:200



Fragment of main tunnel/Floor 3

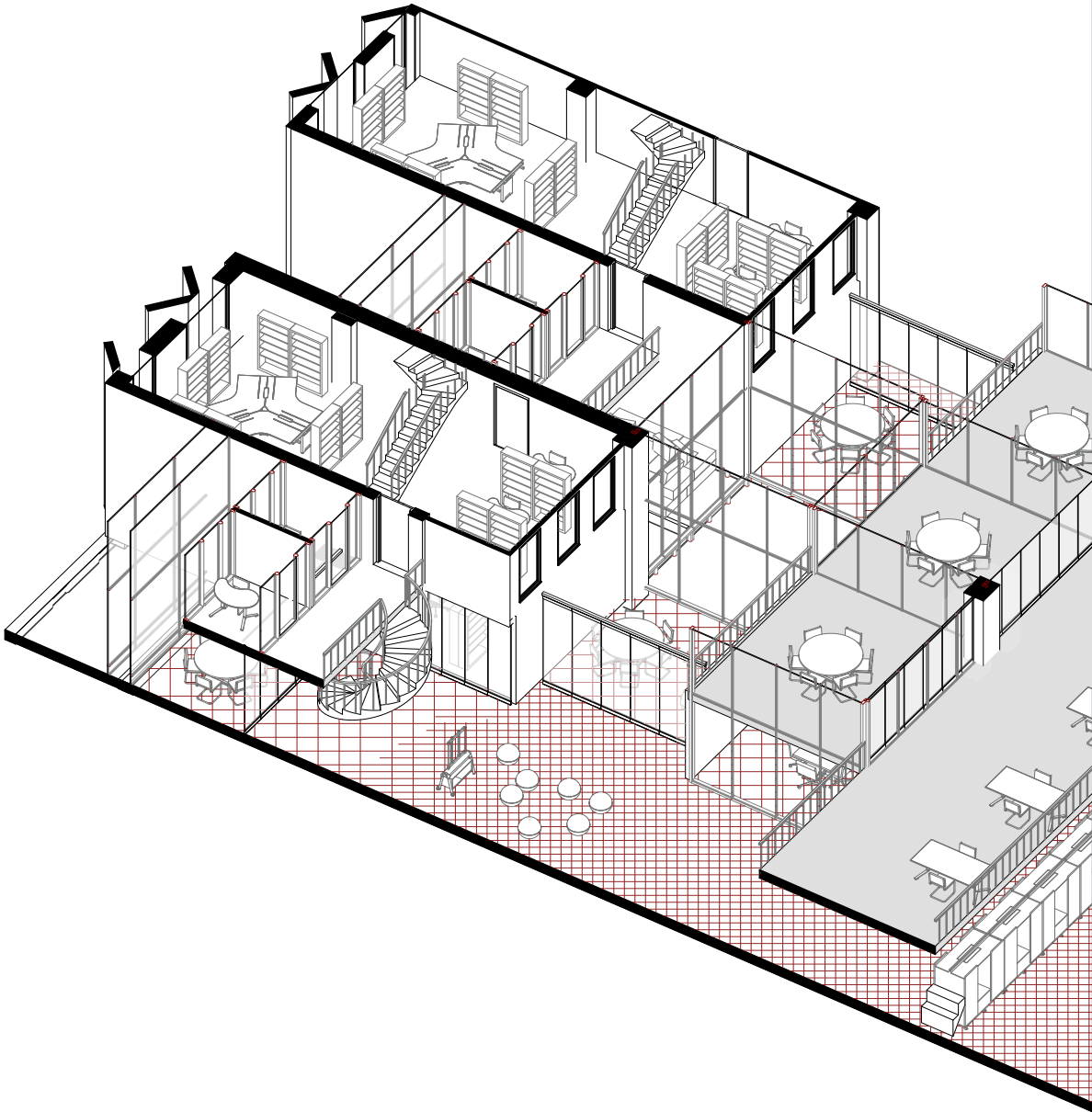
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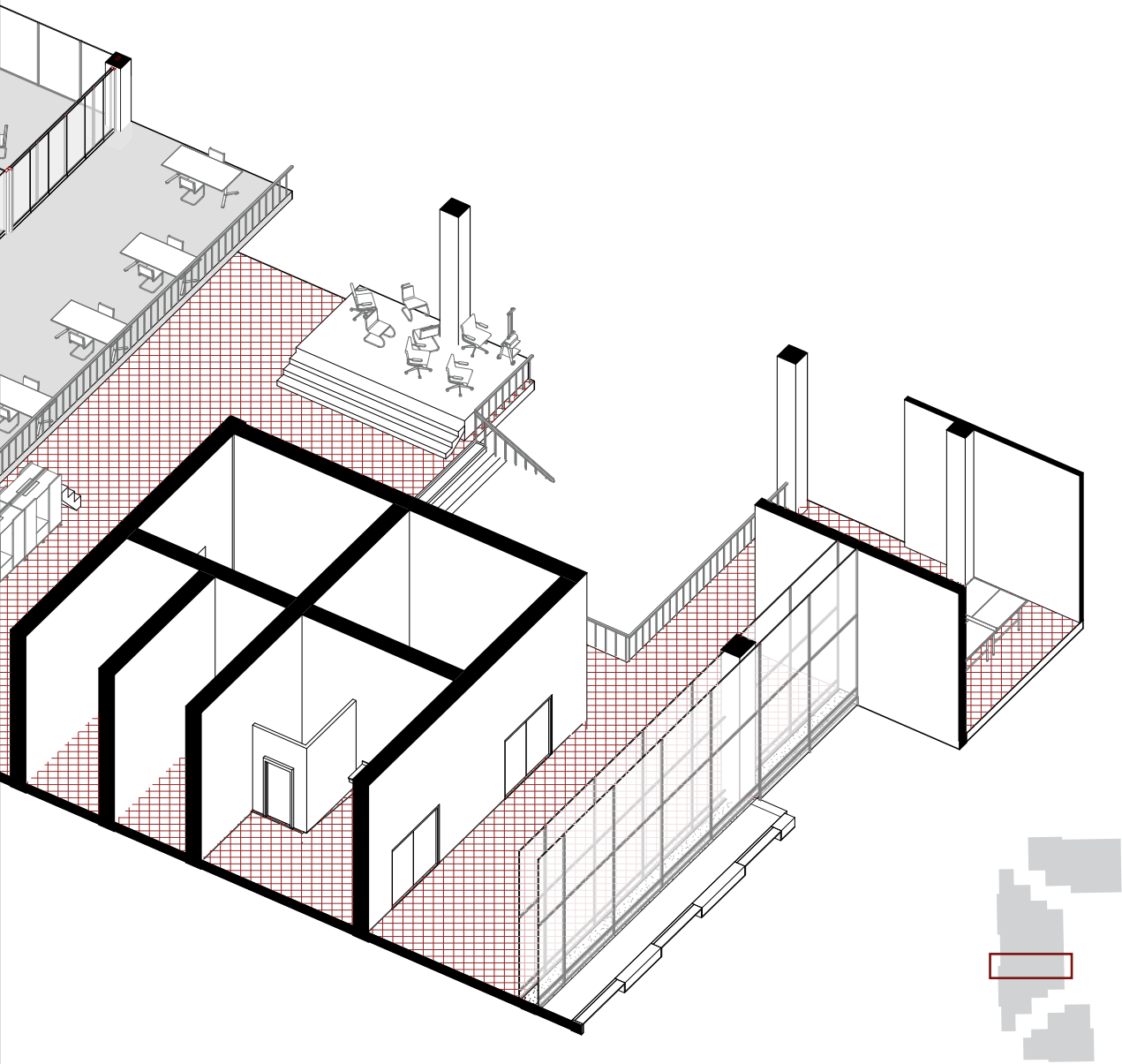




Fragment of main tunnel/Floor 3/Mezzanine

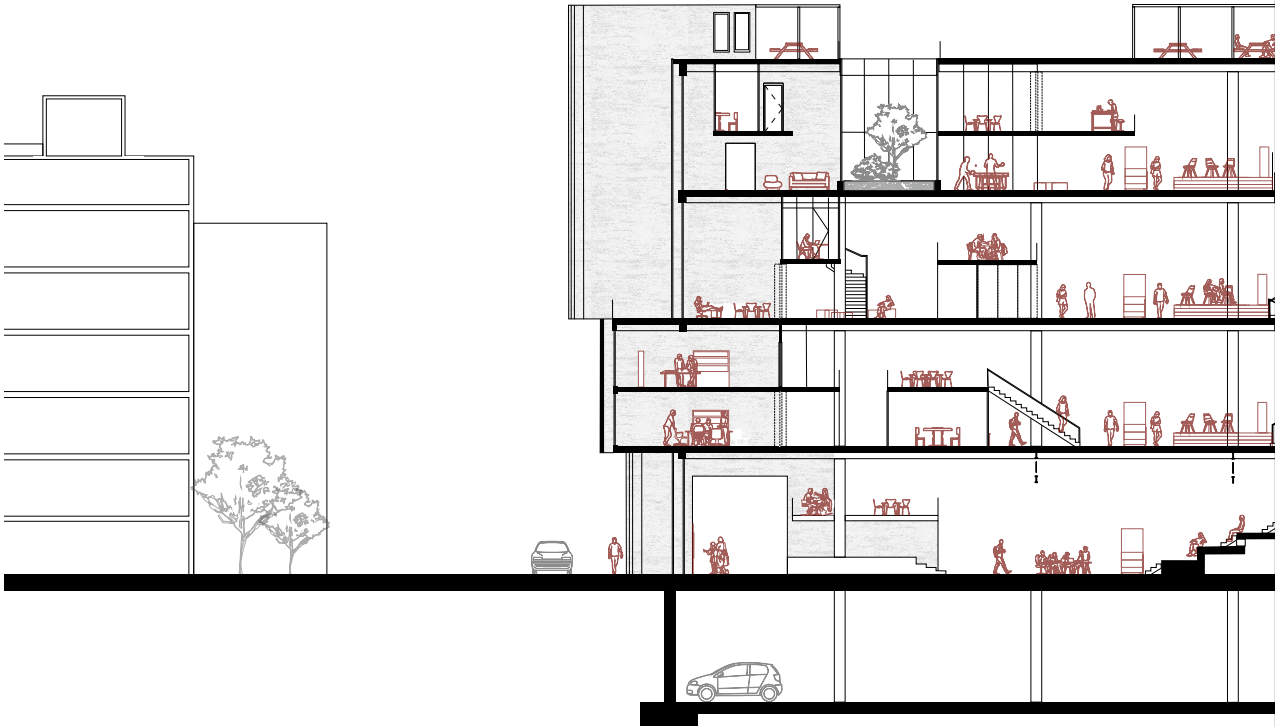
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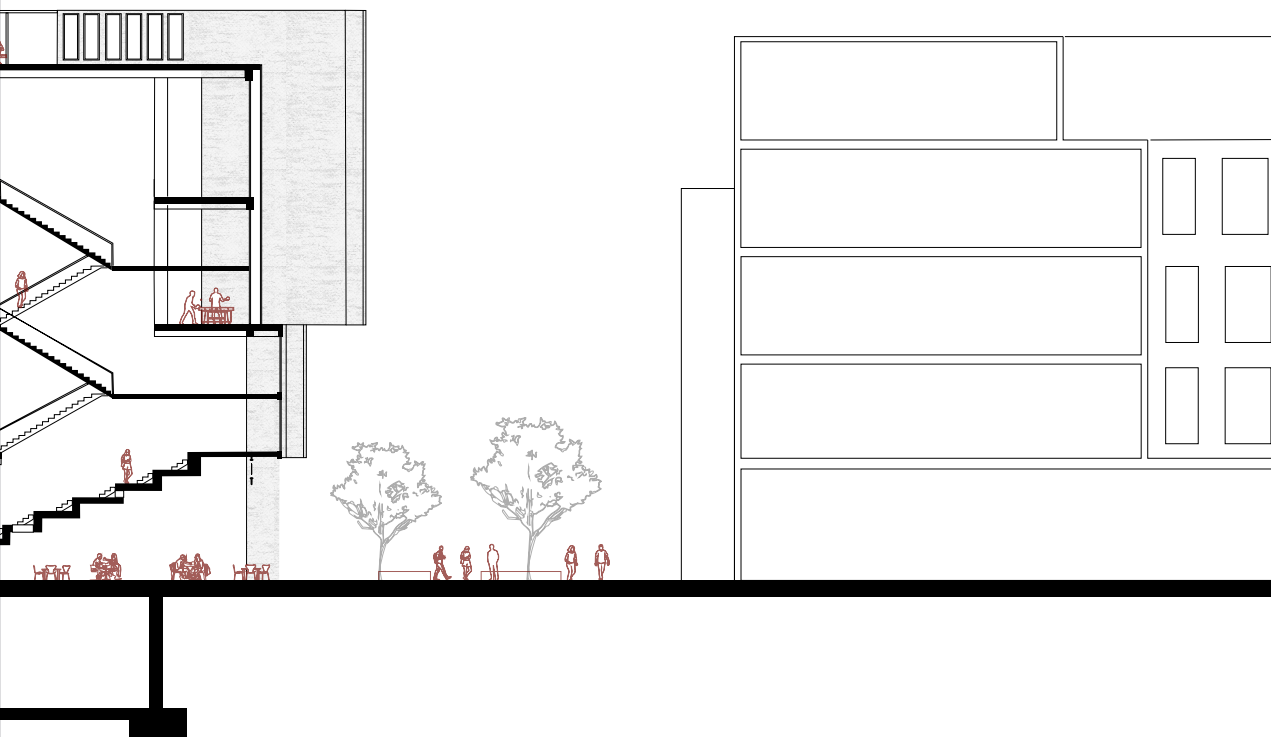




Section AA

1:200



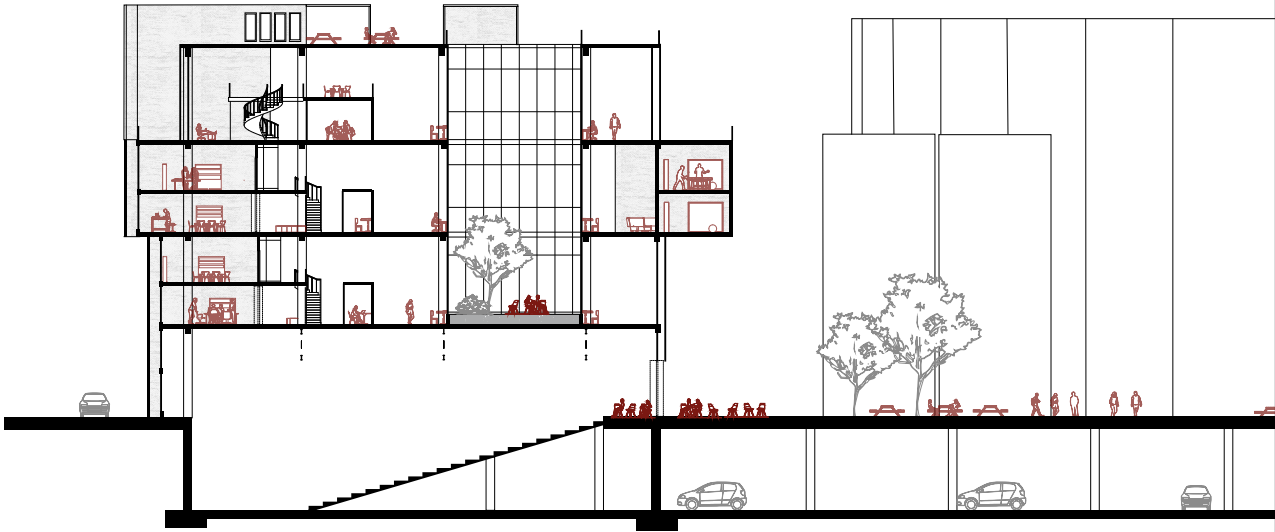


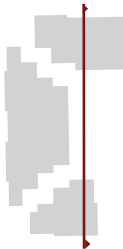
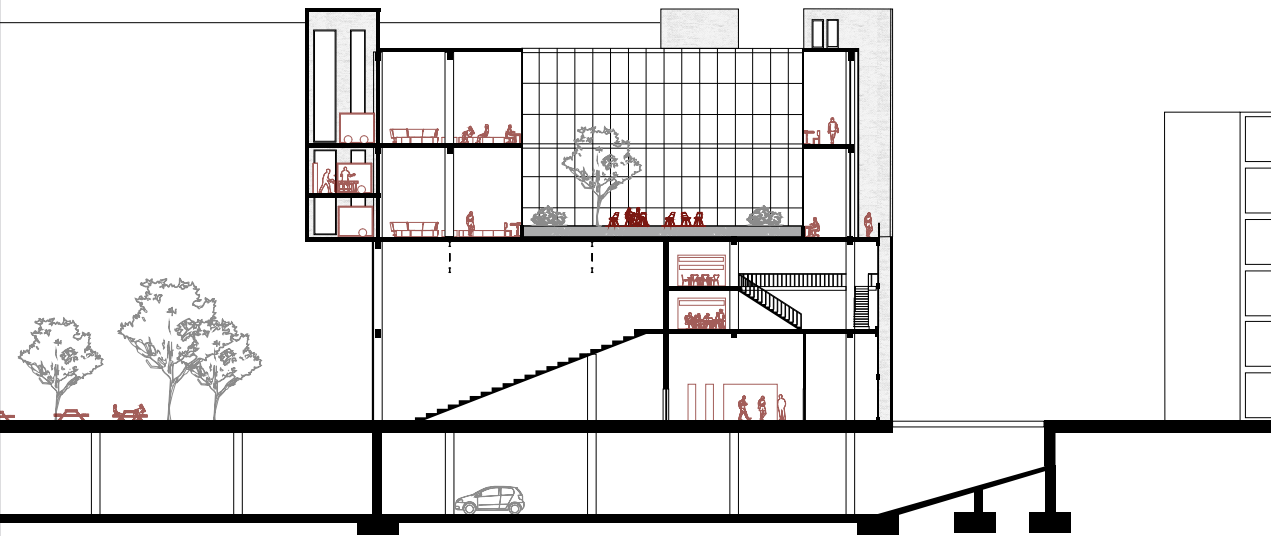




Section BB

1:200





View on Less Socially Intense Point



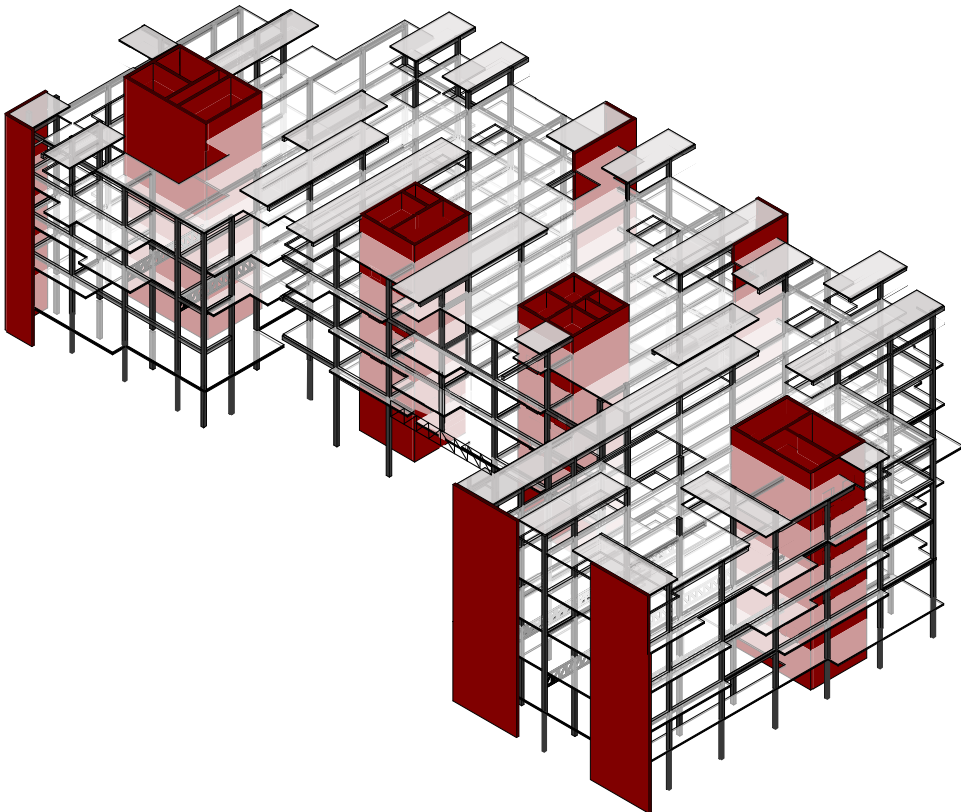


The location of the tunnel is followed by the building structure, which is the creation of four structural and circulation cores. The overall approach to the structure of the building was to create an open floor plan, which subsequently will open the whole building for elaboration on the porosity concept.

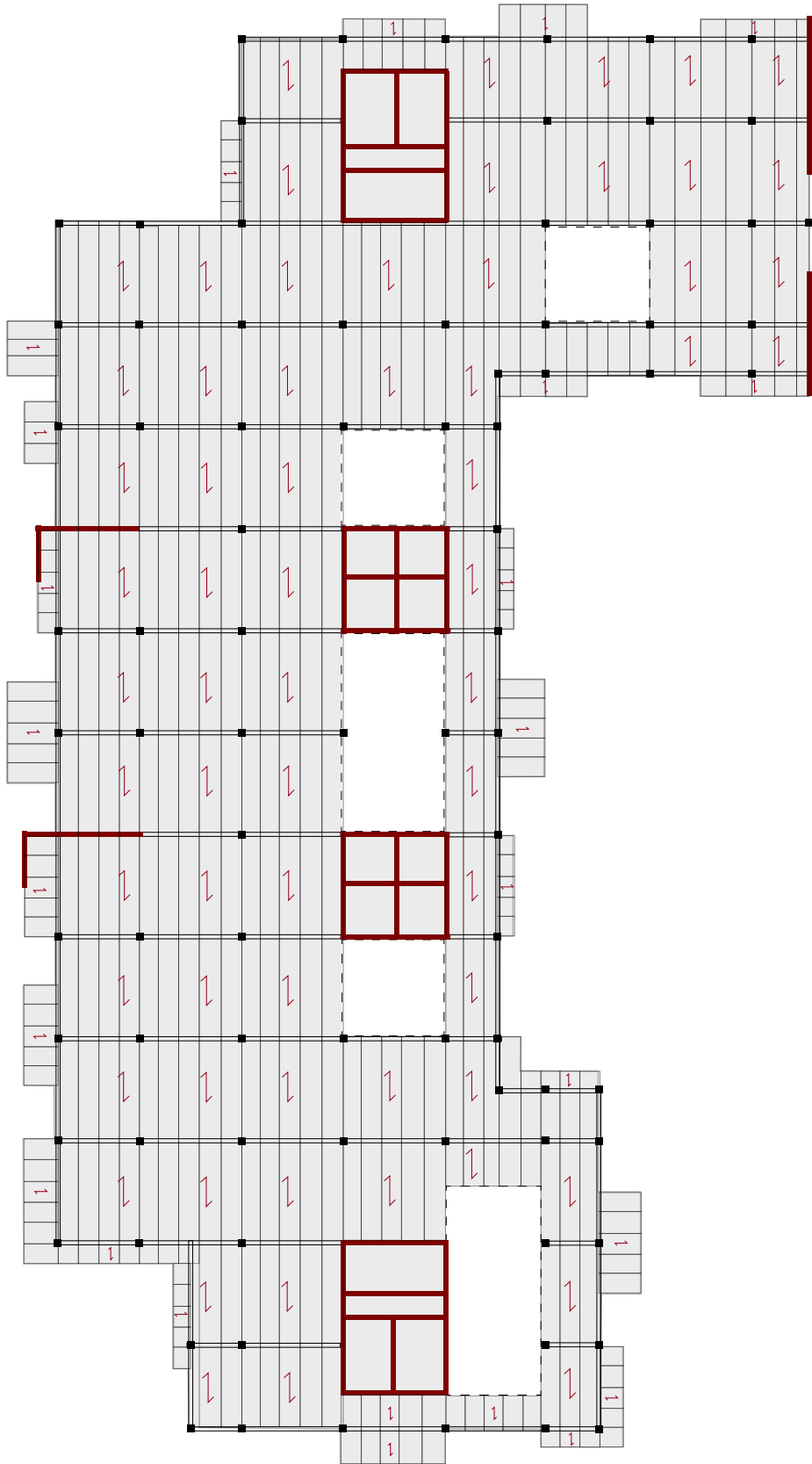
Returning to the main social tunnel, which is present on every floor, it serves as the primary hierarchical element in the organization of the floor plans. Its role in the gradation of working spaces has already been discussed and explained. This spatial arrangement is most prominent in the main body of the building. However, there is also a part of the building located to the right of this main axis, which has a slightly different spatial character.

On this side of the building, quieter core-line social spaces are introduced to further develop the concept of porosity. The main structural line acts as a spatial divider and filter within the building. The quieter social clusters contain central, glazed, and accessible courtyards that help create a more calm and subdued atmosphere in this part of the building. The work plane here follows the same organizational logic as in the main body of the building described previously.

Overall structural approach



1:500



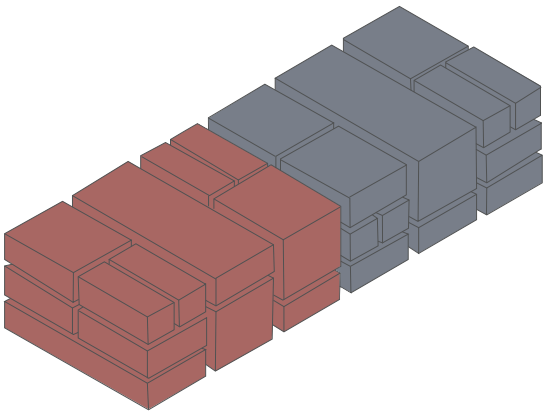
Building Form

The form and shell of the building were developed following the conceptual considerations that shaped the floor plans. Therefore, it can be argued that the overall design follows the principle of form follows function. The location of the workspaces influenced the façade design, while the concept of porosity is also reflected in its composition.

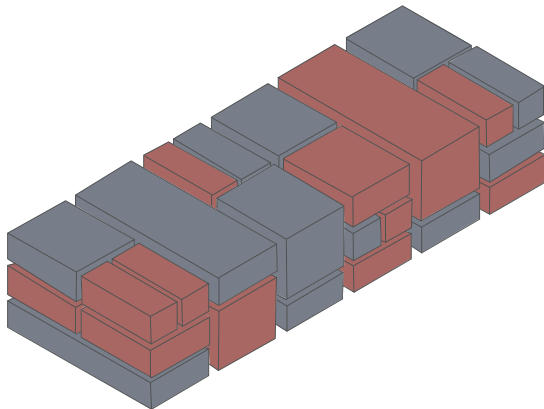
As a result, the façade presents a Tetris-like interplay between solid, robust concrete volumes and glazed surfaces through which the timber-finished structural elements are visible. As a general rule, workspaces are predominantly located behind the concrete façade elements, while social spaces are positioned behind the glazed areas. This distinction expresses and reinforces the warm and social identity of the building, which seeks to soften and counterbalance its otherwise rigid programme.

Furthermore, the contrast between the harsh concrete exterior and the warm combination of glass and timber emphasizes the relationship between the inside and the outside. It makes the interior appear more welcoming and inviting when viewed from the building's exterior.

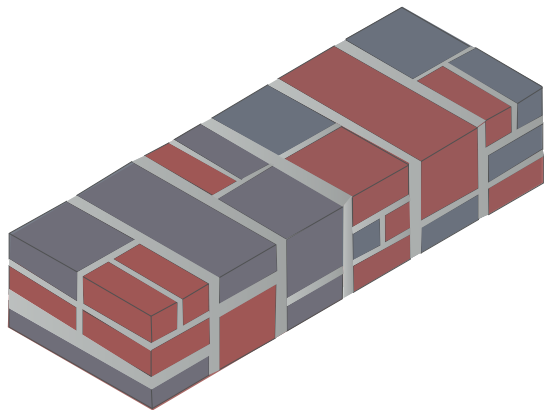
Porosity Concept Formation



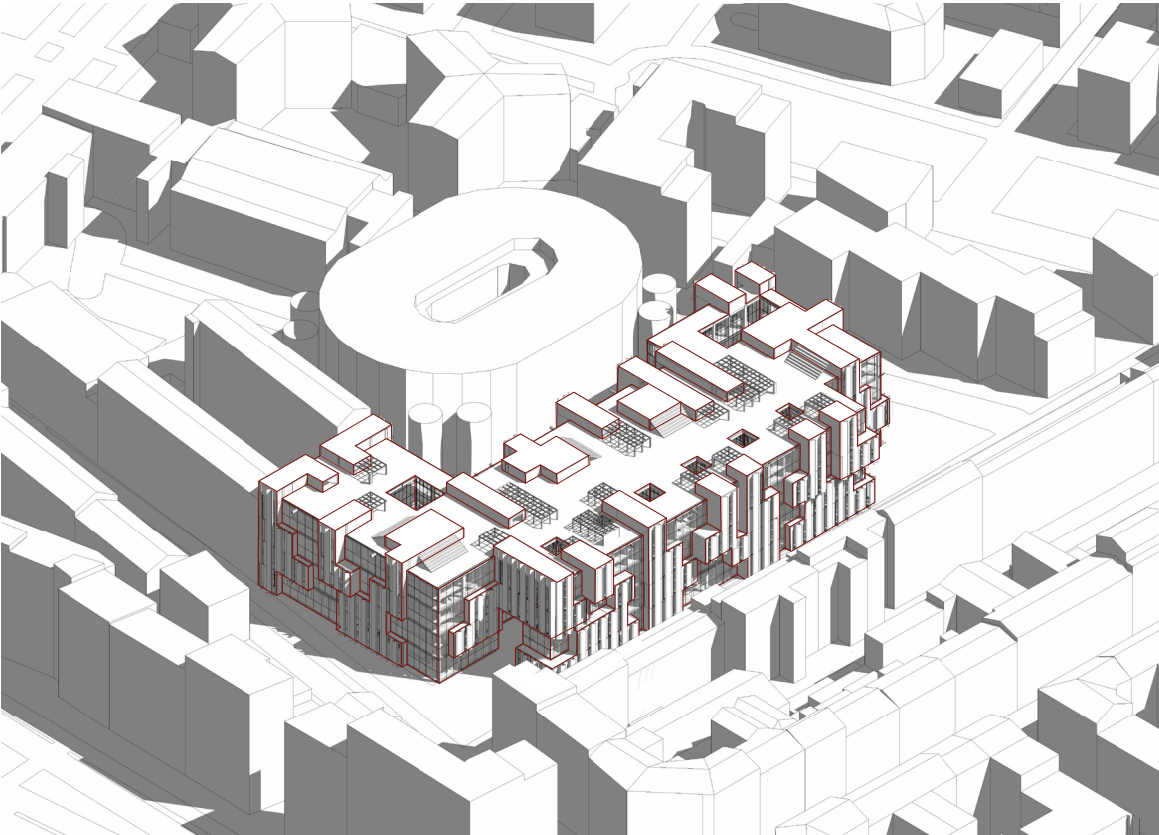
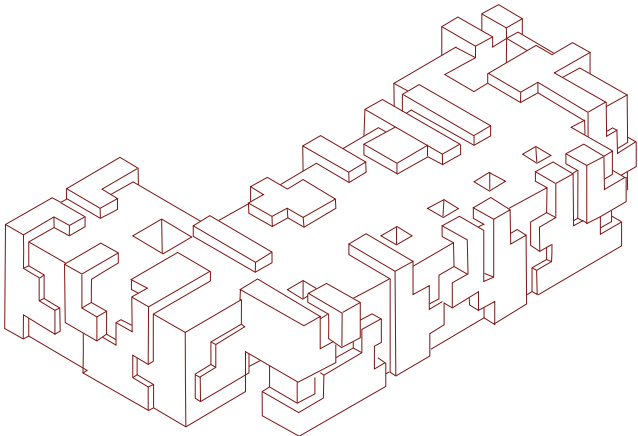
SLICING



MIXING

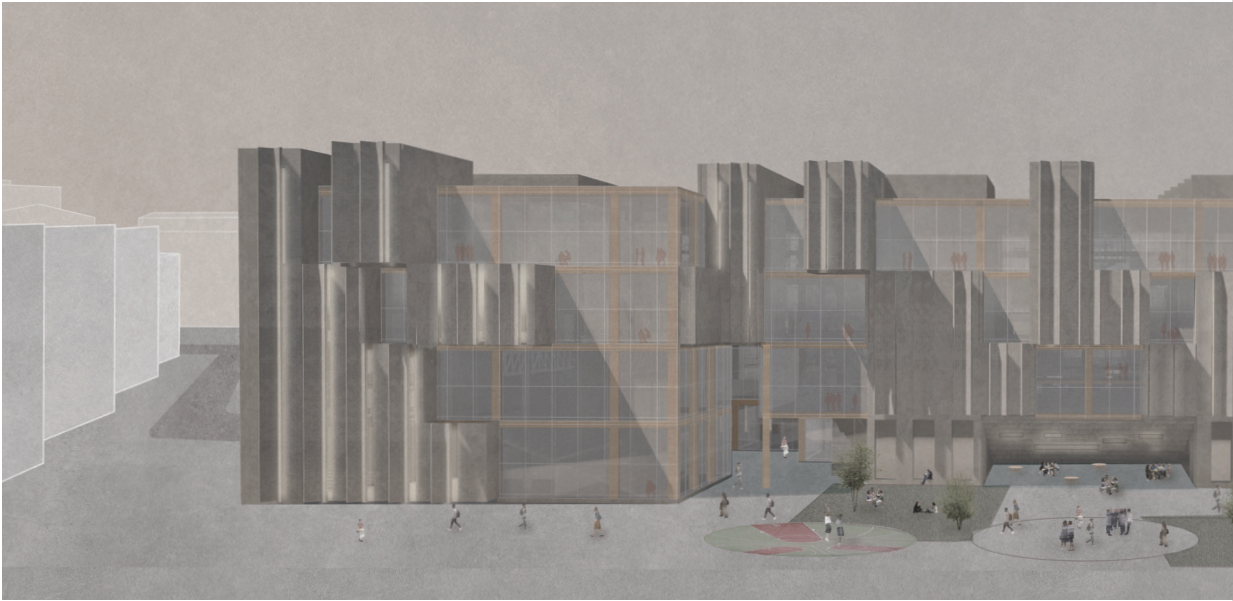
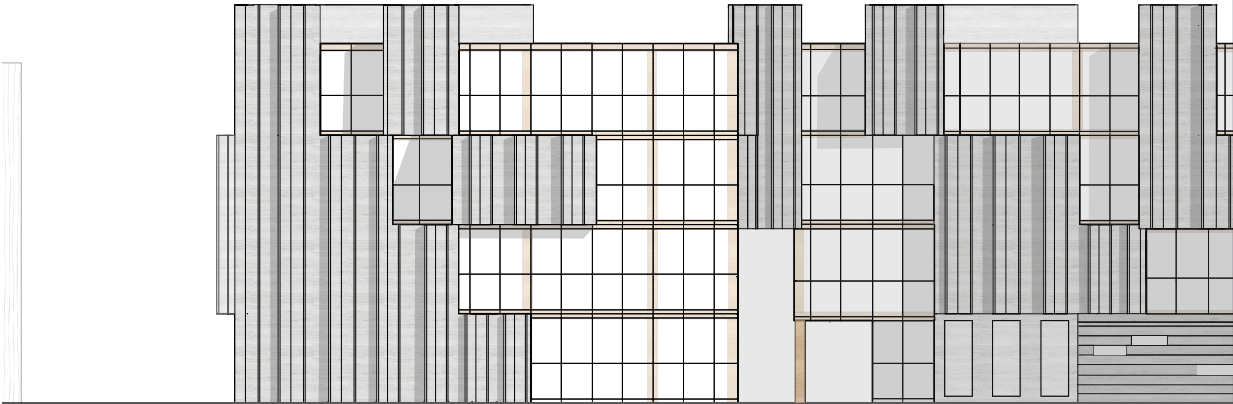


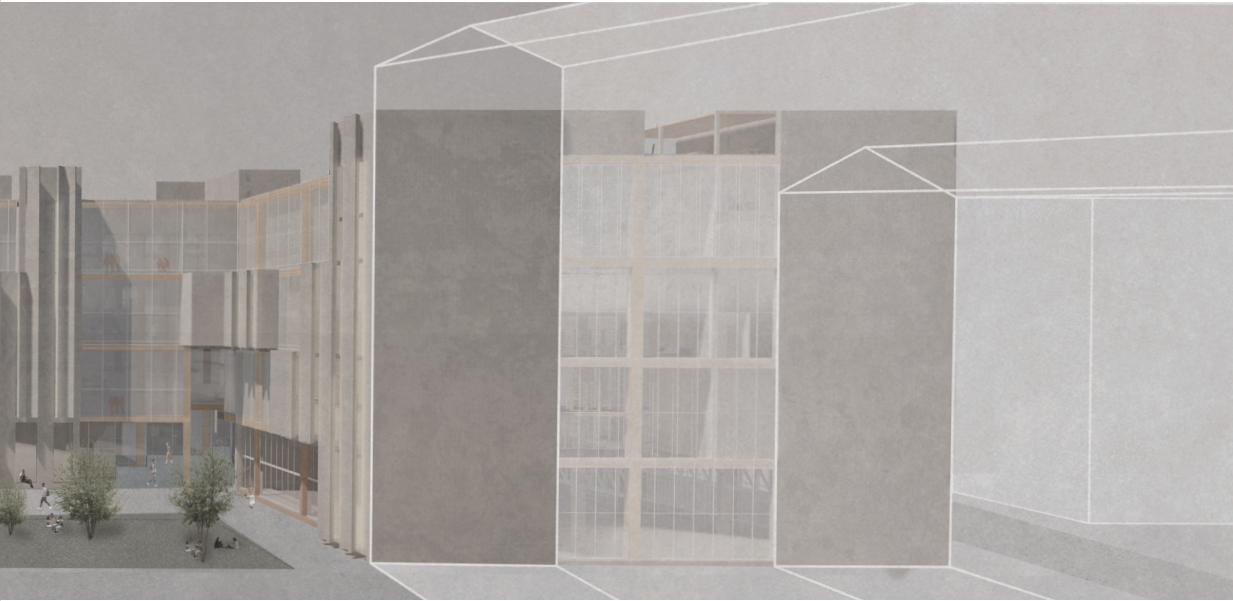
GRADATING



East Elevation

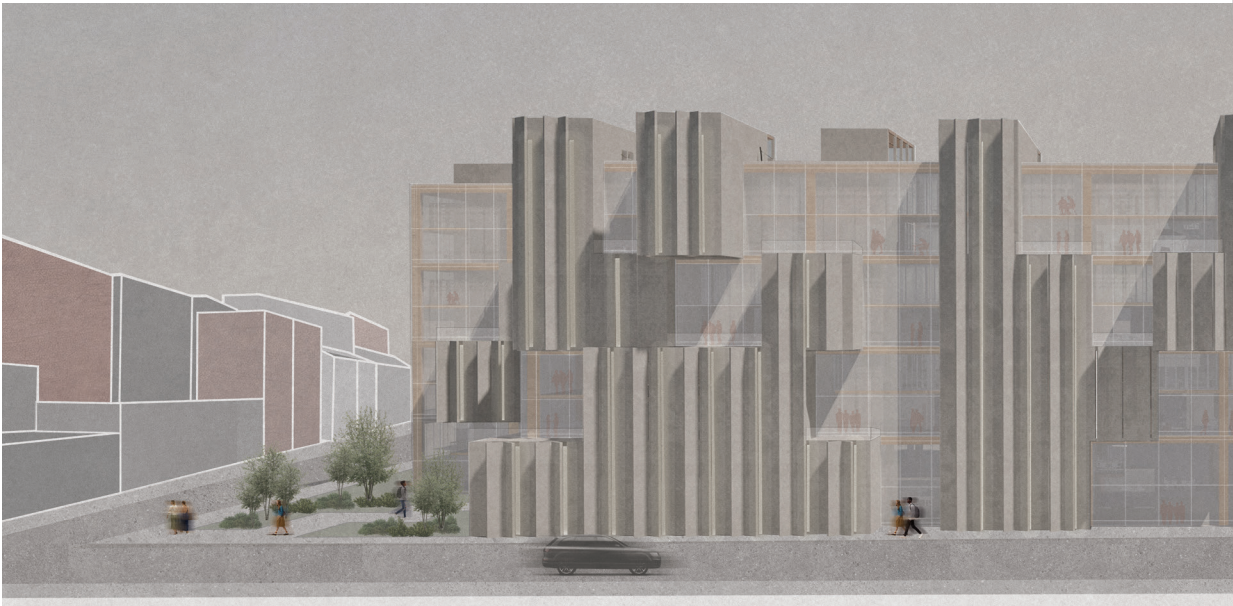
1:200

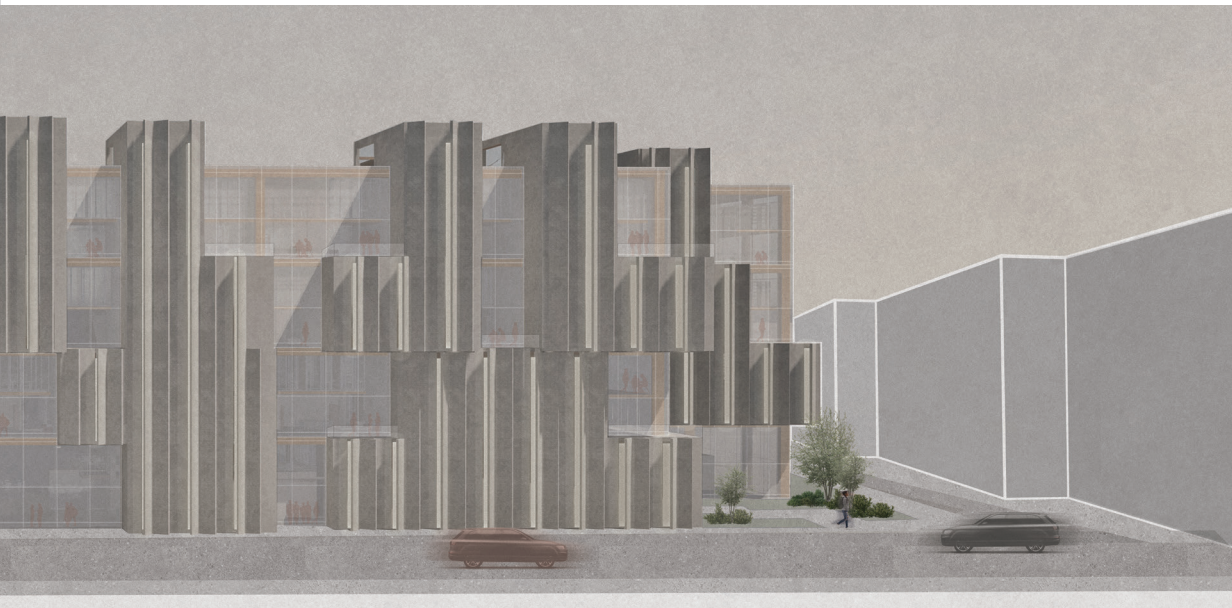




West Elevation

1:200

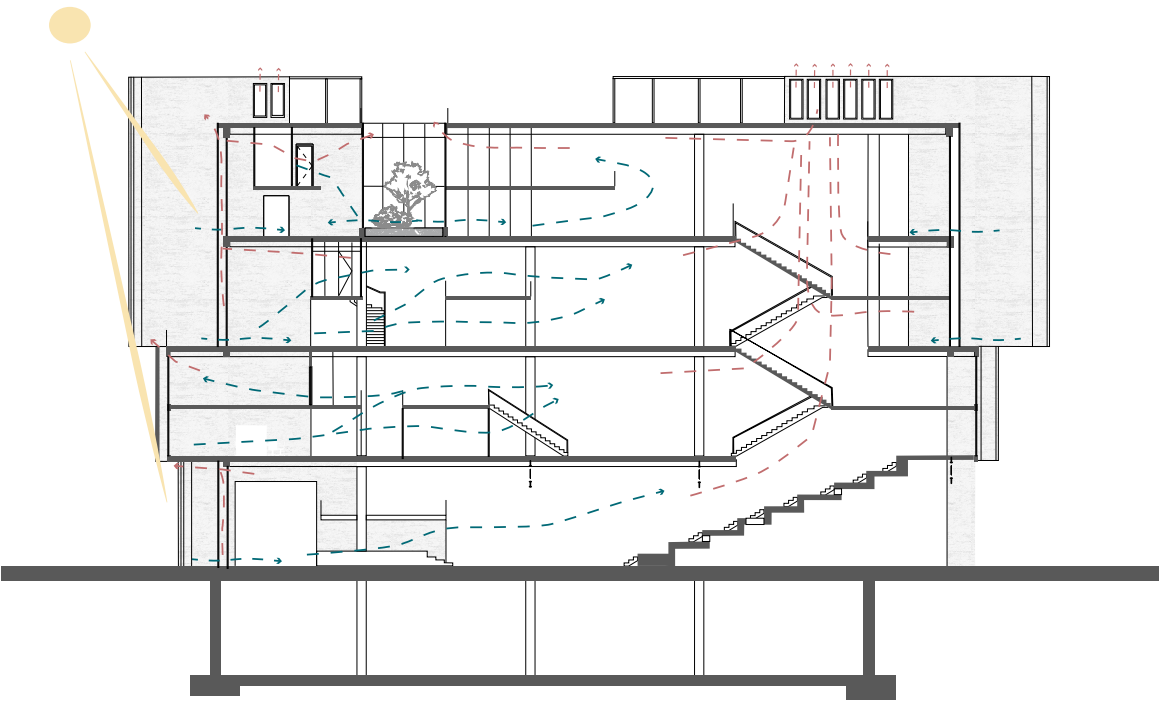




Climate Control

Looking more closely at the façade design, its elements are further developed to accommodate the thermal and daylighting needs of the users. Specifically, a double-skin façade is implemented in the glazed sections of the elevation to reduce heat gain and improve climate control. At the same time, the concrete façade elements incorporate recessed windows, allowing natural light to reach the workspaces located behind them.

Regarding the overall thermal comfort of the building, the combination of the double-skin façade and the concrete envelope helps regulate temperature fluctuations. During the summer, the double-skin façade supports natural ventilation while the concrete structure provides thermal mass, helping the building remain cooler for longer periods. In winter, these elements contribute to retaining heat and improving the building's thermal performance.



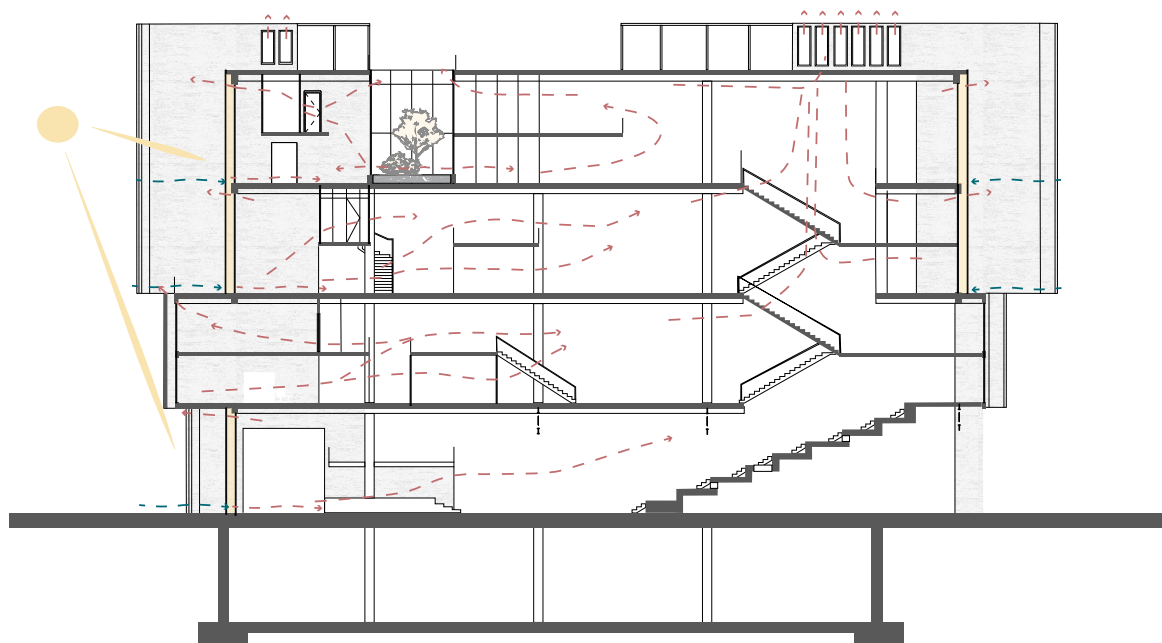
Summer Passive Climate Response Diagram

1:20



Furthermore, the porous spatial organization and the interplay of mezzanines reinforce natural airflow throughout the building, facilitating efficient ventilation and the distribution of fresh air across different levels. It is also worth emphasizing that the presence of internal green courtyards contributes to the building's environmental performance by providing shading and helping to lower ambient temperatures during the summer months.

Lastly, additional windows are incorporated at the roof level to release warm, stale air from the interior. The presence of the atriums further supports natural ventilation by promoting the movement of air masses throughout the building and allowing warm air to rise and be exhausted through these high-level openings via the stack effect.



Winter Passive Climate Response Diagram

1:20



Despite the passive climate design strategies integrated into the building and described above, mechanical ventilation, heating, and cooling systems are also incorporated to ensure optimal thermal comfort throughout the year.

A ground-source heat pump system is proposed to provide both heating and cooling. This is considered the most suitable solution, as groundwater is available approximately 10 metres below the site. The same technology is already used by several buildings on the Bocconi campus, making it a logical choice that builds upon the existing infrastructure while supporting the project's sustainability objectives.

Furthermore, the heat pump system can be integrated with the mechanical ventilation system to preheat or cool the supplied fresh air, improving the overall energy efficiency and thermal performance of the building.

following discussion of the ground floor and its relationship with the surrounding urban context. More precisely, the response to the building's special location, which is the main entrance to the whole campus.

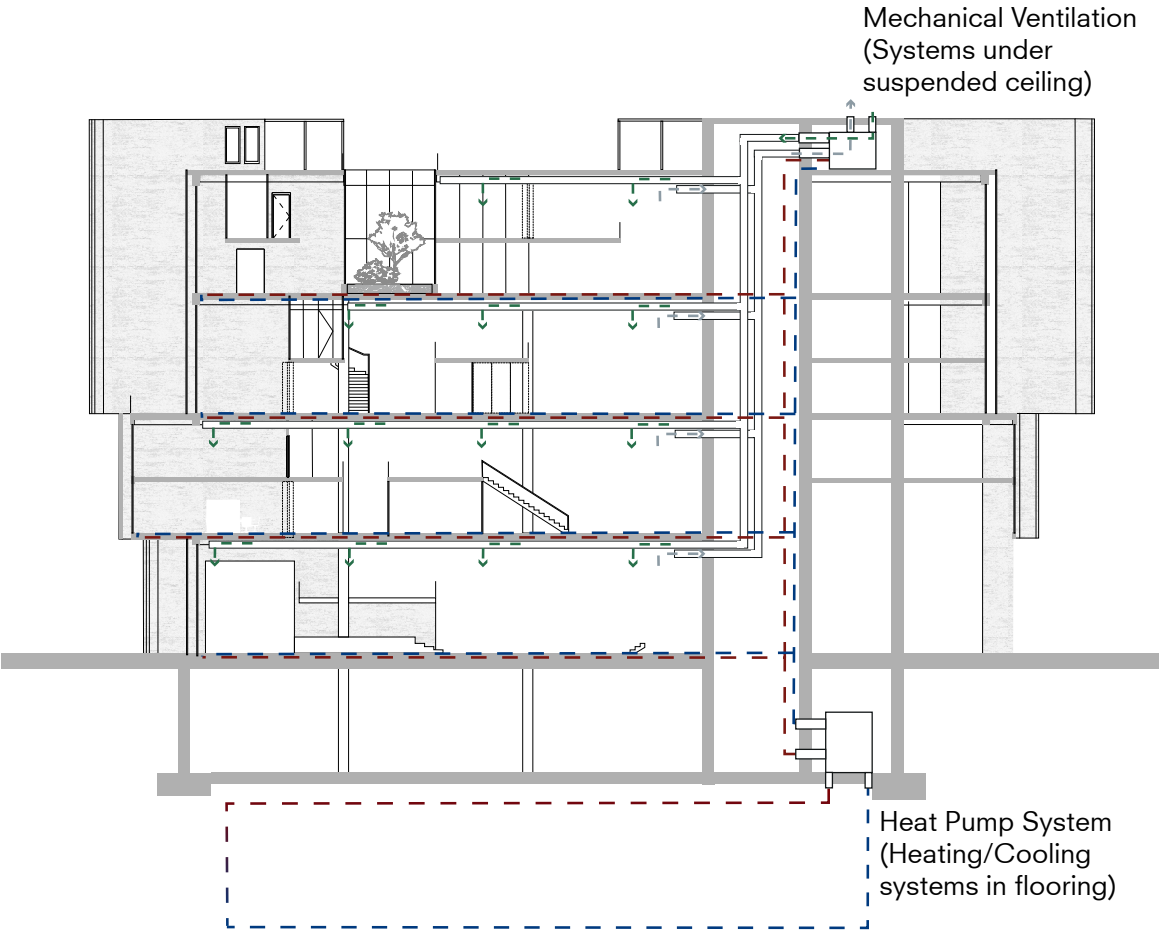
Materiality/Detailing

The materiality of the building is based on three primary materials: glass, concrete, and timber. Glass and concrete define the façade composition, while timber is predominantly used throughout the interior and is only visible from the outside through the glazed sections of the façade.

This interplay between warm and robust materials is a deliberate design choice. It creates a solid and formal exterior appearance while establishing a warm, welcoming, and social interior, where timber and concrete interact with a clear emphasis on timber. At the same time, the glazed façade reveals glimpses of the interior, communicating the building's warm and social character to passers-by.

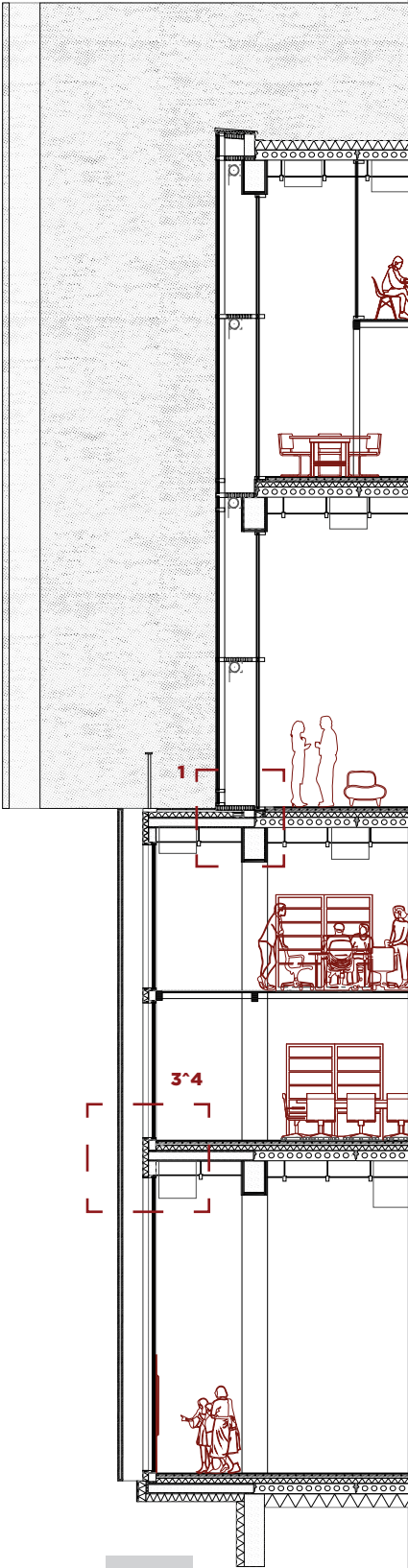
This contrast between the exterior and the interior, between the strong, institutional image associated with Bocconi and the warm, socially engaging atmosphere within the building, forms the basis for the

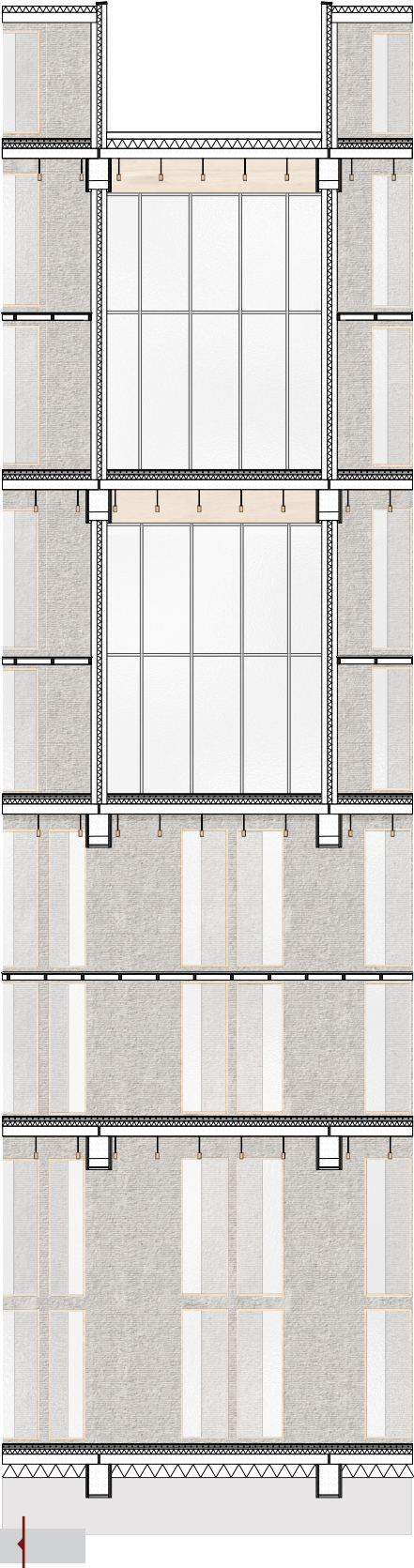
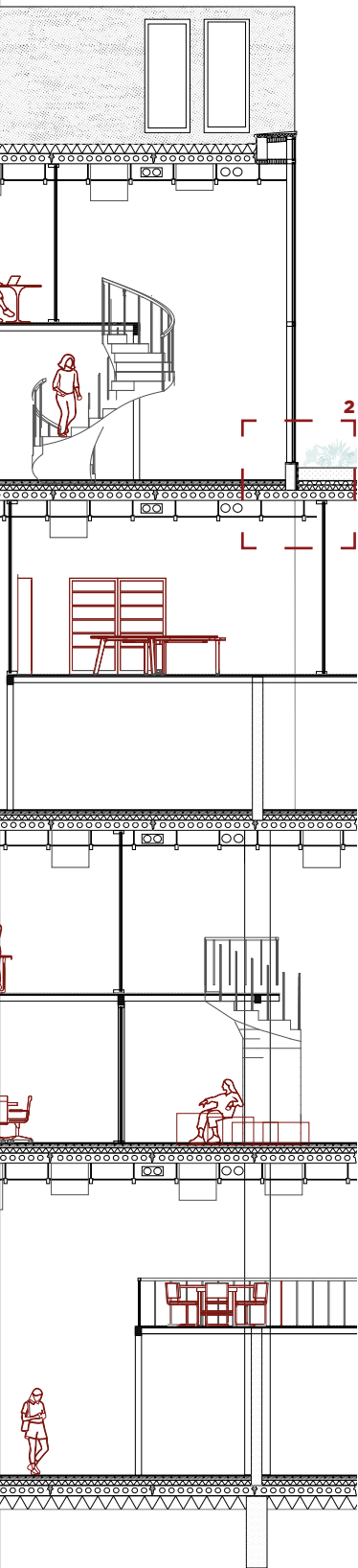
1:20



Interiour fragment

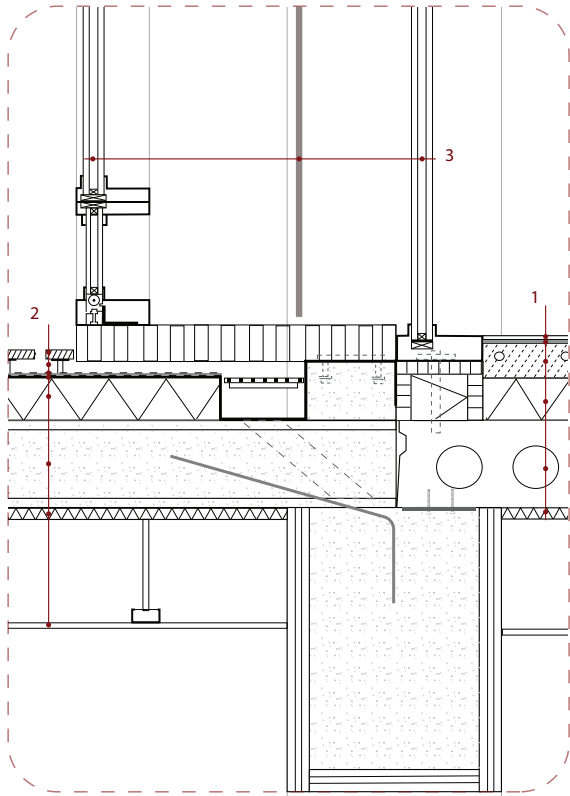
1:20





Detail 1

1:10



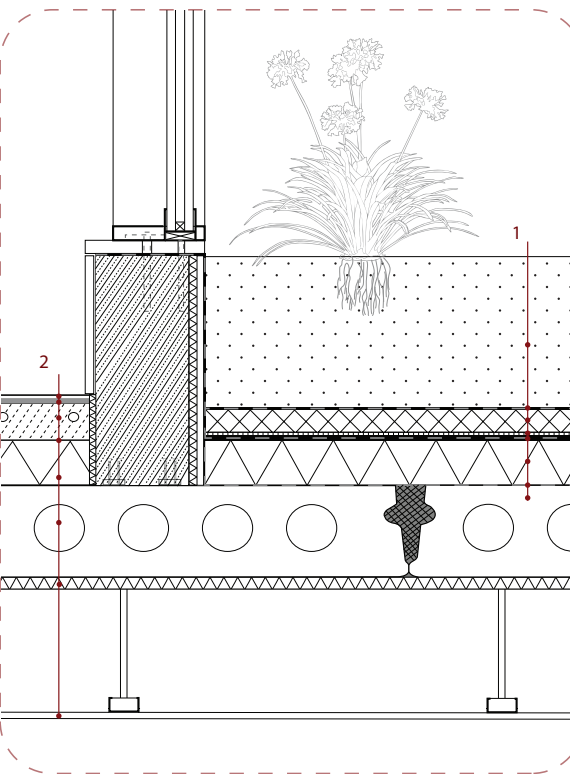
- 1 Inside-Floor element
- 10 mm wood finishing plate
 - 10 mm adhesive layer
 - 65 mm heating/cooling screed
 - 100 mm EPS thermal/impact soundproofing insulation
 - 200 mm hollow concrete floor element
 - 20 mm cork interior insulation
 - hung ceiling
 - 12 mm gypsum board

- 2 Balcony
- 20 mm boarding
 - 40 mm supporting structure
 - 10 mm drainage layer
 - waterproof membrane
 - 100 mm EPS thermal insulation
 - vapour barrier
 - 200 mm hollow concrete floor element

- 1 Double Skin Facade (600mm)
- inner double glass
 - textile sunblind
 - outer double glass

Detail 2

1:10

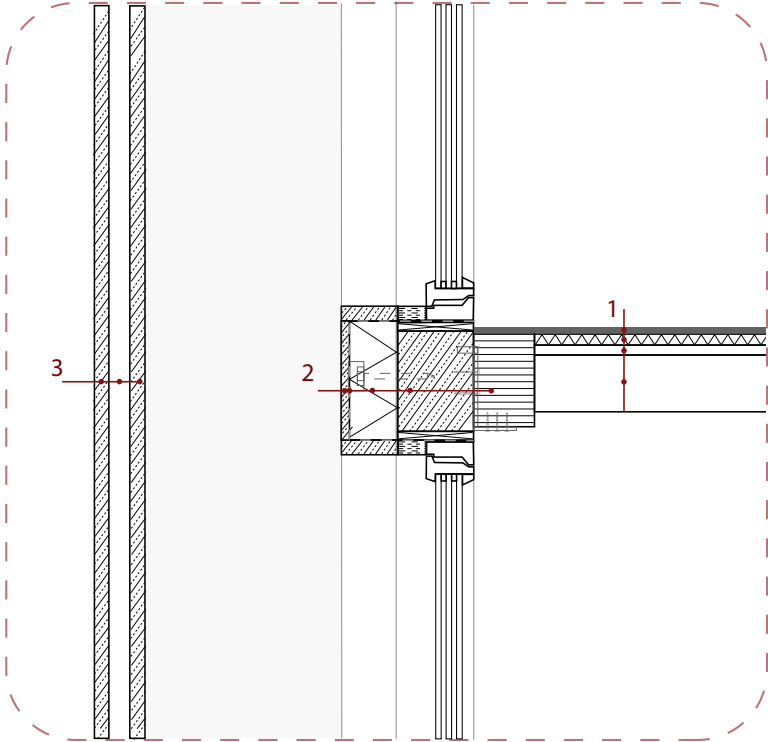


- 1 Green courtyard
- 300 mm substrate layer
 - geotextile
 - 50 mm drainage and water storage element
 - root protection mat
 - bitumen membrane seal
 - 100 mm EPS thermal insulation
 - vapour barrier
 - 200 mm hollow concrete floor element

- 2 Inside-Floor element
- 10 mm wood finishing plate
 - 10 mm adhesive layer
 - 65 mm heating/cooling screed
 - 100 mm EPS thermal/impact soundproofing insulation
 - 200 mm hollow concrete floor element
 - 20 mm cork interior insulation
 - hung ceiling
 - 12 mm gypsum board

Detail 3

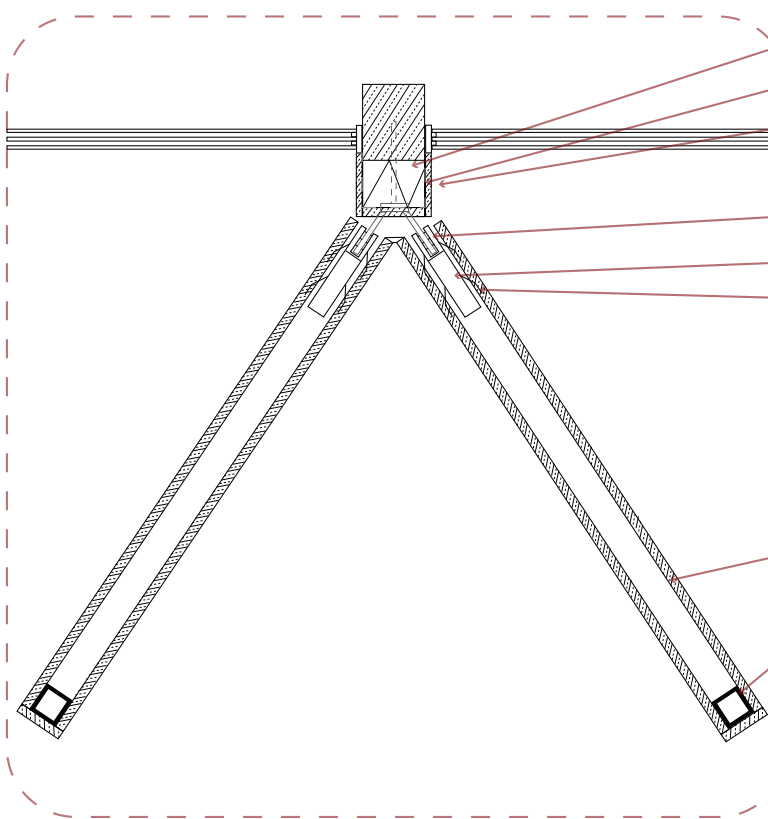
1:10



- 1 Mezzanine floor structure
 - 10 mm gypsum board
 - 20 mm cork interior insulation
 - 20 mm multiplex board
 - 90 mm/70mm timber joist
- 2 In/Out facade
 - 100 mm/150mm timber beam
 - 125 mm prefabricated concrete wall element
 - 80 mm EPS thermal insulation
 - waterproof layer
 - 30mm concrte finish
- 3 Fin composition
 - 30 mm concrete finish
 - 40 mm cavity
 - 30 mm concrete finish

Detail 4

1:10



- EBS insulation
- Waterproofing
- Prefabricated concrete finishing
- Triple glazed window
- Fixating element
- Structural fin
- Metal Clips
- 30 mm concrete finish
- 40/40 mm steel SHS

Ground Floor/Urban Role

The ground floor partially follows the design principles established on the upper floors, particularly regarding the structural lines, their filtering role, and the presence of the main social tunnel.

The main body of the ground floor contains a social tunnel, which is envisioned as a canteen area. It divides this part of the building into two zones: the urban side and the campus side. The urban side is more formal and enclosed, containing the exhibition space of the building and the campus. This area is actively connected to the outside through the use of flexible wall elements, which allow the ground floor to physically open towards the surrounding urban environment.

The campus side merges with the canteen area and aims to establish a stronger connection with the campus landscape located on the right side of the building. Through this relationship, the ground floor becomes a transitional space between the urban context and the more open campus environment.

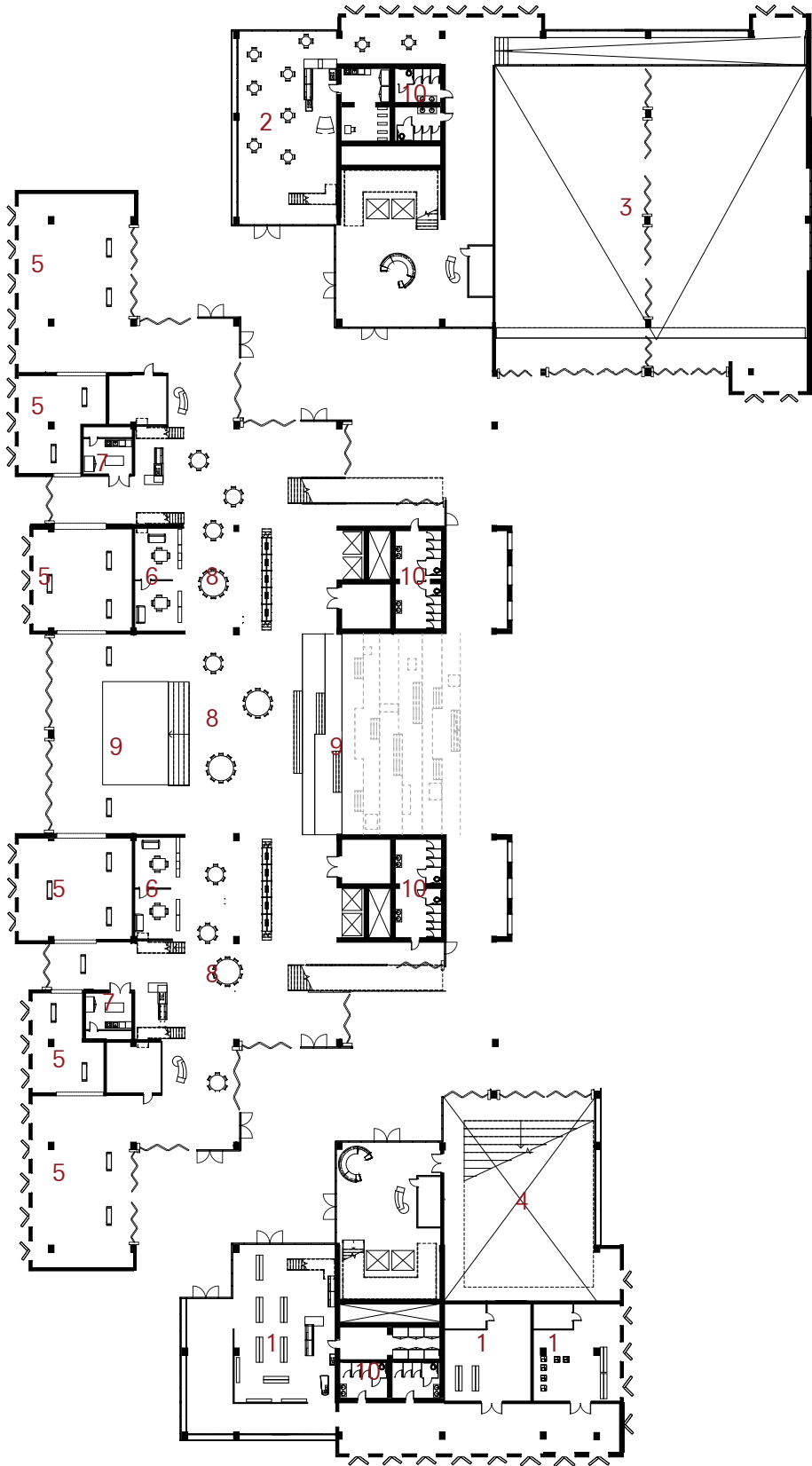
The ground floor is physically divided into three parts by passages that run through the building, creating direct connections between the campus and the surrounding city. The main part, described above, is the largest and is envisioned as the most socially active zone of the ground floor.

The other two parts, created by these passages, contain lecture halls and additional services such as a café and retail spaces. Although they are not part of the main body of the ground floor, their programmes ensure a high level of activity throughout the day. These service functions are positioned along the urban side and axis of the building, reinforcing its presence and engagement with the surrounding city.

Legend

1. Retail Functions
2. Cafe
3. Big Lecture Hall (Dividable into 2)
4. Lecture Hall
5. Exhibition Spaces
6. Student Association Commons
7. Canteen Kitchen
8. Canteen area
9. Open Lecture Space
10. Bathroom

1:200



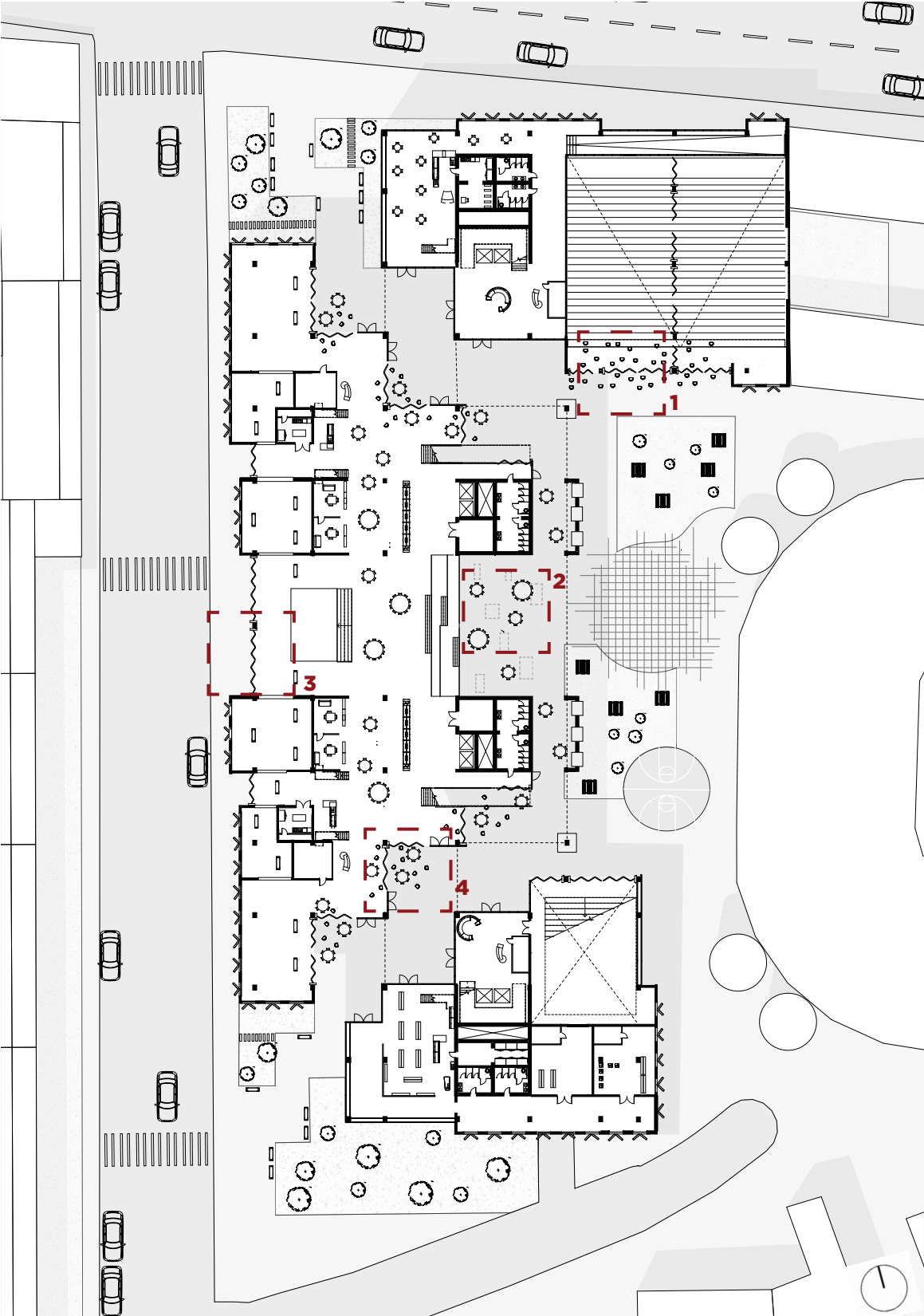
View on main meeting point (Stairs) on Ground Floor

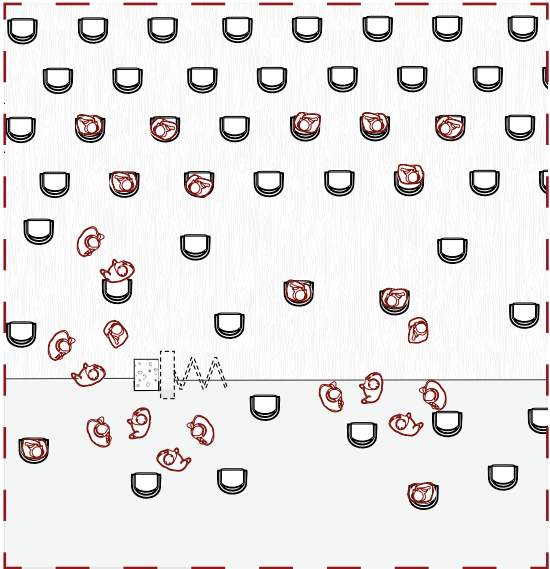




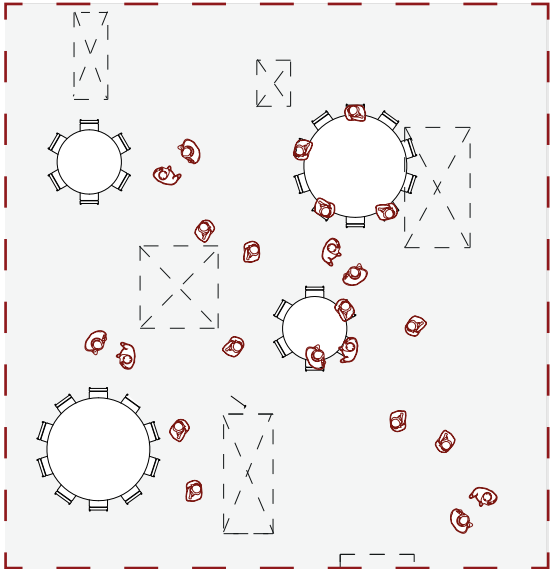
Urban Plan

1:200





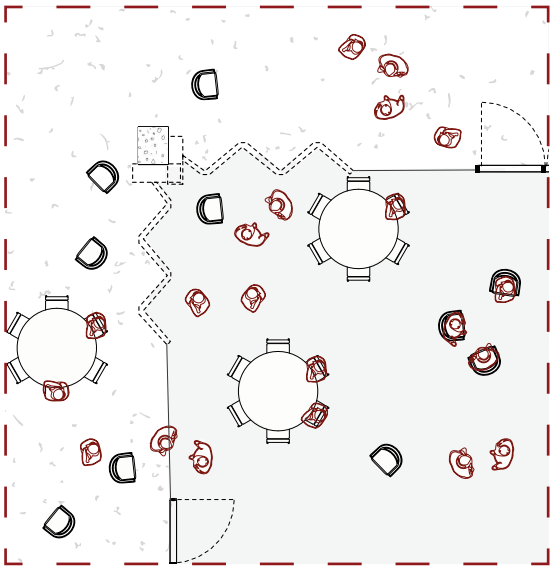
Urban Zoom In 1



Urban Zoom In 2



Urban Zoom In 3



Urban Zoom In 4



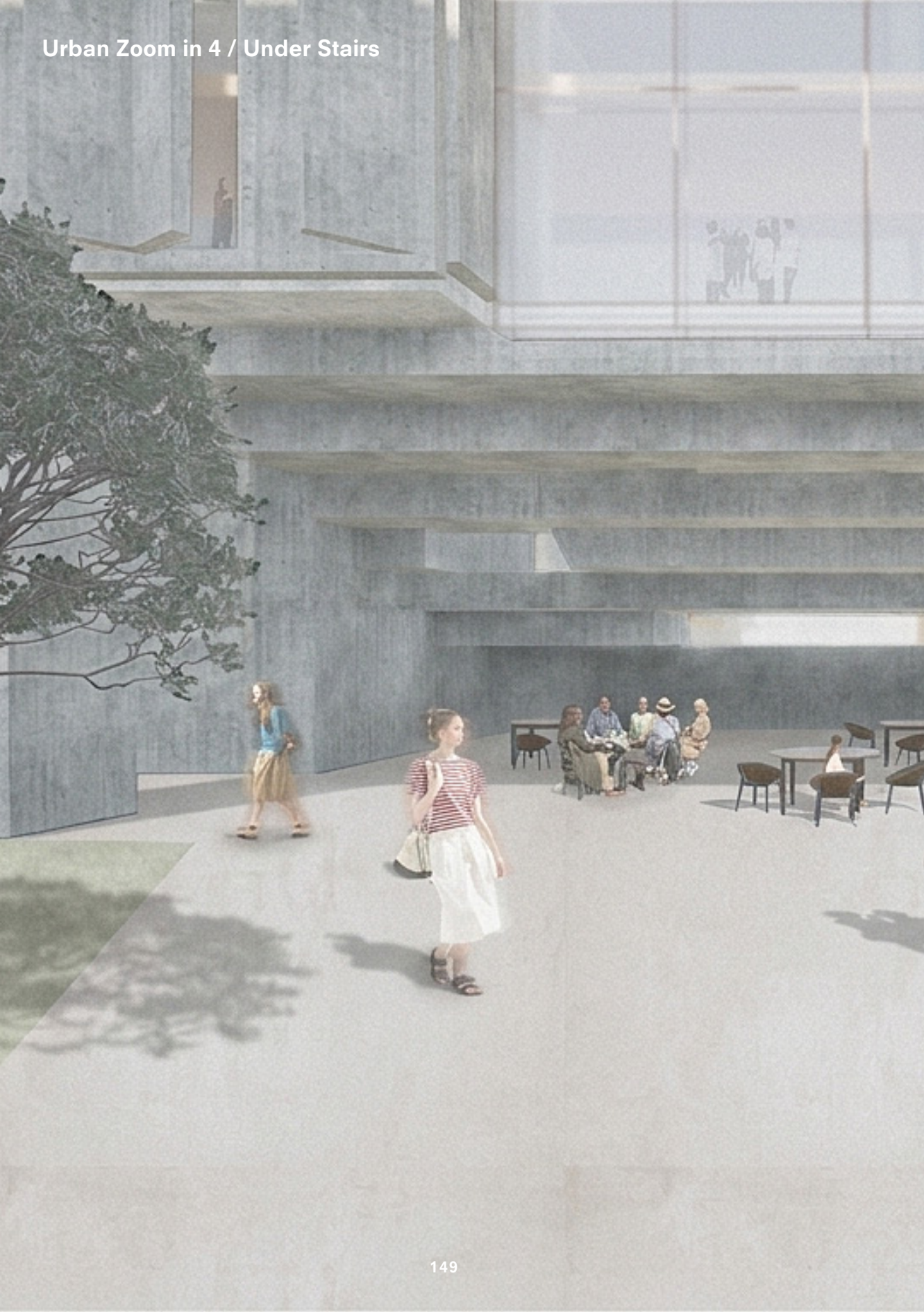


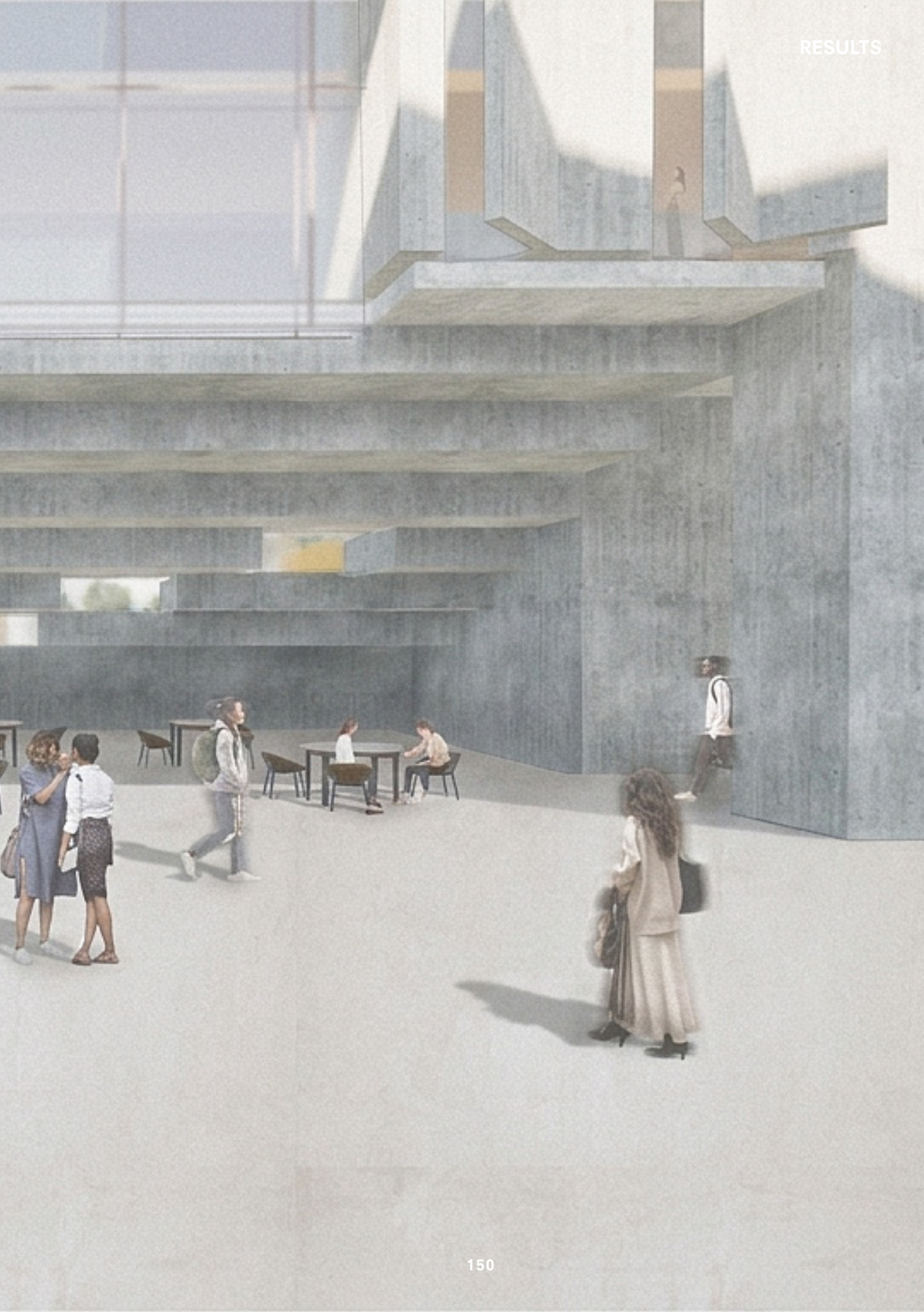












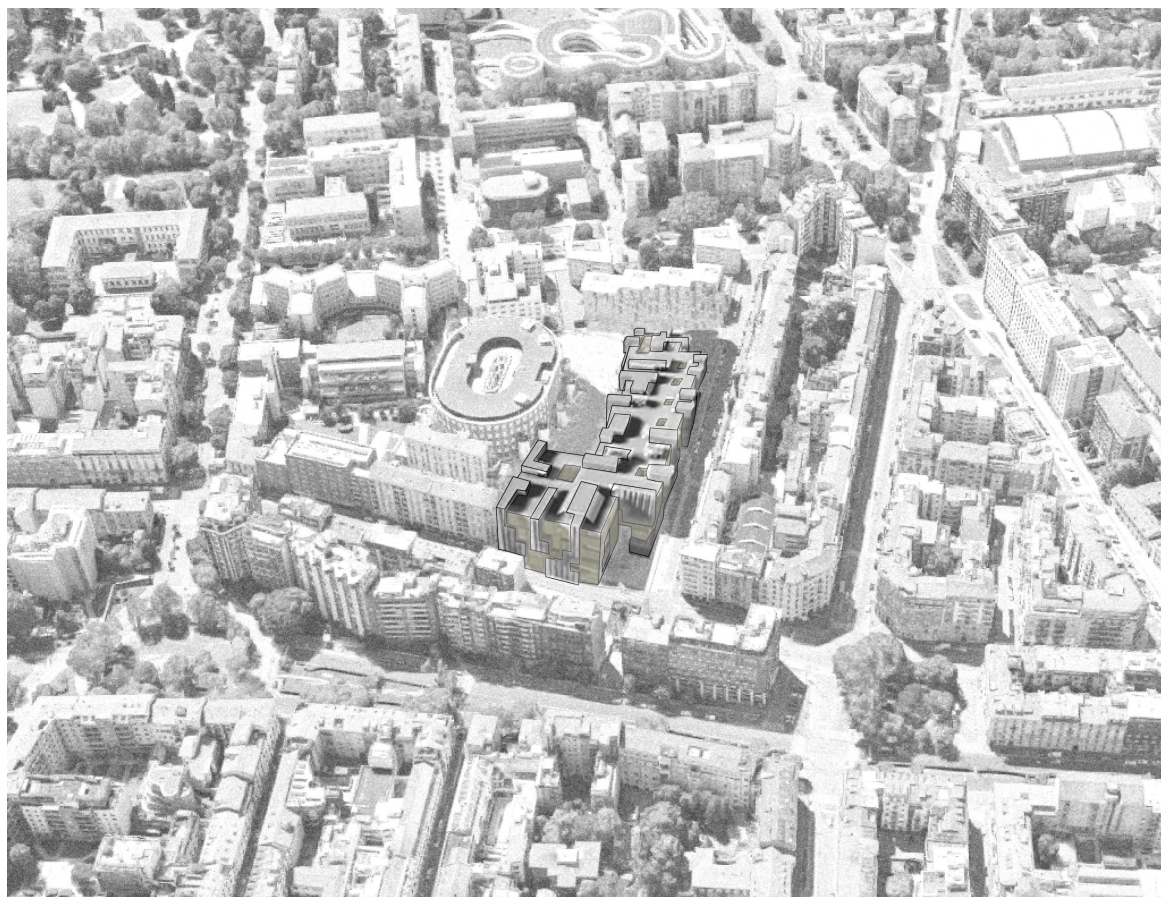
The building form creates three urban spaces on the plot. Those are two small, green urban courtyards by the entrance to the passage that subsequently lead the user to more active, inner campus courtyard, urban spaces. The different atmosphere and social intensity further underline the difference between the urban role and campus role of the building. For the city, it's a formal and serious part of the well-known university, and for the campus, it's a warm social cluster. Only the porosity of the façade expression gives a sneak peek of its social nature to the outside passerby.

Site Plan

1:1000



Additionally, the urban facility is also created on the building, namely, there is a green roof added to the design. The main reason for it was climate control and additional diversification of social spaces in the university. Namely, a green roof helps to cool down the building, and the usability of the roof allows for additional social spaces such as a bar and an open cinema.

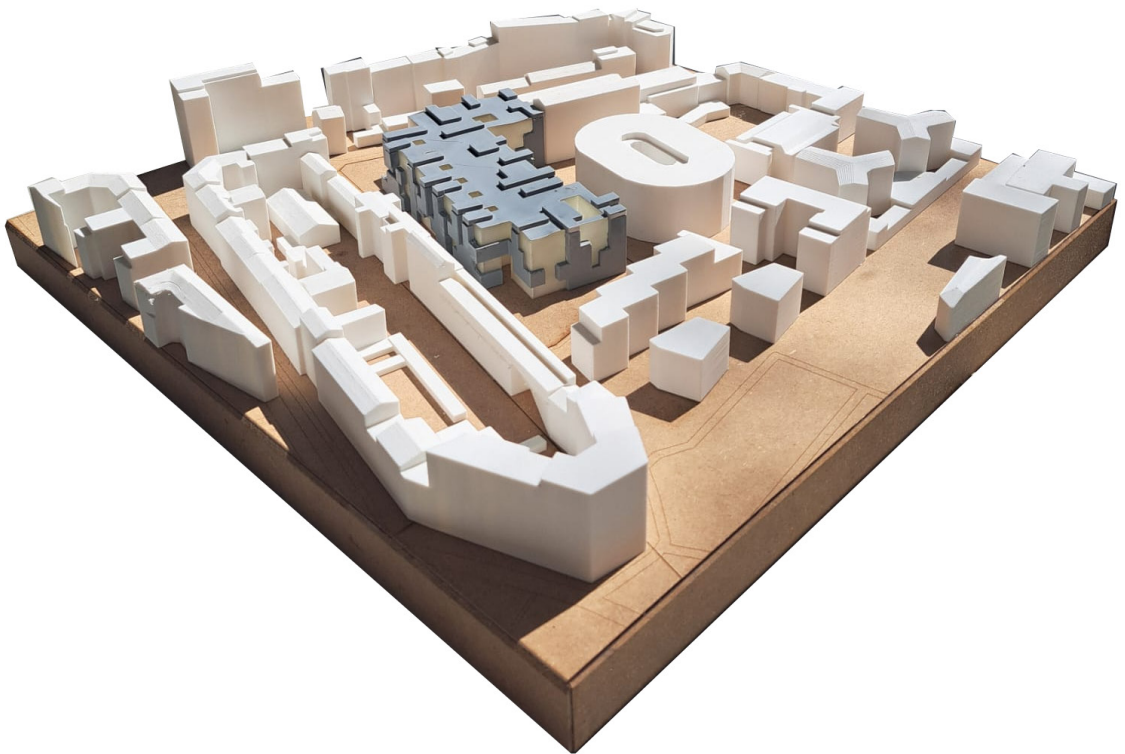


In Context

Model Making

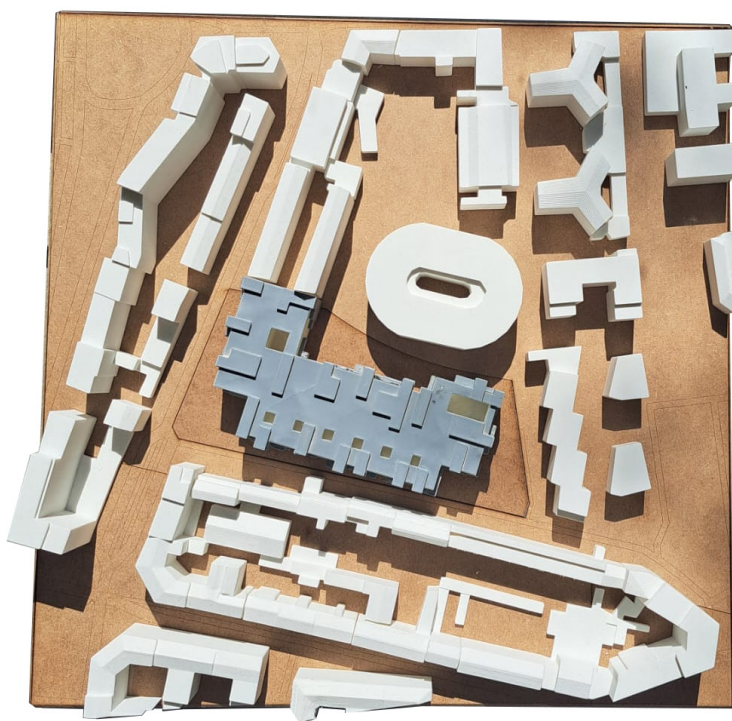
Model making followed the main design process, not only to illustrate the final results but also to support and refine design decisions. Physical modelling served as an important driver throughout the design process, allowing spatial ideas and architectural relationships to be tested and evaluated.

Initially, a 1:700 scale model of the overall building form was developed to integrate it into the previously created site model. This model represented the first test of the proposed design, focusing on the overall building volume, its relationship with the surrounding urban fabric, and the way it occupies the given plot.



Site Model in Scale 1:700

Finally, a detailed zoom-in model at a 1:100 scale was produced. This model represents a vertical section through the entire height of the building, showing a selected fragment from each floor. Each floor was designed as a removable element, allowing the model to be assembled and disassembled. This approach reinforces the analytical and exploratory character of the model, maximizing its potential as a tool for studying the overall design concept and its main principles: the gradation and porosity present on each floor.

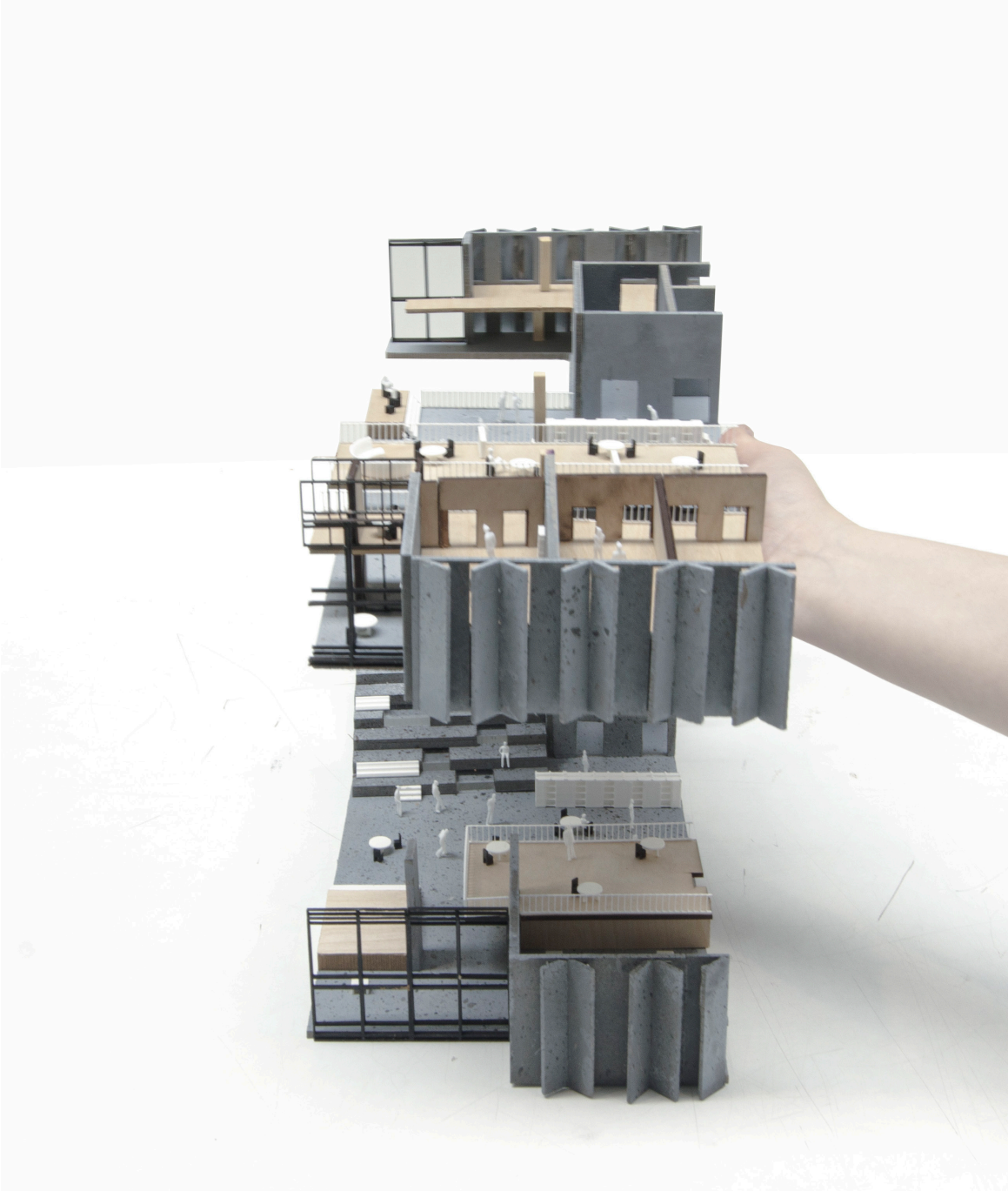


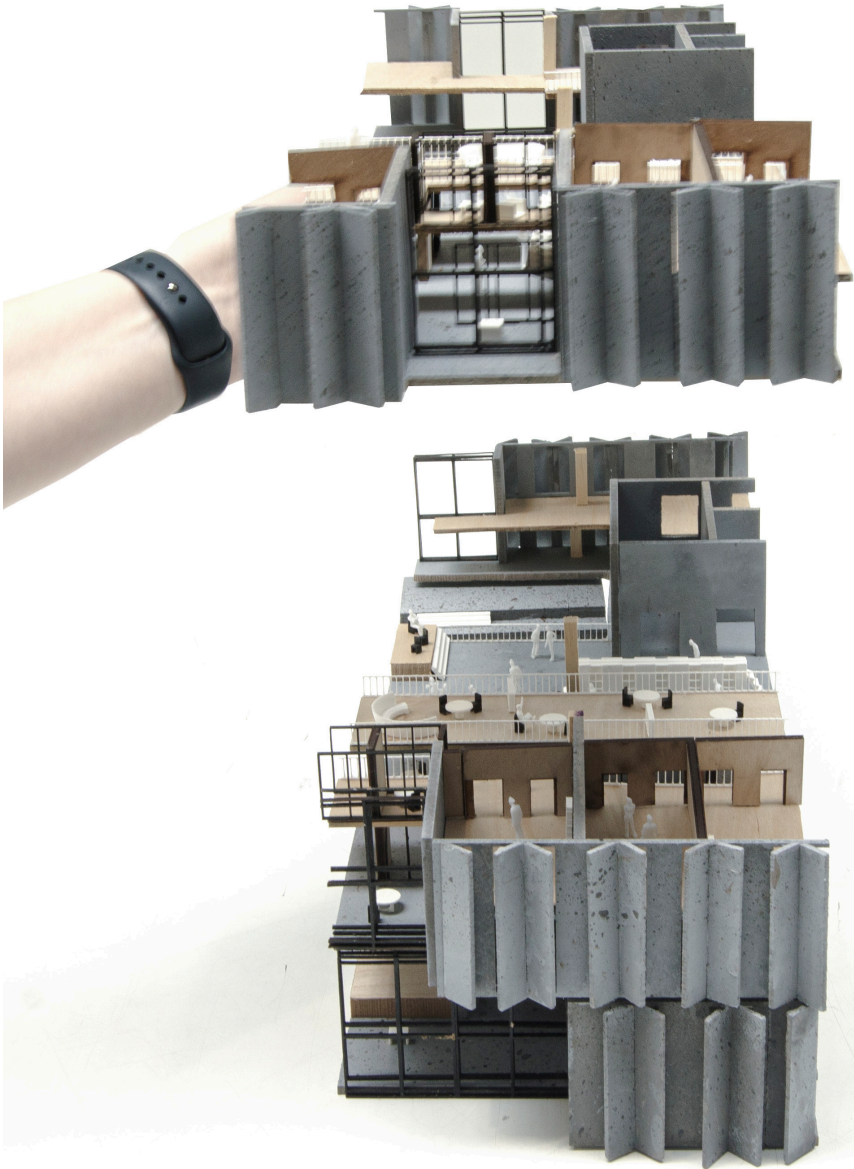
Site Model in Scale 1:700

Final Model 1:100

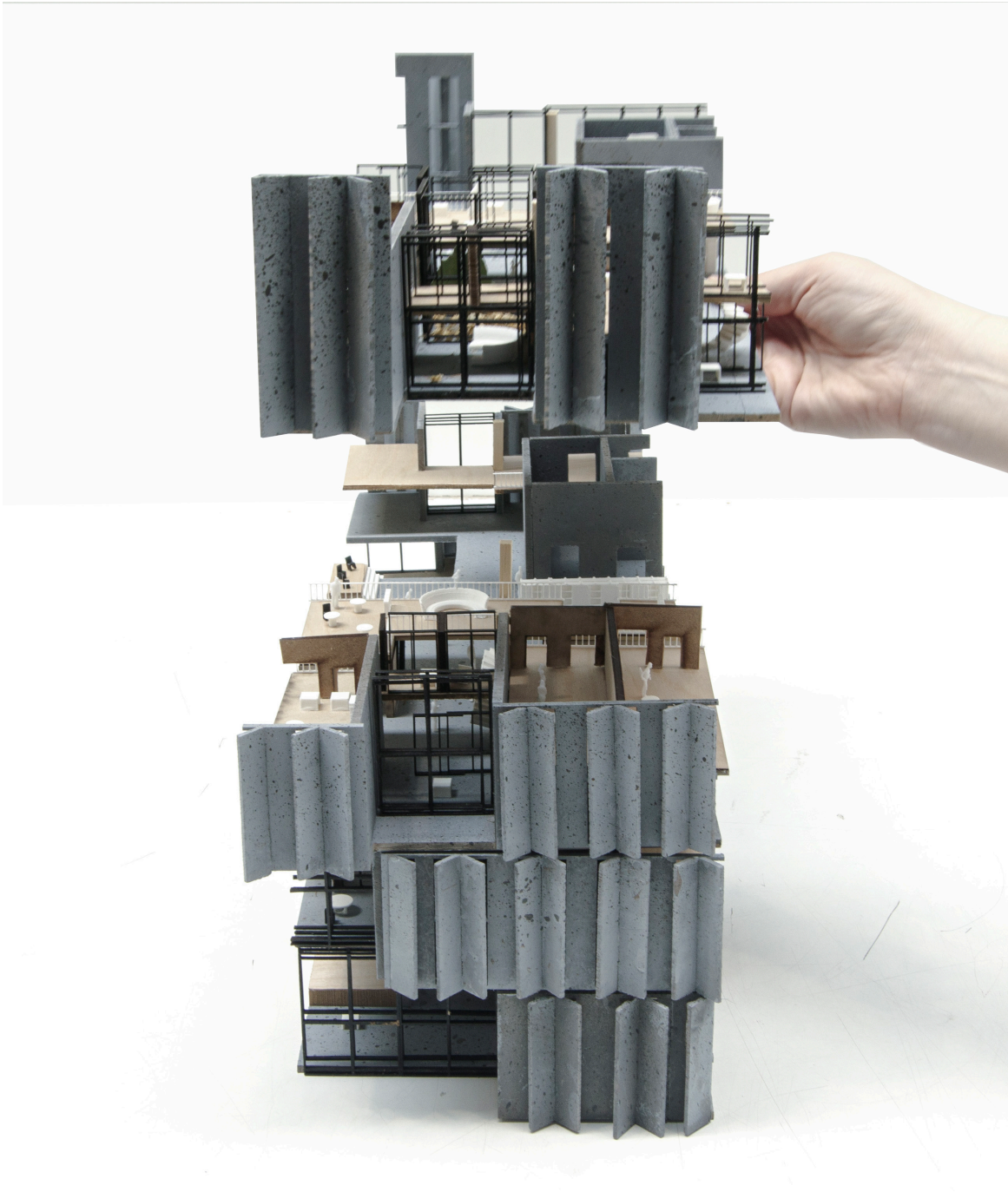




























Main Building Entrance

CONCLUSION & DISCUSSION

04





Conclusion

The assignment of the overall project was to design a university building that supports a wide range of interactions between its users, more specifically, student-student, student-teacher, and teacher-student relations. The project focuses on circulation spaces as the central spatial element, which will accommodate areas for interaction and will vary degrees of territorial control to enable different forms of engagement between students and teachers.

Based on that and all the analysis, a large list of ambitions was formed. Those ambitions were then summarized into three main ambitions that were supposed to help achieve the overall goal of the project stated at the beginning. Those are the following:

1. Differentiation of working, studying, and social spaces
2. Gradation of territorial control or use. Overall indication of social intensity or user type between specific spaces upon need.
3. Underlined entrance role of the building to the campus.

The proposed design addresses all three ambitions. It mainly does so through the porosity concept implemented after preliminary design alterations. Work, study, and social spaces are differentiated and highly intermixed. Creating social “pores” helps to create different social spaces in terms of capacity and intensity of interactions.

Presence of social pores together with implementation of mezzanines creates the gradation on the floor plans. It creates 4 lines. The first line is the main social, common circulation tunnel through the building cores. It is expected to be the main circulation line with the biggest flow of people. The second line is medium social spaces, such as kitchenettes and break areas, mixed with student-oriented spaces such as classes or project rooms (depending on the floor). The third line is right by the façade and contains

partially open workspaces for academic staff and meeting rooms, which are the smallest social pores and are flexible and, in the majority of the time, can be considered as part of neutral/social spaces. The fourth line, which is aimed at high concentration spaces, is located on mezzanines. There are two mezzanines on each floor that are not physically connected and divide users (students and academic staff). The mezzanine for academic staff contains separate offices, workstations, and labs. The other one for students includes group study or self-study spaces. Additionally, the ambition of gradation is implemented to differentiate each floor. Namely, the idea to scale down the sizes of spaces with each floor and overpower the main circulation line visually. By doing so, the groups of people working or studying get smaller by expectation, which should lead to a quieter atmosphere on higher floors.

Lastly, the entrance role of the building. The ideas of the passage through the building are kept and built upon, which is part of the answer. Additionally, the entrance role of the building is underlined by the double identity that it shows. More precisely, the ground floor together with urban design placed on the west side of the plot underline a more formal, official, and serious character of the building as a main element of the economic university campus. On the other hand, the east part of the ground floor and the connected urban space to it introduce more open, free, and social spaces, which should underline the other approach to building perception. The main building on campus is the main hot spot, the main gathering spot. This double identity frames the overall role of the building and its location. This clash of official and social sides of the building is also perceived through façade design. Where the warmth visible behind glass elements intermingles with harsh concrete block elements.

Design realizes ambitions, which subsequently means that it also completes the overall project assignment stated at the beginning.

Reflection

The overall design could have been further elaborated; however, it already contributes to the broader discussion about the design of contemporary learning environments and the atmospheres they should foster. Studying is approached as an important and exciting life stage, not only from an academic perspective but also as a period of social development. It provides opportunities to establish various types of social relationships that can continue to support individuals throughout their lives.

Additionally, the concept of hierarchy was critically approached and questioned within the design. The project challenges the idea that strict boundaries and rigid divisions are necessary to create effective study and working environments. Instead, it proposes a more nuanced organization of space that allows for different levels of interaction, concentration, and engagement.

Overall, the design aims to propose alternative approaches to the organization of spaces within educational facilities. The proposed strategy focuses strongly on intermediate conditions—not only on the distinction between studying and leisure, but on the many possibilities in between. Through this process of gradation and the creation of a diverse range of spatial choices, the design seeks to support different user needs and, consequently, encourage greater social interaction among users.

This approach, with its strong reliance on intermediate spaces, contributes to the ongoing discussion about the future of university architecture and the role of spatial organization in shaping contemporary learning environments.

Process Reflection

The design process began with extensive research, which was subsequently followed by model-making to explore different spatial scenarios on the plot. These two activities established a strong foundation for the project, generating a wide range of ideas and possible directions for the final design.

However, at a certain point, the extensive amount of knowledge and the broad range of possibilities became overwhelming. The abundance of potential directions made it increasingly difficult to make concrete decisions, as many different solutions remained possible. This overload of information resulted in a non-linear design process.

Multiple variants of the preliminary design were developed. Each iteration explored a different direction, although this difference was not fully recognized at the time, as I perceived them as variations within the same general field of ideas generated through research and model explorations.

The development of the preliminary design was essential in understanding and defining the concept that guided the final design. The aspect of porosity became clear only after this stage, further demonstrating the non-linear nature of the process. Once the preliminary design was refined and the concept of porosity was established, the design process became more linear, with this central idea guiding further decisions and developments.

The non-linear character of the design process should not be considered a negative outcome; rather, it allowed for exploration and a deeper understanding of the project. However, it also required more time, which, in this case, limited the possibility of fully elaborating the final design due to the remaining time constraints.

RESULTS

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